

Office of Chancellor

4301 W. Markham St., #541
Little Rock, AR 72205

MAIN: 501-686-5681

FAX: 501-686-8137

UAMShealth.com



Cam Patterson, M.D., MBA
Chancellor

J

December 23, 2019

Senator Cecile Bledsoe, Chairman
Arkansas Legislative Council
500 Woodlane Street, Room 171
State Capitol Building
Little Rock, AR 72201

Representative Jeff Wardlaw, Chairman
Arkansas Legislative Council
500 Woodlane Street, Room 171
State Capitol Building
Little Rock, AR 72201

Dear Senator Bledsoe and Representative Wardlaw,

The purpose of this letter is to provide you with the report for the University of Arkansas for Medical Sciences (UAMS) National Cancer Institute Designation Trust Fund. A semiannual report of the use of funds from the trust fund is required pursuant to Act 181 of 2019.

The attached report provides information regarding the balance of the fund, administrative costs paid for from the fund, total revenue received by the fund and a detailed description of the steps taken and the progress made toward achieving status as a National Cancer Institute designated cancer center.

As documented in the attached report, we are pleased to inform you that Dr. Michael Birrer has joined UAMS as director of the UAMS Winthrop P. Rockefeller Cancer Institute (Cancer Institute). In addition to hiring Dr. Birrer as the new director of our Cancer Institute, we are diligently working on recruiting physicians and researchers and expanding the infrastructure at the Cancer Institute as we prepare our application for designation.

Earning NCI designation for our cancer center will allow UAMS to provide cancer patients throughout the state of Arkansas with specialty cancer care close to home as well as providing access to cutting-edge clinical trials while expanding our work on cancer prevention.

Please contact me should you have any questions or need further information regarding this report.

Sincerely,

A handwritten signature in black ink, appearing to read "Cam Patterson", written in a cursive style.

Cam Patterson, M.D., MBA
Chancellor

University of Arkansas for Medical Sciences

National Cancer Institute Designation

Trust Fund

Legislative Report

July 1, 2019 – November 30, 2019

National Cancer Institute Designation Overview

National Cancer Institute Designation is recognition by the National Cancer Institute (NCI) for exceptional cancer research.

In 1971, President Richard Nixon signed the landmark National Cancer Act authorizing a national cancer program with funding to establish 15 new cancer centers. These new cancer centers were charged with conducting clinical research, training and demonstration of advanced diagnostic and treatment methods for cancer. The ultimate goal was for these centers to be distributed geographically such that 75% of the U.S. population would have access to care at one of these centers without requiring an overnight stay.

Today, the NCI cancer centers program has grown to include 71 cancer centers distributed throughout 36 states (Figure 1). These 71 centers represent the top two percent of cancer centers in the U.S.

Arkansas, Louisiana and Mississippi are the only cancer centers in the south that do not currently have an NCI Designated cancer center. The nearest NCI designated centers providing adult cancer care reside in Dallas, Oklahoma City, Kansas City, St. Louis and Nashville. These centers are all 300 miles or more away from central Arkansas and not a feasible cancer care solution for most Arkansans.

Sylvester Cancer Center in Miami, Florida was the most recent cancer center to become designated in 2019. Prior to that, the most recently designated cancer centers were Stephenson Cancer Center in Oklahoma City, Oklahoma in 2018, Markey Cancer Center in Lexington, Kentucky in 2013 and the University of Kansas Cancer Center in Kansas City, Kansas in 2012.

The NCI cancer centers program continues to value the geographic distribution of its cancer centers and patient access to research driven cutting-edge care. The NCI recognizes that there is a great need and opportunity for Arkansas to have an NCI Designated cancer center, and it stands ready to support the Winthrop P. Rockefeller Cancer Institute (WPRCI) on its journey towards NCI Designation.

Value of NCI Designation

NCI Designation is an enormous asset for any state that houses an NCI designated cancer center. Benefits include the following:

1. Direct monetary support from NCI will support cancer research that benefits Arkansans. While many cancer centers conduct research, the Winthrop P. Rockefeller Cancer Institute is the only academic institution in the U.S. focused on improving cancer outcomes in Arkansas. In fact, NCI requires its designated cancer centers to define their research portfolio based on what will make a difference in cancer prevention, awareness, treatment, survival and quality of life in the population they serve.
2. Indirect monetary gains include a projected \$70 million economic impact on the state of Arkansas annually. Further growth following NCI Designation is expected to increase that impact value. *(Source: Arkansas Center for Health Improvement, 2018)*
3. Becoming a member of the NCI Cancer Centers program will give Arkansas a seat at the table to drive national strategic planning for cancer research toward opportunities that will benefit Arkansans.

4. Arkansans will have access to clinical trials and new cancer treatments that are only available to cancer centers that are NCI designated.
 - Access to grant funding opportunities that are only available to NCI designated cancer centers
 - Access to cutting edge clinical trials and investigative drugs that are only available to NCI designated cancer centers
5. Cancer researchers at the Winthrop P. Rockefeller Cancer Institute will have access to cancer research grants that are only available to NCI designated cancer centers. This provides the opportunity to increase the amount of cancer research designed to benefit Arkansans by about 60%.
6. The opportunity to partner with an NCI Designated cancer center will attract biotechnology and pharmaceutical companies to Arkansas.

Process to Attain NCI Designation

NCI Designation is attained through strategic recruitment of cancer researchers and establishment of a sophisticated cancer research infrastructure prescribed by the NCI in its p30 Cancer Center Support Grant (CCSG).

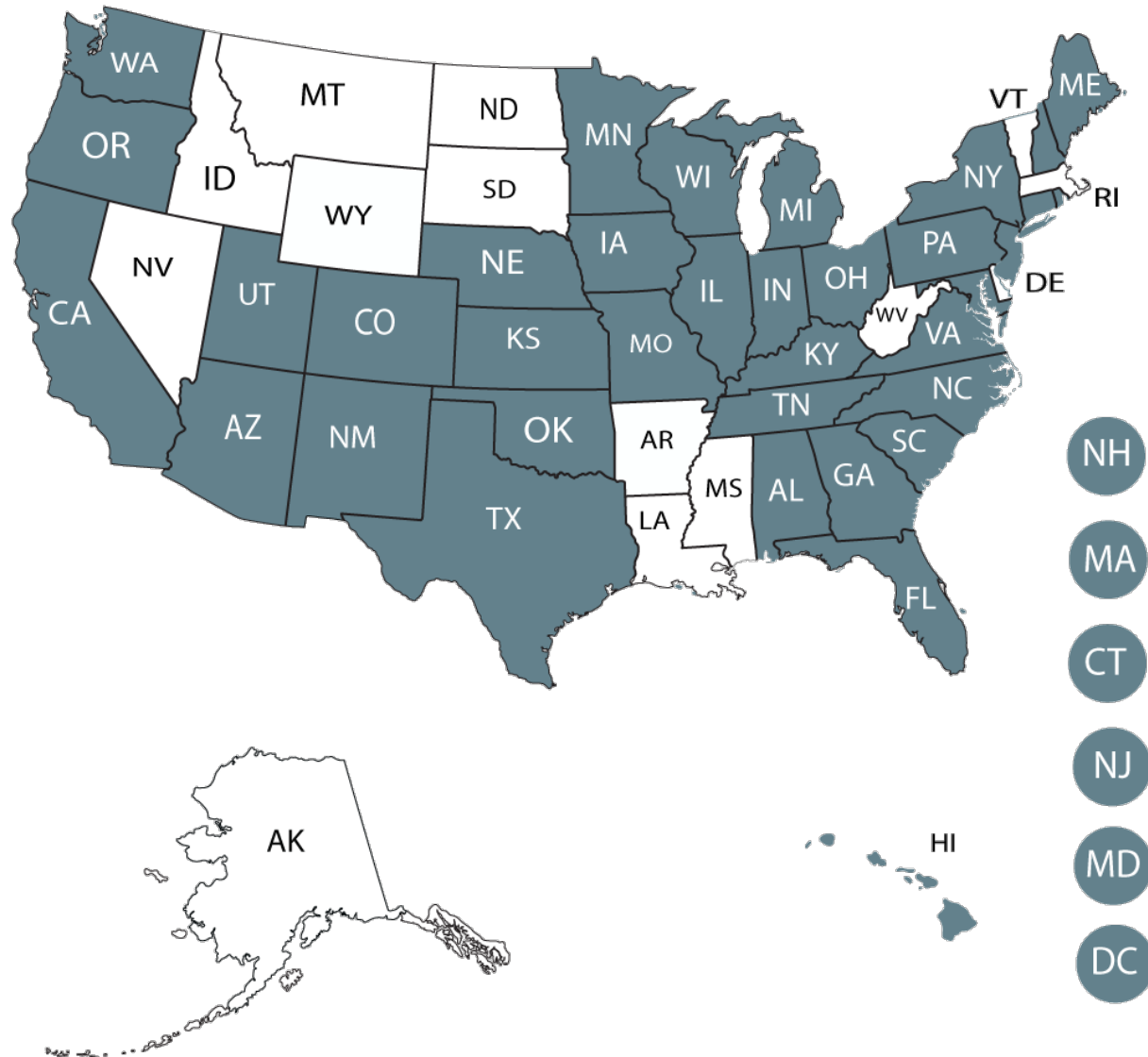
Cancer centers seeking NCI Designation undergo annual review by an External Advisory Board (EAB) to ensure that NCI's standards for a designated center are being met. These EAB meetings are critical to keep a cancer center on track for designation and result in a formal report about the cancer center being filed with NCI. Once an EAB has determined that a cancer center is ready to apply for NCI Designation, the cancer center must meet with NCI and get their approval to apply for NCI Designation.

Once NCI approves a center to apply for NCI Designation, the center submits its CCSG to NCI according to the timeline set by NCI. Preparation of a CCSG generally takes two years and is often begun well before NCI approves a center to apply for designation. Following submission of the grant, the cancer center will host a site visit from NCI and leaders from other cancer centers to review the cancer center. Both the written grant and site visit comprise the scores that determine if an NCI Cancer Center becomes designated.

After NCI Designation is attained, it must be renewed every five years with the submission of another CCSG and hosting of a site visit. This ensures that the standards set forth by NCI for a Designated Cancer Center continue to be upheld. If a cancer center applies for NCI Designation and is not successful, the cancer center is not eligible to apply again for five years.

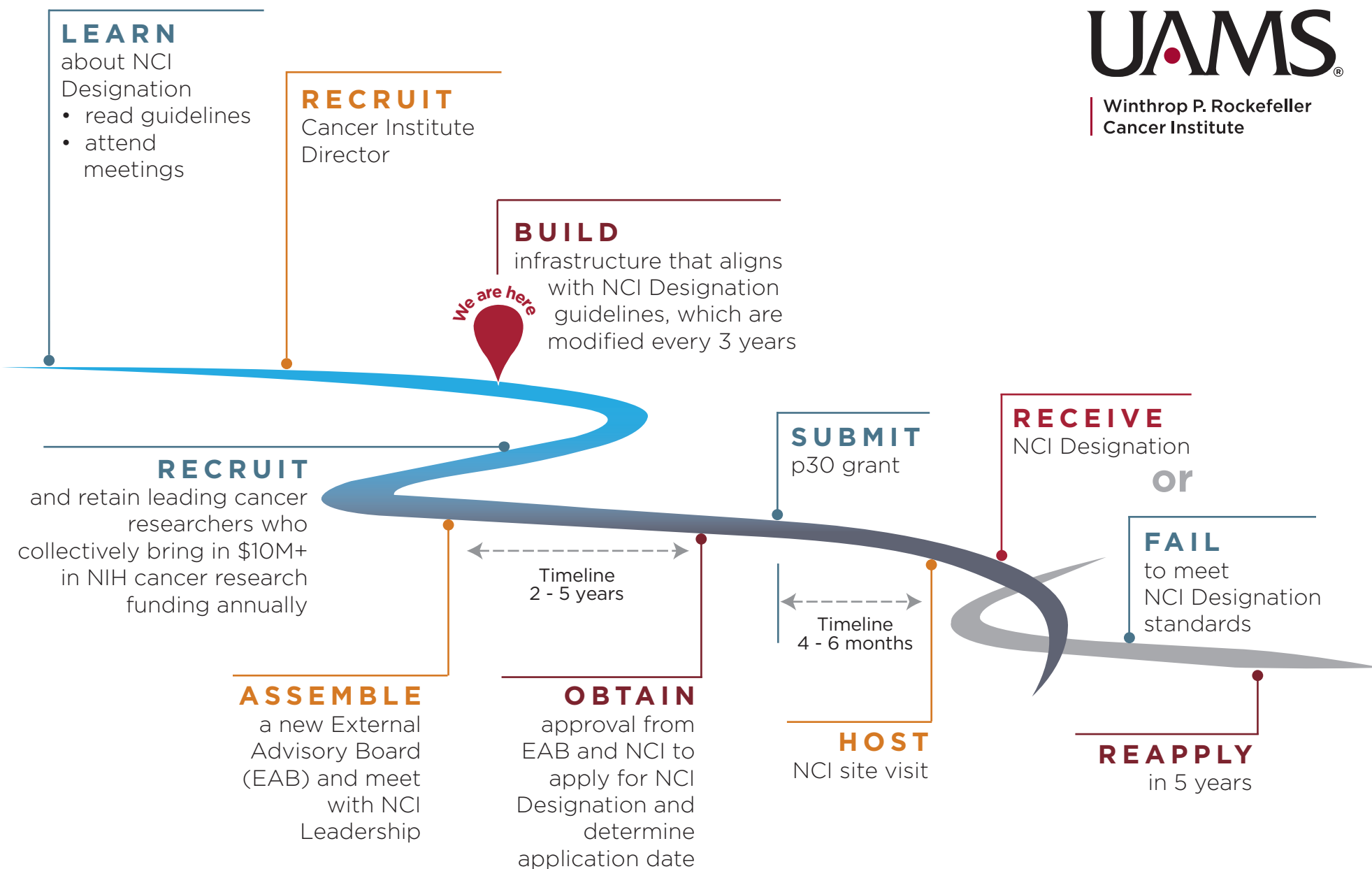
Expected Timeline

The Winthrop P. Rockefeller Cancer Institute is targeting submission of its CCSG in about five years. Two critical factors may extend or decrease this timeline: 1) how quickly strategic cancer research recruitments can be made and 2) the timeline set by NCI for submitting a CCSG application (Figure 2).



Roadmap to NCI Designation

Figure 2



Winthrop P. Rockefeller
Cancer Institute

Winthrop P. Rockefeller Cancer Institute
Senate Bill 151
Trust Fund - Pursuit of a National Cancer Institute Designation
FY2020 Biannual Report Due January 1, 2020

¹Reporting Period (7/1/19 - 11/30/19)

Balance of Trust Fund (7/1/2019)	\$0.00
Total Transfers In	\$10,000,000.00
Special Revenue: Cigarette Paper Tax	\$271,789.63
² Total Revenue Received to Trust Fund	<u>\$10,271,789.63</u>
³ Processing Charges by DF&A on Special Revenue	(\$8,425.48)
⁴ Workers Compensation Charged Directly by DF&A	(\$2,771.54)
Net Revenue Received to Trust Fund	<u>\$10,260,592.61</u>

Expense Draws Processed:

⁵ Expense Draws Posted for Period (7/1/19 - 11/30/19)	<u>(\$76,799.00)</u>
⁶ Ending Balance of Trust Fund (11/30/2019)	<u>\$10,183,793.61</u>

¹This initial progress report includes activity for the five month period of July 2019 through November 2019. As of January 1st, December 2019 information is not yet available. All subsequent reports will include a full six months of activity. In subsequent reports, the July 1st report will contain activity for the months of December through May and the January 1st report will contain activity for the months of June through November.

²See Arkansas Code Annotated §19-5-1149 (g)(1)(C) reporting requirement of total revenue received by the fund during the reporting period.

³The Arkansas Department of Finance and Administration charges administrative fees for maintenance of special revenue funds. The fee calculation is 3% + .1%, for a total of 3.1% that were applied to the net tax of \$271,789.63.

⁴The workers compensation charge is for claims administration and operations costs to the Arkansas Department of Finance and Administration. The fee is based on a percentage of claims of each state agency during each quarter.

⁵See Arkansas Code Annotated §19-5-1149 (g)(1)(B) reporting requirement of the administrative cost paid for from the fund, including without limitation salaries, pensions and packages.

⁶See Arkansas Code Annotated §19-5-1149 (g)(1)(A) reporting requirement of balance of fund as of reporting date.

Expense Breakdown - Act 181 - Trust Fund For NCI Designation¹
Reporting Period: 7/1/2019 - 11/30/2019

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Cancer Service Line Support	3012859	4,995.51	421.74	0.00	5,417.25	\$24K Total attachment for Jonathon Laryea, MD, Director Cancer Service Line for FY20 only.
Martin Hauer-Jensen, MD, PhD (COP - Radiation Health)	3012860	8,040.87	2,284.27		10,325.14	Bridge funding for resubmission of COBRE grant
Robert Bodenner, MD, PhD (COM - Geriatric Endocrinology)	3012864	16,073.25	4,551.30	390.88	21,015.43	Part of salary for two research technicians to complete the canine grant submission in final stage.
Gary Lewis, MD (COM - Radiation Oncology)	3012865	11,000.00	5,365.13		16,365.13	Recruit package support
Ricky Leung, PhD (COM Pharmacology Toxicology)	3012866	18,300.00	5,376.05		23,676.05	Recruit package support
Total Expense		58,409.63	17,998.49	390.88	76,799.00	

¹See Arkansas Code Annotated §19-5-1149 (g)(1)(B) reporting requirement of the administrative cost paid for from the fund, including without limitation salaries, pensions and packages.

Table 1. Cancer Research Recruitments July 1, 2019 - November 30, 2019

Candidate	Current/Previous Institution	Recruited Rank	Recruitment Status	Recruitment Home Department	Research Interest	Peer-Reviewed Cancer Research Funding at Time of Legislative Reporting	*Cancer Institute investment
Ricky Yuet-Kin Leung, B.Sc., M.Phil., Ph.D.	Univ Cincinnati	Associate Professor	Began July 1, 2019	Pharmacology/ Toxicology	Prostate	Co-I on grants with Shuk-Mei Ho, PhD (UAMS Vice Chancellor of Research)	\$967,500
Teresita Bellido, Ph.D.	Indiana University	Professor, Department Chair, Arkansas Research Alliance (ARA) Scholar	Begins part time January 2020; full time July 1, 2020	Physiology/ Biophysics	Myeloma and Bone	NCI R01; VA Career Scientist Award	\$750,000
Fenghuang (Frank) Zhan, M.D., D.D.S.	Univ Iowa	Professor	Begins January 2020	Internal Medicine	Myeloma	Leukemia Lymphoma Society grant; 1DoD grant; NCI grant to be awarded at UAMS	\$3.9 M
Mark Manzano, PhD	Northwestern	Assistant Professor	Begins July 1, 2020	Microbiology and Immunology	Kaposi's sarcoma associated herpesvirus (HSHV); lymphoma; may switch to myeloma	Has received a fundable score on an NCI K22 grant	\$600,000 3-5 year startup; \$48,500 annual salary for 3 years

*Cancer Institute investment represents the total commitment made by the WPRCI to support the cancer research candidate and generally represents a three to five years period. This support is to pay for operating expenses including lab equipment, personnel salary and fringe, supplies, services, and other relative cancer research costs.

Table 2. Cancer Research Grant Activity				
	External Peer-Reviewed New Grants Awarded (#)	Awarded External Peer-Reviewed New Grant Funding (Project Period Total Costs)	External Peer-Reviewed New Grants Submitted (#)	Proposed Peer-Reviewed Grant Funding Submitted (Project Period Total Costs)
July 1, 2019 – Nov 30, 2019	10	\$2,342,579	66	\$103,754,332

Progress Toward Achieving National Cancer Institute Designation¹

July 1, 2019 – November 30, 2019

1. **New Cancer Center Director:** The most significant step taken toward achieving National Cancer Institute (NCI) Designation in this inaugural reporting period was the hiring of a new cancer center director. The recruitment of the right individual for this position was critical to ensure success in achieving NCI Designation. Michael Birrer, MD, PhD, is an internationally recognized medical oncologist specializing in gynecologic cancers (CV attached in Appendix A). He was named Vice Chancellor and Director of the Winthrop P. Rockefeller Cancer Institute in September. Dr. Birrer began his tenure at UAMS in December and is bringing approximately \$4M in peer-reviewed cancer research grants with him (details to be provided in the next 6-month report). UAMS is confident it has recruited a superior physician scientist into this position who will be successful in leading us toward a successful NCI Designation application.
2. **Strategic Recruitment of Cancer Researchers:** Cancer researchers recruited since July 1, 2019 are detailed in Table 1. Their CVs are provided in Appendix A.
3. **Cancer Research Infrastructure Development:** NCI Designation requires the implementation of a prescribed formula to support cancer research. NCI Designation requirements that have received updates during this reporting period are noted below:
 - a. **Research Programs realigned:** NCI requires that all research within a NCI Designated Center be aligned according to distinct research programs. Winthrop P. Rockefeller Cancer Institute senior leadership reviewed its research programs and realigned them according to current funding and strategic recruitment goals. The four research programs at present are: Cancer Biology, Cancer Prevention & Population Sciences, Developmental Therapeutics, DNA Damage & Host Response.
 - b. **Shared Resources continue to be developed:** NCI requires that research conducted in the research programs be supported by shared resources/cores that serve to facilitate efficient conduct of that research. A genomics core was added in early 2019; it became established providing chargebacks by the end of this reporting period. A new bioinformatics core was developed that will go live in January 2020.
 - c. **New Cancer Center Support Grant (CCSG) guidelines released:** Application for NCI Designation occurs through submission of a CCSG and hosting a site visit. NCI revises the CCSG guidelines every three years. New guidelines were released at the end of this reporting period and a gap analysis was begun to determine alignment with the new expectations.
 - d. **New senior leadership role created:** A new leadership role of Associate Director for Research Education was created in the Winthrop P. Rockefeller Cancer Institute to lead efforts that will be described in the “Cancer Research Training and Education

¹ See Arkansas Code Annotated §19-5-1149 (g)(1)(D) reporting requirement of a detailed description of the steps taken and the progress made toward achieving status as a National Cancer Institute Designated Cancer Center during the reporting period.

Coordination” component of the CCSG. This leadership position identifies where there are opportunities to implement programs that provide exposure to/training in cancer research to individuals in primary school through junior faculty level positions.

- e. **Internal cancer research funding opportunities expanded:** While strategic recruitment of cancer researchers is absolutely essential to reach NCI Designation, it is also critical to continue investing in and provide opportunity to cancer researchers already in place at the Winthrop P. Rockefeller Cancer Institute.
 - i. **Seeds of Science.** An eleven year old internal funding mechanism for cancer research was elevated from providing several \$15,000 grants to fewer \$50,000 grants. This provides more funding to awardees enabling them to obtain preliminary data to include in external peer-reviewed grant applications.
 - ii. **Winthrop P. Rockefeller Cancer Institute Pilot Project Program.** This new program slated for rollout in the first half of 2020 provides pilot funds for cancer research projects led by a single researcher (\$75,000 award) or multiple collaborating researchers (\$200,000 award).
 - iii. **Winthrop P. Rockefeller Cancer Institute Shared Resource Voucher Program.** This new program slated for rollout in the first half of 2020 provides cancer researchers with access to the fee-for-service Winthrop P. Rockefeller Cancer Institute shared resources. Support is available for single researchers (\$5,000 voucher) or multiple collaborating researchers (\$10,000 voucher).
 - f. **Research infrastructure grants submitted:** NCI and other institutes at the National Institutes of Health offer grants to develop research infrastructure. Two of these with capacity to continue or expand existing research infrastructure at the Winthrop P. Rockefeller Cancer Institute were submitted during the reporting period:
 - i. **R25 grant submitted:** Researchers at the Winthrop P. Rockefeller Cancer Institute submitted an R25 grant in September to NCI entitled, “Partnerships in Cancer Research (PCAR)”. This was a strategic grant application to meet the CCSG requirements to implement programs that develop a cancer research workforce.
 - ii. **COBRE grant phase II submitted:** Winthrop P. Rockefeller Cancer Institute researchers submitted their phase II Center of Biomedical Research Excellence (COBRE) grant in September entitled, “Center for Studies on Host Response to Cancer Therapy”. This will extend an already obtained COBRE grant into its next phase of maturity.
 - iii. **T32 grant submitted:** Researchers at the Winthrop P. Rockefeller Cancer Institute have been preparing a T32 grant entitled “Integrative Biology and Data Science (BioDS) Graduate Training Program” for submission January 25, 2020. This program will bridge interdisciplinary science and biomedical informatics graduate programs by providing training in systems biology through cutting edge research while also implementing rigorous coursework with skill building exercises and an emphasis on reproducibility and integrity in scientific research.
4. **Gala for Life proceeds dedicated to support NCI Designation:** The pursuit of NCI Designation is reliant on support from multiple stakeholders including UAMS, the state of Arkansas and

philanthropic funds. On September 25, 2019, the Winthrop P. Rockefeller Cancer Institute held its annual Gala for Life fundraising event. Proceeds from this year's event were strategically dedicated to support the pursuit of NCI Designation. At the event this year, Dr. Birrer was announced as the incoming Winthrop P. Rockefeller Cancer Institute director, and more than \$1.2 million was raised to support NCI Designation efforts.

5. **Cancer Research Grant Activity:** Table 2 summarizes grant activity for this reporting period.

APPENDIX A

*Curricula vitae of
cancer research recruits*

CURRICULUM VITAE
University of Alabama at Birmingham
School of Medicine Faculty

Date: October 24, 2019

PERSONAL INFORMATION

Name: Michael J. Birrer, MD, PhD
Citizenship: US
Foreign Language(s): None
Home Address: 2024 2nd Avenue N., Unit #1601, Birmingham, AL 35203
Telephone: 617-320-7460 (cell)

RANK/TITLE

Department: Vice Chancellor and Director of the Winthrop P. Rockefeller Cancer Institute
Business Address: University of Arkansas for Medical Sciences
4301 W. Markham, Slot 623
Little Rock, AR 72205
Phone: 501-526-2272
Fax: 501-686-8165
Email:

HOSPITAL AND OTHER (NON-ACADEMIC) APPOINTMENTS

PROFESSIONAL CONSULTANTSHIPS

8/1/2017-Present	Professor of Medicine, Division of Hematology-Oncology Professor of Pathology, Obstetrics and Gynecology
8/1/2017-04/12/2019	Director, Comprehensive Cancer Center
11/1/2008-7/31/2017	Director, Medical Gynecologic Oncology Director, Gynecologic Cancer Research Program Gillette Center for Gynecologic Oncology, Massachusetts General Hospital Leader, Dana-Farber/Harvard Cancer Center Gynecologic Cancer Program
7/1/2000-10/31/2008	Deputy Branch Chief, Cell and Cancer Biology Branch, CCR, NCI
7/1/1991-10/31/2008	Chief, Molecular Mechanisms Section, Center for Cancer Research, National Cancer Institute
1988-1995	Medical Oncology Consultant to Gynecologic Oncology Tumor Board, National Naval Medical Center
1988-2008	Attending Physician, National Naval Medical Center
1988-2008	Attending Physician, Clinical Center, National Cancer Institute (NCI), Bethesda

EDUCATION

Year	Degree	Institution
8/73-6/76	BS	Rensselaer Polytechnic Institute, Troy, NY Major - Biology, Minor - Philosophy, GPA 3.99 cum Laude
7/76-6/82	MD	Albert Einstein College of Medicine, Bronx, NY
7/76-6/82	MS, PhD	Albert Einstein College of Medicine, Bronx, NY Microbiology and Immunology

Thesis: The Role of Measles Virus in Multiple Sclerosis
Mentor: Dr. Barry Bloom, Chairman, Department of
Microbiology and Immunology

MILITARY

U.S. Public Health Service (Serial No. 59928)

1991	Lieutenant Commander 04
1992	Commander 05
1997	Captain 06 Temporary Grade
2001	Captain 06 Permanent Grade

LICENSURE

1985	Medical License: Maryland
1982	Medical License: Massachusetts #52635

BOARD CERTIFICATION

1982	National Board of Medical Examiners
1985	Diplomate, American Board of Internal Medicine
1987	Diplomate, Subspecialty of Medical Oncology

POSTDOCTORAL TRAINING

7/1/1982-6/30/1983	Internship, Internal Medicine, Massachusetts General Hospital, Boston, MA (Dr. John Potts, Chairman, Department of Medicine)
7/1/1983-6/30/1985	Residency, Internal Medicine, Massachusetts General Hospital, Boston, MA
7/1/1985-6/30/1988	Fellowship, Medical Oncology, Medicine Branch, Clinical Oncology Program, National Cancer Institute, Bethesda, MD (Dr. Robert C. Young, Associate Director, Clinical Oncology Program)

ACADEMIC APPOINTMENTS

Year	Rank/Title Institution
8/1/2018 – Present	UAB appointment to Level II Graduate Faculty
8/1/2017 – Present	Evalina B. Spencer Chair in Oncology
8/1/2017-Present	Professor of Medicine, University of Alabama at Birmingham Division of Hematology-Oncology
11/1/2008-7/31/2017	Professor, Department of Medicine Harvard Medical School, Boston, MA
7/1/1991-10/31/2008	Senior Investigator, National Cancer Institute, NIH
7/1/1988-6/30/1991	Investigator, National Cancer Institute, NIH
1988-1995	Assistant Professor, Uniformed Services University of Health Sciences, Department of Medicine, Naval Hospital, Bethesda, MD
1982-1985	Instructor in Medicine, Harvard Medical School, Boston, MA

AWARDS/HONORS

1973-1976	Dean's List (all semesters)
1976	Phi Lambda Epsilon
1976	Sigma Xi Award

1977-1982	Medical Scientist Training Program (5T32GM7288)
1980	Alpha Omega Alpha, National Medical Honorary Society
1988	Outstanding Performance, Uniformed Services University of Health Sciences
1992	Division of Cancer Prevention and Control Employee of the Month
1992	Public Health Service Achievement Award
1993	Public Health Service Citation
1994	Equal Employment Opportunity Officer's Achievement Award
2010-2016	Best Doctors in America
2010-2016	Top Doctors in Boston, Boston Magazine
2014	Public Service Award, Foundation for Women's Cancer
2015	Director's Service Award, NCI
2016	Claudia Cohen Research Foundation Prize for Outstanding Gynecologic Cancer Researcher

PROFESSIONAL SOCIETIES/ MEMBERSHIPS

1986-1988	American Association of Clinical Oncology
2003-present	American Association of Clinical Oncology
1986-present	American Association for Cancer Research
1989-present	Gynecologic Oncology Group
2001-present	Society of Gynecologic Oncologists
2007-present	International Gynecologic Cancer Society
2011-present	European Society of Medical Oncology

COUNCILS AND COMMITTEES

1988-1991	Clinical Oncology Program, Fellowship Selection Committee, NCI
1990-1993	Committee for the Protection of Human Subjects, NNMC, Bethesda, MD
1990-1993	Grant Review for Early Detection and Community Oncology Program, DCPC, NCI
1990-2013	Experimental Medicine Committee, Gynecologic Oncology Group (GOG)
1992-present	Division of Cancer Prevention and Control Fellowship Selection Committee, DCPC, NCI
1992-1994	NCI Institutional Review Board for Extramural Affairs, NCI, Bethesda, MD
1993	Planning Committee for International Conference for Colorectal Screening
1994	Chairman, International Conference for Colorectal Screening: New Technology Development Section
1994	Source Evaluation Group for Early Detection Network, DCPC, NCI
1995	Committee for Scientific Diversity, NIH
1995-1999	Medical Oncology Consultant to Gynecologic Oncology Tumor Board, WRAM
1997-2001	Ovarian Cancer Research Program, Department of Defense (DOD)
2000-2001	Chair – Ovarian Cancer Research Program, DOD
2001	Steering Committee, Gynecologic Oncology Faculty, CCR
2001	Pre-Clinical Working Group
2001-2002	Chair Emeritus, Ovarian Cancer Research Program, Intergration Panel DOD
1998-2013	Protocol Development Committee, GOG
2001-2013	Ovarian Committee, GOG
2001-2013	Ancillary Data Committee GOG
2001-2002	Co-Chair, Committee for Experimental Medicine GOG

2002	Gynecologic Cancers Progress Review Group Pre-Meeting with Director
2002	Gynecologic Cancer Progress Review Group Implementation Meeting
2002-present	Chair, Committee for Experimental Medicine GOG
2002-2004	American Society of Clinical Oncology (ASCO) Program Committee Gynecologic Cancer Track
2002-2005	SGO Program Committee Member
2003	GOG Site Visit Committee for Experimental Medicine (priority score 175)
2003	Chair GOG Corporate Scientific Symposium
2003-present	Chairman's Advisory Committee GOG
2004	Member GOG Corporate Scientific Symposium Committee
2005	Program Committee, International Meeting on Ovarian Cancer
2005-2016	Co-Chair, Gynecologic Cancer Steering Committee (GCSC) of the National Institute of Health (NCI)
2006-present	Member, Reproductive Scientific Development Program Board
2009-2011	Chair Translational Science Committee, Gynecologic Cancer Intergroup (GCIG)
2009-2013	TCGA Steering Committee
2009-2016	Co-Chair of the Gynecologic Cancer Steering Committee (GCSC) of the National Institute of Health (NCI)
2009-present	Scientific Board, Target Ovarian Cancer
2010-present	Program for the Assessment of Clinical Cancer Tests (PAACT)
2010-2012	Medical Advisory Board, Illumina
2010-present	Witherspoon Council on Ethics and the Integrity of Science
2011-2014	Member, National Clinical Trial Network Working Group
2011-present	External Advisory Board Clinical Proteomic Tumor Analysis Consortium (CPTAC)
2012-2015	ASCO Program Committee Tumor Biology Track
2012-present	Group Banking Committee
2013-present	Co-Chair, Translational Research Working Group, NRG
2013-present	NRG Research Committee
2014-2015	Clinical Trial Planning Meeting Organizing Committee – Uterine Corpus
2014-2015	Co-chair UPSC CTPM Group 2
2014-present	Chair, NCTN Correlative Science Committee
2015-present	Immunogen GYN Steering Committee for Development of IMGN853
2015-present	Member, Special Commission on Ovarian Cancer, Massachusetts Department of Public Health
2017-2018	SGO Program Committee Member
2018	Cancer Research UK Science Committee Expert Review Panel
2018-present	AL Governor appointment to the Study Commission for Gynecologic Cancers
2018	NCI ZRG1 OTC-W Study Section Review Panel
2018	Review of NCI Intramural Research Programs

UNIVERSITY ACTIVITIES

2000-present	External Advisory Board, MD Anderson Cancer Center Uterine SPORE
2006	Member, Marsha Rivkin Center for Ovarian Cancer Research Grant Review
2008-2013	Chair, External Advisory Board Fox Chase Cancer Center Ovarian SPORE
2008-2017	Member, Cancer Center Leadership Committee, MGH
2009-2013	External Advisory Board, Stanford University Ovarian SPORE

2010-present	Scientific Board, Terry Fox Research Institute - Biomarker Program ‘COEUR’
2011-present	External Advisory Board Roswell Park Ovarian SPORE
2012-2017	Member, Academic Advisory Group, MGH
2014-present	Member, Marsha Rivkin Scientific Board

EDITORIAL BOARDS

Disease Markers

American Journal of Obstetrics and Gynecology

Women’s Health Journal

Clinical Cancer Research

Journal of Biologic Chemistry

Journal of the National Cancer Institute – Associate Editor

EDITORIAL REVIEW

American Journal of Respiratory Diseases, Biochim Biophys Acta, Blood, Cancer, Cancer Research, Gynecologic Oncology, Journal of Clinical Oncology, Journal of the National Cancer Institute, Journal of Obstetrics and Gynecology, Molecular Carcinogenesis, Molecular and Cellular Biology, Oncogene, Proceedings of the National Academy of Sciences, National Science Foundation Grant Review, The Israel Science Foundation

MAJOR RESEARCH INTERESTS

My major research interest is in characterizing the genomics of gynecologic cancers and translating it into improving in the clinical management of these diseases. The research focuses on the development of early detection assays, elucidation of new biology, discovery of novel therapeutic targets, and identification and validation of predictive and prognostic biomarkers. It is our vision that through a better understanding of the molecular underpinnings of these cancers, we will be able to better diagnose and treat these diseases.

TEACHING EXPERIENCE

1988-1995	Medical Student Preceptor, Uniformed Services University of Health Sciences
1991-1993	Lecturer, Clinical Service Lecture Series, NMOB, DCT, NCI
1991-present	Lecturer, Cancer Prevention Fellowship Seminar Series, DCPN, NCI
2010-present	Gynecologic Cancer Academy
2015-present	Member, Thesis Committee MIT Graduate Student

RESEARCH TRAINEES

<u>Name</u>	<u>Position</u>	<u>Position Obtained after Training</u>
Richard Rosenberg, MD	Clinical Associate	Assistant Professor, University of Arizona
Dennis Sanders, MD	Clinical Associate	Assistant Professor, Boston University
Eva Szabo, MD	Clinical Associate	Senior Investigator, NCI
Powel Brown MD, PhD	Clinical Associate	Associate Professor, Dept. of UTS
Steven Lemon, MD	Clinical Associate	Assistant Professor, Creighton University
Anita Sabichi, MD	Clinical Associate	Assistant Professor, MDACC
Rhoda Alani	Howard Hughes Scholar	Massachusetts General Hospital
Michael Teneriello, MD	Gyn Oncology Fellow	Assistant Professor, University of Pittsburgh
Robert Taylor, MD	Gyn Oncology Fellow	Assistant Professor, USUHS
Sung Kim, MD	Fogarty Fellow	Assistant Professor, Seoul Korea

Hiro Dosaka	Fogarty Fellow	Assistant Professor, Sapporo, Japan
Mary Parker, MD	Gyn Oncologist	Tripler Army Base Ha.
Kelly Gendreau	Student Trainee	Colgate University
Tricia Francis	Student Trainee	University of Michigan
Julie Francis	Student Trainee	Harvard University
Daniel Gephart	Student Trainee	University of Michigan
Yatia Gross	Student Trainee	McKinley High School
Achim Moesta	Student Trainee	Colgate University
Robert Kao	MCPS/HHMI	Boston College
Ginger Gardner, MD	GCF Scholar	Mt Sinai
Denver Hendricks, PhD	Fogarty Fellow	Research Associate UCT S.A.
Kristin Zorn, MD	GCF Fellow	University of Oklahoma
Jeff Chick	Colgate University	Colgate University
Will Winter, MD	Gyn Oncology Fellow	Brooks Army Hospital

MAJOR LECTURES AND VISITING PROFESSORSHIPS

1988 Grand Rounds, Clinical Oncology Program, NCI, Bethesda, MD

Grand Rounds, Fox Chase Cancer Center, Philadelphia, PA

1991 *Malignancies of the Aerodigestive Tract*, ICN-UCLA Symposium: Keystone, CO

Department of Head & Neck Cancers, M.D. Anderson Cancer Center, Houston, TX

1992 *Early Detection of Cancer: Challenges for Molecular Biology*, Early Detection Branch, DCPC, NCI, Gaithersburg, MD

Microbiology and Immunology Sem. Series, Medical College of Virginia, Richmond, VA

1993 Laboratory and Branch Chiefs Meeting, DCPC, NCI

Grand Rounds, Clinical Oncology Program, NCI, Bethesda, MD

1994 DCPC Colloquium

1995 *Novel Intervention Agents*, Chairperson, Mini-symposium, AACR, Washington, DC

1996 Department of Biochemistry, University of Cincinnati, Cincinnati, OH

Cancer Symposium, CHEP, Perry Point, MD

1997 Grand Rounds, University of Illinois, Chicago, IL

13th Annual Ella T. Grasso Memorial Conference, University of Connecticut, Farmington, CT

- 2001** Gynecologic Cancer Translational Research Retreat, April
- 2001** *Molecular Prevention Course Oncogenes and Tumor Suppressor Genes*, August
- 2001** Co-Chair Gynecologic Oncology Faculty Retreat
- 2002** *Director's Challenge*, PI Meeting Bethesda MD, Nov 6-8
- 2002** *RTK Inhibitors*, Chair, ASCO Molecular Therapeutics Symposium, San Diego, CA, Nov 8, 2002
International Meeting for Early Ovarian Cancer, Dulles Airport, Washington, D.C.
- 2003** Chair, Thesis Defense Committee Department of Gynecologic Oncology, University of South Florida, Tampa, FL
- Ovarian Cancer Biology*, Survivor's Course, Society of Gynecologic Oncology Annual Meeting, Miami, FL
- Expression Profiling of Ovarian Cancer*, Oncogene Meeting, Frederick, MD
- Novel Retinoids*, Hormonal Carcinogenesis Faculty Meeting, Rocky Point, MD
- Expression Profiling of Ovarian Cancer*, 19th Annual Ella T. Grasso Memorial Conference, University of Connecticut, Hartford, CT
- 2004** *Expression Profiling of Ovarian Cancer*, Ovarian Cancer Mouse Models Meeting, MMHCC San Juan, Puerto Rico
- Expression Profiling of Ovarian Cancer*, 1st International, Conference on Ovarian Cancer, Physician Education Resource Co-Organizer, Park Plaza Hotel, New York, NY
- Molecular Classification of Ovarian Cancer*, Johns Hopkins School of Medicine, Department of Pathology, Baltimore, MD
- GOG-SPORE Collaborations*, SPORE Annual Meeting, Baltimore MD
- Genomic Analysis of Ovarian Cancer*, Division of Gynecologic Oncology, University of Alabama, Birmingham, AL
- Gynecologic Cancer Intergroup Presentation to the NCI Director*, Bethesda, MD
- Genomic Comparison of Animal and Human Ovarian Cancer*, International Society of Gynecologic Cancer, Edinburgh, Scotland, UK
- Preparing for Peer Review Ovarian Cancer* Ovarian Cancer National Alliance Washington, DC

NCI Initiatives, Gynecologic Cancer Foundation Allied Health Group Presentation SGO Annual Meeting, Miami, FL

Ovarian Cancer Biology, Survivor's Course, Society for Gynecologic Oncologists Annual meeting, Miami FL

2005 Moderator and Co-organizer, Translational Science Session, 2nd International Conference on Ovarian Cancer, Plaza Hotel, New York, New York

ET-743- a new cytotoxic agent, 2nd International Conference on Ovarian Cancer, Plaza Hotel, New York, NY

Molecular Profiling of Ovarian Cancer Genomics Mini-symposium AACR, Anaheim, CA

GOG Priorities "Omics" Corporate Symposium Gynecologic Oncology Group Semi- Annual Meeting, Baltimore, MD

SPORE Investigator Meeting, Co-Chair, Ovarian Break-Out Group

Co-organizer State of the Science Meeting, Ovarian Cancer, Rockville MD

Moderator, Biomarkers and Phase III Trial Design, State of the Science Mtg., Ovarian Cancer, Rockville, MD

Molecular Etiology, Ovarian Cancer Session, Symposium on Women's Cancer, King Hussein Cancer Center, Amman, Jordan

Chair, Ovarian Cancer Treatment Session, King Hussein Cancer Center, Amman, Jordan

Tissue Based Assays-Con Ovarian Cancer National Alliance Annual Meeting, Atlanta, GA

State of the Science Summary, Ovarian Cancer National Alliance Annual Meeting, Atlanta, GA

The Genomic Analysis of Ovarian Cancer, Ovarian Cancer Symposium, Massachusetts General Hospital Cancer Center, Boston, MA

The Genomic Analysis of Ovarian Cancer, Obstetrics and Gynecology Grand Rounds, Magee Women's Hospital, Pittsburgh, PA

Characterization of a gene signature, which predicts survival in patients with advanced stage, high grade ovarian cancer. Research Seminar, Magee Women's Hospital, Pittsburgh, PA

The Genomics Analysis of Ovarian Cancer: what does it tell us? University of Texas at San Antonio, San Antonio, TX

State of the Science Summary, Gynecologic Cancer Intercrop, Paris, France

- 2006** GOG Scientific Symposium, *Angiogenesis: A new therapeutic target*. Symposium Chair, San Diego, CA
- SPORE-GOG collaborations*, Co-Chair SPORE mid-winter meeting, Houston, TX
- Whole-Genome Expression Profiling of Papillary Serous Ovarian Cancer: Activated Pathways, Potential Targets and Noise* Tri Medicine Meeting, Cambridge Health Technology, San Francisco, CA
- Tumor infiltrating lymphocytes in ovarian cancer*, Data Club, Cell and Cancer Biology Branch, Bethesda, MD
- Focused Plenary Session: *Basic Science and Translational Medicine*, Chair, Society of Gynecologic Oncology Annual Mtg Palm Springs, CA
- Translational Science in GOG*, Sunrise Session 6: Gynecologic Oncology Group (GOG) Update: What's New in 2006, Society of Gynecologic Oncology Annual Mtg Palm Springs, CA
- The Odyssey of Target Identification*, Express Postgraduate Course 3: "Targeting Targeted Therapy in Gynecologic Cancers", Society of Gynecologic Oncology Annual Mtg, Palm Springs, CA
- Identification of cJun/AP-1 target genes by microarrays and chromatin immunoprecipitation assays: clues to its diverse biologic activities* TOIG Seminar, Medical Board Room, Bethesda, MD
- Genomic Analysis & The Pathogenesis of Ovarian Cancer* Lynn Cohen Foundation Meeting, New York School of Medicine, New York, NY
- Translational Science Session, Moderator, Third International Conference on Ovarian Cancer Roosevelt Hotel, New York, NY
- Genomic Analysis and Ovarian Cancer Translational Science Session, Third International Conference on Ovarian Cancer Roosevelt Hotel, New York, NY
- Disease Classification*, 1st International Conference on Ovarian Cancer, Aegean Conference, Crete
- Identification of important signaling pathways in serous tumors of the Ovary* kCon/fab Annual Meeting, Couran Cove, Australia
- Oncogenes and Tumor Suppressor Genes* Honors Lecture, University of Cape Town, Cape Town, South Africa
- Identification of important signaling pathways in serous tumors of the ovary: a genomic analysis*. University of Cape Town, Cape Town, South Africa

Intramural Research Program, Ovarian Cancer National Alliance Annual Meeting, Washington DC

Diagnostics & Imaging in the Management of Ovarian Cancer Second Annual World Oncology Congress, Marriott Marquis, New York, NY

Profile Outcomes Prediction, Second Annual World Oncology Congress, Marriott Marquis, New York, NY

Molecular Biology Session, Chair, State of the Science Mtg Endometrial Cancer, Manchester, UK

Drug Discoveries, 7th Annual International Conference on Ovarian Cancer, MDACC, Houston TX

2007 *LMP/Low grade tumors: are they a unique entity? Molecular Biology Scientific Symposium, GOG Semi-annual Meeting San Diego, CA*

Expression Profiling of Ovarian Cancer: New Insights into its Origin and Novel Therapeutic Targets. Susan Klein Kamen Endowed Lectureship, Memorial Sloan-Kettering Cancer Center, Department of Medicine, New York, NY

New updates from the Ovarian SPOREs, Chair, Post Graduate Session, Society of Gynecologic Oncologists Annual Meeting, San Diego, CA

Expression Profiling of Ovarian Cancer: New Insights on the Origin and Treatment of the Disease, Beijing Symposium: Cell Signaling in Cancer, Development and Stem Cells, Beijing, China

Expression Profiling of Ovarian Cancer: New Insights on the Origin and Treatment of the Disease, The Chinese University of Hong Kong Department of Obstetrics and Gynecology, Hong Kong

SPORE Gynecologic Cancer Breakout Session, Moderator

Expression Profiling of Ovarian Cancer: New Insights on the Origin and treatment of the Disease, Seminar, Massachusetts General Hospital, Boston, MA

Translational Research in Ovarian Cancer: Gynecologic Oncology 5th Group, 5th Korean Gynecologic Oncology Group Meeting, Seoul Korea

Genomic Profiling of Ovarian Cancer: New Insights into Pathobiology, Korean Society of Gynecologic Cancer, Seoul, Korea

2008 *Tumor Assessment, Targeted Therapies, GOG Symposium, Moderator*

Genomics and Proteomics: The Future is Now, GOG Scientific Symposium, Moderator, GOG

Semi-Annual Meeting, San Diego, CA

Genomic Analysis of Ovarian Cancer, Cancer Center Grand Rounds, Massachusetts General Hospital, Boston MA

Genome-Wide Target Discovery in Ovarian Cancer, Keynote Presentation, 1st Ovarian Cancer Action International Conference, London, UK

Moderator, 1st Ovarian Cancer Action International Conference, London, UK

Moderator, Post Graduate Course 2: What's new in the Gynecologic SPOREs, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

Genomic Approaches to Target Discovery, Post Graduate Course 4, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

The Genomic Revolution: How it will Change the State of the Science of Ovarian Cancer! State of the Science Meeting, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

Other Novel Strategies Targeting Cellular Pathways in the Treatment of Advanced Ovarian Cancer, SGO Satellite Symposium, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

The Biology of Ovarian Cancer, Survivor's Course Gynecologic Cancer Foundation, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

Cancer Stem Cell Gene Signature identified from ovarian tumor side populations, Focused Plenary on Ovarian Cancer, Society of Gynecologic Oncologists, Annual Meeting, Tampa, FL

Genomic Analysis of Ovarian Cancer: where will it lead us? Bench to Bedside AACR Special Meeting, Amman, Jordan

New Agents and Translational Research in Ovarian Cancer Moderator, Fifth International Symposium on Ovarian Cancer and Gynecologic Malignancies New York, NY

Optimal Systemic Therapy for Advanced Uterine Cancer Moderator, Fifth International Symposium on Ovarian Cancer and Gynecologic Malignancies New York, NY

Therapy for a Patient with Platinum Resistant/refractory Recurrent Ovarian Cancer should be selected Based on Result of an In Vitro Extreme drug Sensitivity/Resistance Assay- Con, Fifth International Symposium on Ovarian Cancer and Gynecologic Malignancies New York, NY

Biobehavioral influences on tumor biology: Preclinical models of neuroendocrine regulation, Symposium organizer, Natcher Auditorium, NIH, Bethesda, MD, June 24, 2008

Clinical and Translational Research Opportunities to Expand the Paradigms Biobehavioral

influences on tumor biology: Preclinical models of neuroendocrine regulation, Natcher Auditorium, NIH, Bethesda, MD, June 24, 2008

The Molecular Classification of Ovarian Cancer: survival, resistance, and new targets. 2nd International Conference on Ovarian cancer: State of the Art and Future Directions, Rhodes, Greece June 26, 2008

Ovarian Cancer – Update of Research, Ovarian Cancer National Alliance, Omni Shoreham Hotel, Washington D.C., July 9, 2008

Chaired Session: Translational Science in Gynecologic Cancer, The 12th International Gynecologic Cancer Society, Dusit Thani Hotel, Bangkok, Thailand, October 25 – 28, 2008

Frontiers: Translational Science in Gynecologic Cancer, The 12th International Gynecologic Cancer Society, Dusit Thani Hotel, Bangkok, Thailand, October 25 – 28, 2008

The Biology of Early Ovarian Cancer, GYN-Onc Research Program, Intramural Research Program, NCI, NIH, Bethesda, MD

Survivors Course GCF, Hughes Auditorium, Chicago, Illinois, July 2008

Research Updates, Part 1, Ovarian Cancer National Alliance, Omni Shoreham, Washington, DC, July 8, 2008

2009 EOCPP External Advisory Committee Meeting, MSKCC, New York, NY, January 29, 2009

Biological Markers; New Markers for Response, 7th International Symposium Advanced Ovarian Cancer: Optimal Therapy, Update, Valencia, Spain, February 27 & 28, 2009

The Genomics of Ovarian Cancer: What does it tell us? Moreton Grand Rounds, University of Mississippi, Jackson, MS, March 10, 2009

Personalized Medicine: Clarity or Confusion? Alpha Omega Alpha Banquet, University of Mississippi, Jackson, MS, March 10, 2009

Ovarian Congress, New York, NY, March 20-21, 2009

The Genomics of Ovarian Cancer: What does it tell us? Cancer Center Grand Rounds, The Cancer Institute of New Jersey, New Brunswick, NJ, April 8, 2009

New Insights in the Biology and Pathogenesis of Epithelial Ovarian Cancer Gene Expression Profiles in Ovarian Carcinoma in Relation to Phenotype, Chemosensitivity and Prognosis, Nordic Society of Gynecologic Oncology, Stockholm, Sweden, April 23 & 24, 2009

NCRN/GCIG NCI Clinical Trials Planning Meeting, Manchester, England, June 17-19, 2009

GOG/Committee of Experimental Medicine, Chair GOG/Scientific Session Moderator, Baltimore, MD, July 16-19, 2009

The Biology for Ovarian Cancer GOG/Survivors Course, Baltimore, MD, July 16-19, 2009

Stromal–Epithelial Interactions in Ovarian Cancer: Implications for Biology and Treatment, Australia Ovarian Cancer Study, Familia Aspects of Cancer, Cancer and Families: Research and Practice, Queensland, Australia, August 11-14, 2009

Ovarian Cancer, Annual Community Oncology Research Forum, Dallas, Texas, September 11, 2009

Session Debate (Con): All Patients at High Risk for Ovarian Cancer Should Undergo Routine Screening; Session Debate (Con): Therapy for the Patient with Platinum-Resistant/Refractory Recurrent Ovarian Carcinoma Should be Selected Based on the Results of an In Vitro Extreme Drug Sensitivity/Resistance Assay, Fifth Annual Oncology Congress, San Francisco, CA, September 25, 2009

Novel Therapeutics in Clinical Trial, American College of Radiology Imaging Network, Arlington, VA, October 2, 2009

The Biology of Ovarian Cancer, Ovarian Cancer Survivors Course, Gynecologic Cancer Foundation, Washington, D.C., November 7, 2009

GOG Site Visit, Bethesda, MD, November 9-10, 2009

First Global Workshop on Ovarian Cancer, Chicago, IL, November 20 & 21, 2009

2010 *USON GYN CME Meeting, Phoenix, AZ, January 15-16, 2010*

Canadian Ovarian Cancer Research, Toronto, Canada, February 4, 2010

Future Directions in Ovarian Cancer, London, UK, February 11, 2010

The Program for the Assessment of Clinical Cancer Tests (PACCT/CADP) Chicago, IL, April 7, 2010

Stand Up to Cancer/Phosphatidylinositol 3'-Kinase Dream Team, Walter E. Washington Convention Center, Washington, DC, April 16-18, 2010

Gynecologic Malignancy Advisory Board, New York, NY, May 21 & 22, 2010

What are promising targets for future therapeutic approaches? 4th Ovarian Cancer Consensus Conference, Vancouver, Canada, June 23-27, 2010

The Biology of Ovarian Cancer, Ovarian Cancer Survivors Course, Boston, MA, July 15, 2010

The GOG Specimen Bank and Translational Research, GOG Summer Scientific Session, Boston, MA, July 15-18, 2010

DNA Repair, Cancer Education Consortium Annual Workshop (CEC), Lansdowne Conference Center, Leesburg, VA, September 13, 2010

PARP Inhibitors and BRCA 1 / 2 Associated Ovarian Cancers, Ella Grasso Memorial CME Conference, Yale University, New Haven, CT, November 17, 2010

Emerging Therapeutics in Recurrent Disease, SGO Session III, Northwestern University, Chicago, IL, December 4, 2010

2011 *P53 in ovarian cancer and how it might relate to breast cancer*. Breast Cancer Grand Rounds, Massachusetts General Hospital, Boston, MA, January 4, 2011

Innovative Treatments in Ovarian Cancer, Annual Meeting of the Israeli Society for Clinical Oncology and Radiation Therapy, Tel Aviv, Israel, January 12-14, 2011

Innovative Treatment in Ovarian Cancer - Current Status and Future Prospective, Israeli Gynecologic Oncology Society, Tel Aviv, Israel January 12-14, 2011

The Post Cancer Genomic Atlans Era - Where Do We Go from Here? Helene Harris Memorial Trust 12th International Forum on Ovarian Cancer, Miami, FL January 15-19, 2011

GYN Cancer Academy Educational Program, Inaugural Mentor's Meeting, Valencia, Spain, March 31, 2011

Canadian Ovarian Cancer Resources, Montreal, Canada, April 8, 2011

Ovarian Cancer: The Origin and New Therapeutic Targets, Wayne State University Grand Rounds, Detroit, MI, May 24, 2011

A Phase II Trial of Iniparib (BSI-201) in combination with gemcitabine/carboplatin (GC) in patients with platinum-sensitive recurrent ovarian cancer, ASCO Annual Meeting, Chicago, IL, June 3-7, 2011

When is a Predictor Clinically Useful? Omics Meeting, Bethesda, MD, June 23 & 24, 2011

Ovarian Cancer Genetics, Ovarian Cancer Survivors Course, Boston, MA, August 20, 2011

Biomarkers for Ovarian Cancer: Where can they help? Early Detection Research Network (EDRN), Bethesda, MD, September 13-15, 2011

DNA Repair, Cancer Education Consortium, Leesburg, VA, September 25 & 26, 2011

Appointment Panel, Cancer Research, London, UK, September 29, 2011

Ovarian Clinical Trials Planning Committee, Philadelphia, PA, November 2, 2011

Future/Emerging Treatments? Ovarian Cancer Survivor's Course, Houston, TX, December 1, 2011

2012 *New Strategies to Identify and Screen Women at Risk for Ovarian Cancer*, GOG Scientific Session, San Diego, CA, January 26-28, 2012

Ovarian Cancer: State of the Science Past, Present and Future, Baylor-MD Anderson Joint Symposium, MD Anderson, Houston, TX, February 3, 2012

Improving Outcomes for Woman with Advanced Ovarian Cancer, GOG-0218, Prague, The Czech Republic, February 11-12, 2012

The Future of Ovarian Cancer Management: Biomarkers in Oncology, Avastin Ovarian Cancer Launch, Prague, The Czech Republic, February 11-12, 2012

The Challenges of Inter and Intra-Tumoral Heterogeneity in the Management of Ovarian Cancer, American Association for Cancer Research (AACR), Chicago, IL, April 2, 2012

Ovarian Cancer: State of the Science, Beth Israel Deaconess Medical Center Grand Rounds, Boston, MA, June 13, 2012

Targeting Genomic Chaos in Gynecologic Oncology, Program Chair for GOG Summer 2012 Scientific Session, 85th Semi-Annual Meeting, Boston, MA July 26, 2012

Recent Advances in Ovarian Cancer Clinical Research, Keynote Speech; *Everything You Ever Wanted to Know about PARP Inhibitors but were Afraid to Ask*, 9th Biennial Ovarian Cancer Research Symposium, Marsha Rivkin Center for Cancer Research, Seattle, WA, September 7, 2012

2013 National Cancer Institute (NCI), National Institutes of Health (NIH), U.S. Department of Human Services, NCI Precision Cancer Medicine Working Group, Bethesda, Maryland, January 10, 2013

Report and discussion of assays to guide treatment, Defining Clinical Utility of Molecular Diagnostics for Cancer Treatment, PACCT Meeting, Bethesda, MD, January 11, 2013

Ovarian Cancer Management-On the Front Line, Chair, Scientific Session, GOG Semi-Annual Meeting - San Diego, CA, January 24-27, 2013

Genomic analysis. Keynote Lecture, 9th International Symposium on Advanced Ovarian Cancer: Optimal Therapy, Valencia, Spain, March 2, 2013

Trials and Tribulations of Ovarian Cancer Screening; Early Detection of Ovarian Cancer: Old

Trials and New Biology; 8th EDRN Meeting, Scientific Program Committee Meeting, Bethesda, MD, March 13-14, 2013

Shift in the Treatment Paradigm of Ovarian Cancer, Chennai, Hyderabad, Hyderabad/Mumbai and Mumbai, India, Global Oncology Summit, March 29-April 1, 2013

NCI Group Banking Committee (GBC) Face-to-Face Meeting, Columbus, OH, April 18-19, 2013

The Importance of Correlative Studies in Clinical Trials Translational/Anti-Angiogenesis, 13th Annual Continuing Professional Development Meeting, Toronto, Ontario, April 26, 2013

The Center for the Study of Technology and Society, Witherspoon Council Meeting, 1) contemporary genetics and 2) end-of-life issues, Washington, D.C., May 28, 2013

Chromatin Regulatory Mechanisms in Ovarian Cancer, External Advisory Committee Meeting, Wistar Institute, Philadelphia, PA, May 29, 2013

The Future of Ovarian Cancer Treatment: Personalized Medicine, Ovarian Cancer Survivors Course, New York, NY, June 8, 2013

Gynecologic Cancer Trial Portfolio Presentation, (Ovarian and Corpus/Cervix Presentations) NCI, NCTN Summer Working Group Meeting, Rockville, MD, July 1-2, 2013

State of the Science in Cervical Cancer: Where We Are Today and Where We Need to Go, GOG 87th Semi-Annual Meeting, San Antonio, TX, July 18-20, 2013

GYN Translational Research Organization in Europe, 2nd Gynaecological Cancer Academy (GCA) Workshop, Paris, France, September 4-9, 2013

Harnessing Genomic Data to Guide Proteomic Analysis: Can Expression Profiling Identify Early Detection Biomarkers? 26th EDRN (Early Detection Research Network) Steering Committee Meeting/Data Jamboree, Seattle, WA, September 10-12, 2013

Target Ovarian Cancer Scientific Advisory Board, Discussion Leader, London, UK, October 17, 2013

Current and Emerging Biomarkers and Targets in Ovarian Cancer, 18th International Society of Gynaecological Oncology (ESGO), Liverpool, UK, October 18-19, 2013

Future of Ovarian Cancer Treatment: Personalized Medicine, Foundation for Women's Cancer, Ovarian Cancer Survivors Course, Washington, DC, November 1-2, 2013

Translational Research Report, GOG Chairman's Working Group, Philadelphia, PA, November 4, 2013

Ovarian Cancer: The State of the Science, Grand Rounds, Karmanos Cancer Institute, Detroit MI,

November 21, 2013

Genetic Profiling Uncovers New Therapeutic Approaches to Ovarian Cancer, 22nd Annual Meeting MITO, “From the Macroscopic to the Microscopic: The Evolution in All Treatments for Ovarian Cancer”, Rome, Italy, November 28-29, 2013

2014 GOG/NRG Oncology Semi-Annual Meeting, San Diego, CA, February 6-9, 2014

Clinical Experience with the Combination of Pimasertib and SAR245409, Opening Remarks, Merck Serono & Quintiles Investigator Meeting, MEKi 012 Study Protocol, Rome, Italy, March 5-7, 2014

SGO 45th Annual Meeting on Women’s Cancer, March 22 & 23, 2014 Foundation for Women’s Cancer, Board and Business Meeting, Board of Directors Meeting and receipt of the 2014 Public Service Award, Tampa, FL, March 23, 2014

National Institutes of Health, National Cancer Institute Think Tank, Bethesda, MD, April 16, 2014

Personalized Medicine: Are All Cancers the Same? Foundation for Women’s Cancer, Gynecologic Cancer Survivors Course, Garden City, NY, May 2, 2014

Druggable Targets in Ovarian Cancer, Third Gynaecological Cancer Academy, Stresa, Italy, May 16-17, 2014

Osmotic Micro-Pump as Delivery System for Intraperitoneal Chemotherapy in the Treatment of Advanced Ovarian Cancer, DF/HCC and the Koch Institute, MIT, The Bridge Project Symposium and Networking Event. Award Announcement for team: Michael Cima, K1 Michael Birrer and Marcela Del Carmen. Cambridge, MA, May 22, 2014

Potential Biomarkers for FGFR inhibitor Therapy, May 31, 2014, Discussant; *Meta-Analysis of Public Microarray Databases for Prognostic and Predictive Gene Signatures of Late-Stage Ovarian Cancer*, Poster Presentation; *Molecular Profiling of Rare Uterine Tumors: A Potential Guide to Treatment?* Oral Presentation, ASCO Annual Meeting, Chicago, IL, May 30-June 2, 2014

Personalized Medicine and Cancer, OhioHealth Cancer Conference, Columbus, OH, June 7, 2014

Clinical Applications of the Cancer Gene Atlas (TCGA) in Endometrial Cancer, Nordic Society of Gynaecological Oncology Annual Meeting, Selfoss, Iceland, June 13-14, 2014

GOG/NRG Semi-Annual Meeting, Chicago, IL, July 10-12, 2014

Panel Moderator, “Pre-Operative Factors”, American Brachytherapy Society, Gyn Multi-Disciplinary Summer Symposium, Chicago, IL, July 13, 2014

Welcome and Course Overview; New Therapeutic Agents in Ovarian Cancer: Foundation for

Women's Cancer, Gynecologic Cancer Survivors Course, Wyndham Hotel, Boston, MA, July 26, 2014

The Genomic Analysis of Ovarian Cancer: Where are We? The Wistar Institute, Philadelphia, PA, September 15, 2014

Needs and Challenges in Ovarian Cancer; Overview of Bridge Project Research. "Bridging the Gap in Ovarian Cancer", The Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA, September 16, 2014

What are the Issues for Surgical Trials? Trials in Surgery Workshop; Why Signatures Miss the Goal in Ovarian Cancer. Fourth Gynaecological Cancer Academy, Frankfurt, Germany, September 19-20, 2014

Genomic Analysis of Ovarian Cancer: Where are We? Guest Lecturer, Richard W. TeLinde Lectureship, Grand Rounds, Johns Hopkins Hospital, Baltimore, MD, October 16, 2014

Panel Member, OncLive Peer Exchange for "Updates in Ovarian and Cervical Cancers" filming, Dallas, TX, October 18, 2014

Faculty Member, 10th Annual International Symposium on Ovarian Cancer and Gynecologic Malignancies "Medical Crossfire" filming, Dallas, TX, October 18, 2014

New Therapeutic Targets in Ovarian and Uterine Cancers, Chemotherapy Foundation Symposium: Innovative Cancer Therapy of Tomorrow, The Greenspan Meeting XXXII, Marriott Marquis, New York, NY, November 6, 2014.

Molecular Targeted Therapy for Ovarian Cancer, 30th Annual Ella T. Grasso Memorial Conference, Yale West Campus, Orange, CT, December 3, 2014

2015 *The Impact of Molecular Testing in Therapeutic Decisions in Ovarian Cancer*, 2015 Progress and Controversies in Gynecologic Oncology Conference, Barcelona, Spain, January 17, 2015

Curative Strategies for Primary Disease; Therapies for Driver Mutations Using Genomics to Stratify Patients or to Personalize Care, Ovarian Cancer Action, HHMT (Helen Harris Memorial Trust) 13th International Forum on Ovarian Cancer, Toledo, Spain, January, January 19, 2015

Genomic Analysis of Ovarian Cancer: Where Are We? Invited Speaker, Globeathon to End Women's Cancer, Inova Fairfax Hospital, Falls Church, VA, January 23, 2015

Genomic Expression Signatures to Predict Debulking Status, NRG Oncology Semi-Annual Meeting, Manchester Grand Hyatt, San Diego, CA, February 5, 2015

Endometrial Cancer Session: *From Histologic to Genetic Classification*. Ovarian Cancer Session: *Concepts in the Biology of Ovarian Cancer: The impact of Genetics on Clinical Practice*, Pakistan Society of Clinical Oncology (PSCO) Gynecologic Cancer Symposium, Keynote Speaker and

Panel Member, Advancing Cancer Care, 2015 Women Cancer Meeting, “Current and Future Concepts”, Lahore, Pakistan, February 14, 2015

Future of Ovarian Cancer Treatment: Personalized Medicine, Foundation for Women’s Cancer, Ovarian Cancer Survivors Course, The Kravis Center, Cohen Pavillion, West Palm Beach, FL, February 28, 2015

The Molecular Genetics of Epithelial Ovarian Cancer, 10th International Symposium on Advanced Ovarian Cancer, Optimal Therapy Update, Valencia, Spain, March 6, 2015

Design a New Immunotherapy Trial in Ovarian Cancer: Phase I Plus Translational Research, Fifth Gynaecological Cancer Academy Workshop, Hotel Primus, Valencia, Spain, March 7, 2015

Personalizing Treatment of Ovarian Cancer: Has the Time Finally Arrived? Medscape Oncology Roundtable Filming, New York, NY, March 17, 2015

Ovarian Cancer, 29th Early Detection Research Network (EDRN) Steering Committee Meeting, Atlanta, GA, March 31, 2015

Global Gyn Steering Committee meeting for IMGN853, New York, NY, April 10, 2015

Antiangiogenetic therapy in gynecologic malignancies ~ prediction of efficacy, XXIV Scientific Meeting of the AGO, Salzburg, Austria, April 16, 2015

The Genomic and Epigenomic Characteristics of Long-Term survivors of Ovarian Cancer, 8th International Charite-Mayo-Conference, Berlin, Germany, April 18, 2015

The Genomics of Epithelial Ovarian Cancer: Is Impact on the Management of the Disease, Keynote Speaker, International Symposium on Cancer Research at Mackay Memorial Hospital, Taipei, Taiwan, April 25, 2015

Ovarian Cancer State of the Science, Immunogen, Waltham, MA, May 7, 2015

Retrospective analysis of candidate predictive tumor biomarkers for efficacy in the GOG-0218 trial evaluating front-line carboplatin–paclitaxel with or without bevacizumab for epithelial ovarian cancer, Roche Global Ovarian Cancer Advisory Board Meeting, Zurich Switzerland, May 11, 2015

DFHCC Ovarian Cancer Retreat, Co-Chair, Boston, MA, May 13, 2015

State-of-the-Science - Updates on the Molecular Genetics of Ovarian Cancer and Implications on Management. Educational Concepts Group, Satellite Symposium “Optimizing BRCA-Related Ovarian Cancer Treatment: Progress toward Personalized Therapy, ASCO Annual Meeting, Chicago, IL, May 29, 2015

Retrospective analysis of candidate predictive tumor biomarkers (BMs) for efficacy in the GOG-

0218 trial evaluating front-line carboplatin-paclitaxel (CP) ± bevacizumab (BEV) for epithelial ovarian cancer (EOC). ASCO Annual Meeting, Chicago, IL, June 1, 2015

Tumor Biology Co-Chair, Oral Abstract Session, ASCO Annual Meeting, Chicago, IL, June 1, 2015

Ovarian Cancer: The State of the Science, Grand Rounds, The Ohio State University Medical Center, Columbus, OH, June 17-18, 2015

OvaCure Innovation Summit 2015, Copenhagen, Denmark, June 22, 2015

Translational Research on Ovarian Cancer and Biomarkers in Ovarian Cancer, Japanese Society of Medical Oncology 2015, 13th Annual Scientific Meeting (JSMO2015), Sapporo, Japan, July 16-17, 2015

The Future Role of Biologic Predictive Factors in the Management Strategy, Ovarian Cancer Workshop, FDA, Silver Spring, MD, September 3, 2015

Clinical Applications of Molecular and Genetic Predictive Factors in Endometrial Cancer, 19th International Meeting of the European Society of Gynaecological Oncology (ESGO 2015), The Acropolis Congress Center, Nice, France, October 24-27, 2015

The Future Role of Biological Markers in the Surgical Treatment Planning, 19th International Meeting of the European Society of Gynaecological Oncology (ESGO 2015), The Acropolis Congress Center, Nice, France, October 24-27, 2015

Future Direction of Ovarian Cancer Research and Clinical Trials, Keynote Lecture, 53rd Annual Meeting of the Japan Society of Clinical Oncology, Kyoto, Japan, October 29-31, 2015

Maximizing the Impact of Antiangiogenesis in Gynecology Oncology, 33rd Chemo Annual Chemotherapy Foundation Symposium: Innovative Cancer Therapy for Tomorrow, New York, NY, November 4-6, 2015

Treatment – Focus on Gynecological Cancers, AACR Cancer Health Disparities Conference, Atlanta, GA, November 13-16, 2015

Identification and characterization of mutations in oncogenes and tumor suppressor genes within cancers of the ovary, endometrial and cervix, AACR Cancer Health Disparities Conference, Atlanta, GA, November 13-16, 2015

Can we predict optimal debulking from the laboratory?, 26th National MITO Meeting, Rome, Italy, December 9-11, 2015

2016 *Integration of biomarkers, correlative, imaging,* NCI, Endometrial Cancer Clinical Trials Planning Meeting, Rockville, Maryland, January 7-8, 2016

GYN Developmental Therapeutics/Phase I/Translational Science Workshop, Chair NRG Oncology Semi-Annual Meeting, Atlanta, GA, January 21-24, 2016

Future of Ovarian Cancer Treatment: Personalized Medicine, Ovarian Cancer Survivors Course, West Palm Beach, FL, February 20, 2016

GOG Foundation/Partners Retreat, Philadelphia, PA, February 26, 2016

Mechanism of Action of PARP Inhibitors and Drug Resistance, PER Satellite Symposium SGO Expert Perspectives in PARP Inhibition: Evolving Management Strategies in Ovarian Cancer, March 19, 2016

Promising Agents and Strategies in Gynecologic Cancers, Research to Practice Satellite Symposium SGO, March 20, 2016

Biomarkers for Anti-Angiogenic Therapy, Nordic Society of Gynecologic Oncology Roche Symposium and Annual Meeting, Bergen, Norway, April 7, 2016

New Targets in Ovarian Cancer, ANZGOG Annual Scientific Meeting, Sydney Australia, April 14, 2016

Current and future perspectives of the treatment of gynaecological cancer, Platinum Sponsor Breakfast: Roche, ANZGOG Annual Scientific Meeting, Sydney Australia, April 15, 2016

Personalised medicine in gynaecological cancers – how do we get there? ANZGOG Annual Scientific Meeting, Sydney Australia, April 16, 2016

The Molecular Genetics of Epithelial Ovarian Cancer: The Past, Present, and Future Distinguished Clinicians in Oncology Seminar Series, University Hospital of Lausanne (CHUV), Switzerland, April 29, 2016

Molecular Origins of Ovarian Cancer Berlin Institute of Health, Clinical Scientist Summer Symposium on Translational Medicine, July 1-2, 2016

Endometrial Cancer: The Future of Targeted Therapy NRG Oncology Semi-Annual Meeting, Dallas, TX, July 14-17, 2016

DNA Repair & PARP Inhibitors, University of Mississippi CANCER 2016: ASCO and Other Highlights, Jackson, MS, August 19, 2016

The Role of Bevacizumab in Gynecologic Cancers, Roundtable Roche Pharmaceuticals, Vietnam, September 26-30, 2016

Can Patients Be Selected for Anti-Angiogenic Therapy? 16th Biennial Meeting of the International Gynecologic Cancer Society (IGCS), Lisbon, Portugal, October 29, 2016

Current and Emerging Roles for PARP Inhibition in Ovarian Cancer, 34th Chemo Annual Chemotherapy Foundation Symposium: Innovative Cancer Therapy for Tomorrow, New York, NY, November 9-10, 2016

The Next Giant Leap: Making the Cancer Moonshot a Reality, Elsevier Cancer Research Panel Discussion, Boston, MA, November 16, 2016

GYN update-work targeting BRCA mutations and DNA pathway repair, Molecular and Precision medicine (MAP) Tumor Board Series, Massachusetts General Hospital Cancer Center, Boston, MA, November 28, 2016

Predicting optimal cytoreduction, ISGO, Translation and Innovation, Dublin, Ireland, December 2, 2016

Novel targets in epithelial ovarian cancer, ISGO, Translation and Innovation, Dublin, Ireland, December 3, 2016

2017 *Ovarian Cancer Translational Science Research: Moving the field forward*, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy, January 30, 2017

Can biology predict the role of surgery? – The medical point of view. European Institute of Oncology, Milan, Italy, January 31, 2017

Ovarian Cancer: The State of the Science – Istituto di Ricerche Farmacologiche Mario Negri, Milan, Italy, February 1, 2017

Ovarian Cancer: The State of the Science, Grand Rounds, The University of Miami, Miami, FL, February 16-17, 2017

How can molecular abnormalities influence our clinical approach, ESMO Advanced Ovarian Cancer, Valencia, Spain, March 2-3, 2017

Dissecting the Decision: Investigators Discuss Available and Emerging Data Shaping the Management of Common Gynecologic Cancers, Research to Practice Satellite Symposium SGO, March 12, 2017

Ovarian Cancer: The State of the Science, Grand Rounds, Stony Brook School of Medicine, Stony Brook, NY, March 28-29, 2017

Long term survivor in ovarian cancer: what are the codes?, 9th International Charite-Mayo-Conference, Berlin, Germany, May 6, 2017

Ovarian Cancer Risk Reduction and Treatment, 8th Biennial Looking Back Facing Forward, Boston, MA, May 13, 2017

Evolving Evidence: Current Methods to Optimize PARP Inhibition in Multiple Lines of Care, PER

PARP Ovarian Symposium: Redfining Ovarian Cancer Treatment Paradigms by Maximizing Therapeutic Outcomes with PARP Inhibitors, Chicago, IL, June 2, 2017

Presidential Lecture, WAGO 2017 Annual Meeting, Rancho, CA, June 16, 2017

PARP Inhibitors & Beyond: New Developments in the Treatment of Ovarian & Breast Cancer, LEERINK Partners 5th Annual Healthcare Insights Conference, Boston, MA, July 11, 2017

Ovarian Cancer: The State of the Science, Grand Rounds, The University of Kansas Medical Center, Kansas City, MO, October 5, 2017

Proteogenomi Translational Research Centers Session, NIH, The Clinical Proteomic Tumor Analysis Consortium (CPTAC 3.0) Steering Committee Meeting, Bethesda, MA, October 10, 2017

PER Oncology Best Practice Parp Ovarian Program, Per Oncology, St. Louis, MO, December 4, 2017

2018 *Biologic Basis of Ovarian Cancer*, GEMSTONE Meeting, Dallas, TX, February 3, 2018

Which Molecular Markers Have the Potential to Influence Treatment Decisions with PARP Inhibitors? Society of Gynecologic Oncology (SGO) Annual Meeting on Women's Cancer, New Orleans, LA, March 24, 2018.

PARP INHIBITORS: Their Role in the Treatment of Ovarian Cancer, Bio Ascend – St. Mary's Medical Center, Langhorn, PA, March 28, 2018.

Relapsed Ovarian Cancer – Platinum-Sensitive, TRM Oncology EPIC Expert Panel, Chicago, IL, April 28, 2018.

Ovarian Cancer Team, CPTAC PI F2F Meeting, Bethesda, MD, May 2, 2018.

Ovarian Cancer: The State of the Science, UAB Surgery-Pathology-Biomedical Engineering Tri Departmental Seminar Series, Birmingham, AL, May 8, 2018.

Deep South Network, UAB Cancer Control and Population Sciences Program, Birmingham, AL, May 23, 2018.

Physician Education Resources, Evolving Applications for PARP Inhibitors in Ovarian Cancer: Building on a Solid Foundation, American Society of Clinical Oncology (ASCO), Chicago, IL, June 3, 2018.

Ovarian Cancer: The State of the Science, Comprehensive Cancer Center Seminar Series, University of Alabama at Birmingham, September 5, 2018.

State of the Art for Precision Medicine in Gyn Cancers, IGCS 17th Biennial Meeting, Kyoto,

Japan, September 15, 2018.

PTRC: Ovarian Cancer Team, CPTAC PI F2F Meeting, Bethesda, MD, October 16, 2018.

Treatment Approaches and Emerging Therapies and Testing, Pfizer Ovarian Cancer Learning Day, Chicago, IL, November 14-15, 2018.

2019 *Investigator Perspectives on the Current and Future Role of PARP Inhibition in the Management of Ovarian Cancer*, RTP Grand Rounds, Wynnwood, PA, January 31, 2019.

Year in Review series, Dr. Neil Love and RTP, Charlotte, NC, February 9, 2019.

Optimal Therapy (keynote speaker), 12th International Symposium on Advanced Ovarian Cancer, Valencia, Spain, February 22, 2019.

Management of Ovarian Cancer, RTP Grand Rounds, Newnan, GA, February 27, 2019.

Management of Patients with Gynecologic Cancers (NonPARP), Dr. Neil Love and RTP SGO Satellite Symposium, Honolulu, HI, March 18, 2019.

Global Perspectives and Future Directions (keynote speaker), 10th International Charité-Mayo-Conference, Berlin, Germany, April 6, 2019.

Management of Ovarian Cancer, RTP Grand Rounds, Newark, DE, April 11, 2019.

Panel Discssusion, Strategic Insights on Opinions in Gynecological Malignancies, New York, NY, April 27, 2019

Identfying mechanisms and predictive biomarkers of response to platinum in ovarian cancer, CPTAC PI F2F Meeting, Bethesda, MD, April 30 - May 1, 2019

Cell Line Genomic Analysis, NCI Site visit, Seattle, WA, May 15-17, 2019

Treating Endometrial Cancer: Everyday Practice to Future Treatment Options, OGMA Women's Cancer Workshop, Chicago, IL, May 29, 2019

Evolving Applications for PARP Inhibitors, Immunotherapy, and Beyond! PER Advances in Ovarian Cancer Meeting, Chicago, IL, June 1, 2019

Management of Stage III/IV Ovarian Cancer With Anti-VEGF Therapy Following Initial Surgery, Genentech Speaker Program, Longboat Key, FL, June 8, 2019

Resistance mechanisms to PARP inhibitors: What are they and how to tackle them? Ovarian Cancer Maintenance Therapy Masterclass, Hong Kong, China, August 24, 2019

The Biological Rationale for early PARP Inhibitor Treatment AstraZeneca/MSD, Amsterdam,

September 4-5, 2019

Evidence that sBRCAm is functionally and clinically equivalent to gBRCAm, AstraZeneca/MSD, Amsterdam, September 4-5, 2019

The Ovarian Cancer Consortium for Long-Term Survival, AACR Special Conference: Advances in Ovarian Cancer Research, Atlanta, GA, September 14, 2019

Immunotherapy in MSI high endometrial cancer, Systemic therapeutic options / PD-L1 testing, NGS is an essential tool in modern staging and treatment planning for endometrial cancer (Pro), IGCS Global Meeting of the Int'l Gynecological Cancer, Rio de Janeiro, Brazil, September 19-21, 2019

Comparative Safety Profiles of Currently-Approved PARP Inhibitors, Strategic Insights on Opinions in Gynecological, Miami, FL, October 12, 2019

Ovarian Cancer and Platinum Resistance for Clinical Trial, CPTAC PI F2F Meeting, Bethesda, MD, October 16-18, 2019

Ovarian cancer Panel Discussion, 2019 NYSCF Conference, Manhattan, NY, October 22-23, 2019

GRANT SUPPORT (CURRENT AND PAST)

ACTIVE

PI: Skates 1U01CA152990-01 (Skates, Steven J) NIH-NCI National Cancer Institute Proteomic, Genetic & Longitudinal Pathways to Ovarian Cancer Biomarker Discovery Role: Co-Principal Investigator	09/24/2010 – 03/31/2021	\$399,746
PI: Birrer 5P30CA013148-47 NIH-NCI National Cancer Institute Comprehensive Cancer Center Core Support Grant Role: Principal Investigator	03/28/1997 – 03/31/2021	\$3,524,460
PI: Wolmark (Birrer UAB PI) U10CA180868-05 NIH-National Cancer Institute/NRG Oncology Foundation NRG Oncology Network Group Operations Center Role: UAB PI	04/17/2014 – 02/28/2019	\$4,714
PI: Jordan (Birrer UAB PI)	04/22/2015 – 03/31/2020	\$17,553

5U24CA196067-04

NIH-National Cancer Institute/NRG Oncology Foundation

NRG Oncology Biospecimen Bank

Role: UAB PI

PI: Birrer W81XWH-16-1-0593 DOD OCRP-PA Identification of Novel Ovarian Cancer Oncogenes that Function by Regulating Exosome Function Role: Principal Investigator	09/01/2016 – 08/31/2019	\$250,000
PI: Birrer W81XWH-16-2-0038 DOD OCRP – Outcomes Consortium Award The Genomic, Epigenomic, and Quality-of-Life Characteristics of Long-Term Survivors of Ovarian Cancer Role: Principal Investigator	09/01/2016 – 10/31/2020	\$1,409,889
PI: Paulovich 1U01CA214114-02 NIH-NCI National Cancer Institute Proteogenomic Studies Aimed at Understanding Ovarian Tumor Responses to Agents Targeting the DNA Damage	04/01/2017 – 05/31/2022	\$1,024,663
PI: Birrer W81XWH-17-1-0225 DOD OCRP Treatment of Recurrent, Platinum-Resistant Ovarian Cancer with Glutaminase 1 and PARP Inhibitors	10/01/2017 – 09/30/2021	\$597,663
PI: Birrer R21CA218973 NIH-NCI National Cancer Institute Validation of a Genomic Signature that Predicts for Sub-Optimal Debulking of Epithelial Ovarian Cancer	05/01/2018 – 04/30/2020	\$137,626
PI: Birrer W81XWH-18-1-0157 DOD OCRP – Outcomes Consortium Award Overcoming PARP Inhibitor Resistance of BRCA-Deficient Ovarian Cancers Role: Principal Investigator	05/15/2018 – 05/14/2021	\$221,266
PI: Birrer Immunogen/National Comprehensive Cancer Network	12/18/2018 – 12/17/2020	\$79,209

Mechanisms of sensitivity and resistance to mirvetuximab
soravtansine: ovarian cancer and mesothelioma
Role: Principal Investigator

PI: Birrer OC180315 DOD OCRP Identification of an Immune/Methylation Signature Predicting for Recurrence in Early Stage Ovarian Cancer Role: Principal Investigator	06/01/2019 – 05/31/2021	\$125,000
--	-------------------------	-----------

COMPLETED

PI: Baum 5T32GM7288 Medical Scientist Training Program Role:	1977 - 1982	\$350,000
---	-------------	-----------

PI: Torti Five Year Grant from Veterans Administration Department of Defense Role: Co-PI	1988 - 1993	\$495,000
---	-------------	-----------

PI: Birrer Intramural Research Award Role: Principal Investigator	1997 - 1998	\$30,000
---	-------------	----------

PI: Birrer Intramural Research Award Role: Principal Investigator	1991 - 2001	\$120,000
---	-------------	-----------

PI: Boyd CA98027 Director's Challenge Grant Role: Co-PI	2001 - 2004	\$480,000
--	-------------	-----------

(Birrer) MGH Proton Program Income (Federal Share)	10/1/2009 - 9/30/2010	\$128,560
---	-----------------------	-----------

PI: Sood OC080465 (W81XH-09OCRP) Early Events in Ovarian Cancer Pathogenesis Role: Principal Investigator for MGH Site	09/01/2009 - 08/31/2010	\$13,000
---	-------------------------	----------

PI: Del Carmen Fidelity Non-Profit Management Foundation Remote Bold Nan-rod Heating for Ablation of Platinum-	11/1/2009 - 10/31/2010	\$50,000
--	------------------------	----------

resistant Ovarian Cancer

Role: Co-PI

PI: Birrerr Osmotic Micro-pump for Delivery of Chemotherapy After Resection of Advanced Ovarian Cancer Role: Principal Investigator	11/1/2009 - 10/31/2010	\$50,000
PI: Birrer Phase I/II Study of Carbo & Pralatrexate in Patients with Recurrent Platinum Sensitive Ovarian Cancer, NCCN Role: Principal Investigator	04/01/2010 - 03/31/11	\$300,000
PI: Birrer 3U01CA062490 Dana-Farber Cancer Institute Early Clinical Trials of new Anti-Cancer Agents with Phase I Emphasis Role: Principal Investigator	04/01/2010 – 05/31/2011	\$7,874
PI: Birrer 3P50CA105009-0551 Brigham and Women's Hospital, Inc. DF/HCC Ovarian Cancer SPORE – Admin Core Role: Co- Principal Investigator	08/01/2010–07/31/2011	\$22,599
PI: Godwin Ovarian Cancer Research Foundation, Fox Chase Cancer Center/subaward to MGH Therapeutic Targeting of the Tumor Microenvironment in Ovarian Cancer Role: Principal Investigator	04/01/2009-03/31/2012	\$50,000
PI: Birrer 5RC4CA 156551-03 ARRA-NIH-NCI National Cancer Institute Geonomic Stratification of Ovarian Cancer Patients	09/27/2010-8/30/2013	\$1,262,809
PI: Birrer KI-DF/HCC 2013-Team 8-0001 Dana-Farber Cancer Institute Title: Osmotic Micro-pump as Delivery System for Intraperitoneal Chemotherapy in the Treatment of Advanced Ovarian Cancer Role: Principal Investigator	03/01/2013-06/30/2015	\$309,144
PI: Birrer W81XWH-12-1-0521 DOD OCRP TLA	09/30/2012-09/29/2015	\$200,000

Title: Identification of a Genomic Signature Predicting for
Recurrence in Early Stage Ovarian Cancer
Role: Principal Investigator

PI: Chabner 5P30CA006516-48 (Chabner, Bruce A) Dana-Farber Cancer Institute DFHCC - Program Leaders Role: Co-Investigator	05/15/2012-11/30/2016	\$50,412
---	-----------------------	----------

PI: Bast 2P50CA083639-12 The University of Texas MDACC Title: Early Detection of Epithelial Ovarian Cancer Role: Principal Investigator for MGH Site	09/02/2010-08/31/2015	\$142,000
---	-----------------------	-----------

PI: LIU NIH CTEP ARRADFHCC Subaward to MGH Title: A Randomized Trial of Early Palliative Care in Newly Diagnosed Cancer Patients Role: Principal Investigator for MGH Site	04/01/2010-09/30/15	\$7,874
--	---------------------	---------

PI: Birrer 5R01CA142832-02 NIH-NCI National Cancer Institute Novel Biomarkers in Ovarian Cancer Role: Principal Investigator	03/22/10 - 01/31/15	\$1,712,199
--	---------------------	-------------

PI: Disaia U10CA27469 Disaia NIH/NCI/GOG subaward to MGH Mid-Career Investigator Award The major goals of this project are to Chair of the Experimental Medicine Committee and Chairman's Advisory Group of the GOG Role: Principal Investigator	03/09/09-03/08/16	\$11,067
---	-------------------	----------

PI: Birrer W81XWH-15-1-0139 DOD OCRP Polymeric RNAI Micorsponge Delivery Simultaneously Targeting Multiple Genes for Novel Pathway Inhibition of Ovarian Cancer Role: Principal Investigator	10/01/2015 – 09/30/2017	\$300,000
--	-------------------------	-----------

PI: Birrer NCCN Mechanisms of Sensitivity and Resistance to Mirvetuximab	04/01/2016 – 09/30/2017	\$79,209
--	-------------------------	----------

Soravtansine: Ovarian Cancer and Mesothelioma
 Role: Principal Investigator

PI: Birrer 128F99-IRG-15-174-56-IRG American Cancer Society Institutional Research Grant Role: Principal Investigator	01/01/2016 – 12/31/2018	\$120,000
---	-------------------------	-----------

PI: Birrer RO1CA169200 NIH-NCI National Cancer Institute Title: The FGF18/FGFR4 Amplicon: Novel Therapeutic Biomarkers for Ovarian Cancer Role: Principal Investigator	03/01/2013 - 02/28/2018	\$282,233
---	-------------------------	-----------

OTHER (CLINICAL TRIALS)

09-285 A Phase II, Multi-Center, Single-Arm Study Evaluating Carboplatin/Gemcitabine in Combination with BSI-201 for Platinum-Sensitive Recurrent Ovarian Cancer	11/05/2009	PI	\$501,504.36
---	------------	----	--------------

09-286 A Phase II, Multi-Center, Single-Arm Study Evaluating Carboplatin/Gemcitabine in Combination with BSI-201 for Platinum-Resistant Recurrent Ovarian Cancer	11/05/2009	PI	\$567,802.90
---	------------	----	--------------

09-397 The Safety and Efficacy of Combination Therapy With AZD2171 and Temsirolimus in Patients with Recurrent Gynecological Malignancies	01/07/2010	Site PI	\$21,018.00
--	------------	---------	-------------

10-113 Phase II, Study of Carboplatin and Pralatrexate in Patients with Recurrent Platinum Sensitive Ovarian, Fallopian Tube or Peritoneal Cancer	02/26/2010	Co PI	\$61,829.00
--	------------	-------	-------------

10-258 A Phase II, 2-Stage, 2-Arm PIK3CA Mutation Stratified Trial of MK-2206 in Recurrent or Advanced Endometrial Cancer	03/01/2011	Site PI	\$23,074.00
--	------------	---------	-------------

11-057 A Phase I, Open-Label, Dose-Escalation Study of the Safety and Pharmacokinetics of DMUC5754A Administered Intravenously to Patients with Platinum-Resistant Ovarian Cancer	05/30/2012	Site PI	\$92,529.74
--	------------	---------	-------------

11-228 A Phase II, Multi-Center, Double-Blind, Placebo Controlled, Randomized Study of Ombrabulin in Patients With Platinum-Sensitive Recurrent Ovarian Cancer Treated	07/28/2011	PI	\$53,925.50
---	------------	----	-------------

With Carboplatin/Paclitaxel

11-399 A Randomized Phase II, Non-Comparative Study of The Efficacy of PF-04691502 and PF-05212384 in Patients With Recurrent Endometrial Cancer	02/02/2012	PI	\$6,500.00
12-048 A Phase I/II, Open-label, Safety, Pharmacokinetic and Preliminary Efficacy Study of Oral Rucaparib in Patients with gBRCA Mutation Breast Cancer or Other Solid Tumor (CO-338-010)	03/20/2014	Co PI	\$54,593.75
12-077 A Phase 1/1b, Multicenter Open-Label, Dose-Escalation and Expansion Study to Evaluate the Safety and Antitumor Activity of MEDI3617, a Human Monoclonal Antibody Directed Against ANG2, as a Single-Agent or in Combination Therapy in Adult Subjects with Advanced Solid Tumors	06/20/2012	PI	\$135,913.00
12-159 A Phase I, Study of the Oral PI3kinase Inhibitor BKM120 and the Oral PARP Inhibitor Olaparib in patients with Recurrent Triple Negative Breast Cancer or High Grade Serous Ovarian Cancer	09/01/2012	Site PI	\$81,249.00
12-292 A Phase II, Safety and Efficacy Study of Ipilimumab Monotherapy Following Completion of Chemotherapy in Recurrent Platinum Sensitive Ovarian Cancer Subjects with Residual Measurable Disease	09/17/2013	Site PI	\$41,230.00
12-312 A Phase I, First-in-Human Study to Evaluate the Safety, Tolerability, Pharmacokinetics of IMGX853 in Adults with Ovarian Cancer and other FOLR1-Positive Solid Tumors	10/01/2012	PI	\$127,255.05
13-026 A Randomized, Controlled, Open-Label, Phase II Trial of SGI-110 and Carboplatin in Subjects with Platinum-Resistant Recurrent Ovarian Cancer	05/09/2013	Site PI	\$ 88,759.63
13-072 A Phase I, Multiple-Dose Study of the Safety and Tolerability of Single Agent REGN421 Administered Every 2 or 3 Weeks in Patients with Advanced Solid Malignancies	02/19/2013	PI	\$50,662.00
13-376 A Phase II, Randomized Double Blind Placebo Controlled Trial of Combination of Pimasertib with SAR245409 or of Pimasertib with SAR245409 Placebo in Subjects with Previously Treated Unresectable Low Grade Ovarian Cancer	11/12/2013	PI	\$10,125.00
13-447 A Randomized, Open-Label, Multicenter, Phase II Trial Evaluating the Safety and Activity of DNIB0600A Compared	07/09/2013	Site PI	\$78,912.00

To Pegylated Liposomal Doxorubicin Administered Intravenously to Patients with Platinum-Resistant Ovarian Cancer (GO28609)

13-491 A Phase Ib, Open-Label, Non-randomized Multicenter Study of Birinapant in Combination with Conatumumab in Subjects with Relapsed Epithelial Ovarian Cancer, Primary Peritoneal Cancer or Fallopian Tube Cancer	11/20/2013	PI	\$12,750.00
14-050 A Multicenter, Randomized, Double-Blind, Placebo-Controlled Phase III Study of Rucaparib as Switch Maintenance Following Platinum-Based Chemotherapy in Patients with Platinum-Sensitive, High-Grade Serous or Endometoid Epithelial Ovarian, Primary Peritoneal or Fallopian Cancer	07/22/2014	PI	\$177,125.00
14-263 Phase I, Open-Label, Dose Escalation, Study of the Safety, Tolerability and Pharmacokinetics of DMUC4064A Administered Intravenously to Patients with Platinum Resistant Ovarian Cancer or Unresectable Pancreatic Cancer (GO29213)	07/18/2014	PI	\$650,490.00

OTHER (PATENTS)

Inventor	Case #2026-4120 - Dominant-negative deletion mutants of c-Jun and their use in the prevention and treatment of cancer
Inventor	HHS Ref. No. E-095-2007 – Pro-angiogenic genes in ovarian tumor endothelial cell Isolates
Inventor	HHS Ref. No. E-061-2007/0-PCT-02 - Gene expression profile for predicts ovarian cancer patient survival
Inventor	HHS Ref. No. E-060-2007/0-US-01 - A Gene expression profile that predicts ovarian cancer patient response to chemotherapy
Inventor	USA Serial No. 61/803,919, File March 21, 2013 – Methods and systems for treatment of ovarian cancer
Inventor	USA Serial No. 61/644497, Filed May 9, 2012 - Method and drug delivery device for treatment of ovarian cancer

BIBLIOGRAPHY

MANUSCRIPTS

1. Ju G, **Birrer MJ**, Udem S, and Bloom BR. Complementation analysis of measles virus mutants

- isolated from persistently infected lymphoblast cell lines. *J. Virol.* 33:1004-1012, 1980. PMID: 7365873. PubMed Central PMC288634.
2. **Birrer MJ**, Bloom BR, and Udem S. Characterization of measles polypeptides by monoclonal antibodies. *Virology* 108: 381-390, 1981. PMID: 7008338.
 3. **Birrer MJ**, Udem S, Nathenson S, and Bloom BR. Antigenic variants of measles virus. *Nature* Sep 3, 293(5827): 67-69, 1981. PMID 6167866.
 4. Minna JD, Battey JF, **Birrer MJ**, Brooks BJ, Cuttitta F, DeGreve J, Gazdar AF, Johnson BE, Nau MM, Sausville EA, Seifter E, and Vinocour M. Chromosomal deletion, gene amplification, alternative processing, and autocrine growth factor production in the pathogenesis of human lung cancer. *Princess Takamatsu Symp.* 17: 109-122, 1986. PMID: 3332004.
 5. **Birrer MJ** and Young RC. Differential diagnosis of jaundice in lymphoma patients. *Semin. Liver Dis.* 7: 269-277, 1987. PMID: 3317863.
 6. Kaye F, Battey J, Nau M, Brooks B, Seifter E, DeGreve J, **Birrer MJ**, Sausville E, and Minna, J. Structure and expression of human L-myc gene reveal a complex pattern of alternative mRNA processing. *Mol. Cell. Biol.* Jan;8(1):186-195, 1988. PMID: 2827002; PMCID: 363100.
 7. Krystal G, **Birrer MJ**, Way J, Nau M, Sausville E, Thompson C, Minna J, and Battey J. Multiple mechanisms for transcriptional regulation of the myc gene family in small-cell lung cancer. *Mol. Cell. Biol.* 8: 3373-3381, 1988. PMID: 2850489; PMCID: 363573.
 8. **Birrer MJ**, Segal S, DeGreve JS, Kaye F, Sausville EA, and Minna JD. L-myc cooperates with ras to transform primary rat embryo fibroblasts. *Mol. Cell. Biol.* 8:2668-2673, 1988. PMID: 2457153; PMCID: PMC363472.
 9. DeGreve J, Battey J, Fedorko J, **Birrer MJ**, Eva G, Kaye F, Sausville E, and Minna J. The human L-myc gene encodes multiple nuclear phosphoproteins from alternatively processed mRNAs. *Mol. Cell. Biol.* 8:4381-4388, 1988. PMID: 3054516; PMCID: 365511.
 10. **Birrer MJ** and Minna JD. Molecular genetics of lung cancer. *Semin. Oncol.* 15: 226-235, 1988. PMID: 3289123.
 11. Schutte J, Minna JD, and **Birrer MJ**. Deregulated expression of human c-jun transforms primary rat embryo cells in cooperation with an activated c-Ha-ras gene and transforms Rat-1a cells as a single gene. *Proc. Natl. Acad. Sci. USA* 86:2257-2261, 1989. PMID: 2648396; PMCID: PMC286891.
 12. **Birrer MJ**, Raveh L, Dosaka H, and Segal S. A transfected L-myc gene can substitute for c-myc in blocking murine erythroleukemia cell differentiation. *Mol. Cell. Biol.* 9:2734-2737, 1989. PMID: 2668739; PMCID: PMC362347.
 13. Takahashi T, Nau MM, Chib I, **Birrer MJ**, Rosenberg RK, Vinocour M, Levitt M, Pass H, Gazdar AF, and Minna, JD. p53: A frequent target for genetic abnormalities in lung cancer. *Science* 246:491-494, 1989. PMID: 2554494.

14. Minna JD, Schutte J, Viallet J, Thomas F, Kaye FJ, Takahashi T, Nau M, Whang-Peng J, **Birrer MJ**, and Gazdar AF. Transcription factors and recessive oncogenes in the pathogenesis of human lung cancer. *Int. J. Cancer* 4 (Supl.): 32-34, 1989. PMID: 2530182.
15. **Birrer MJ** and Minna JD. Genetic changes in the pathogenesis of lung cancer. *Annu. Rev. Med.* 40: 305-317, 1989. PMID: 2658754.
16. Bliss DP, Jr, Battey JF, Linnoila RI, **Birrer MJ**, Gazdar AF, and Johnson BE. Expression of the atrial natriuretic factor gene in small cell lung cancer tumors and tumor cell lines. *J. Natl. Cancer Inst.* 82: 305-310, 1990. PMID: 2153841.
17. Dosaka-Akita H, Rosenberg RK, Minna JD, and **Birrer MJ**: A complex pattern of translational initiation and phosphorylation in L-myc proteins. *Oncogene* 6:371-378, 1991. PMID: 1676761.
18. Kim JH, Takahashi T, Chiba I, Park JG, **Birrer MJ**, Roh JK, Lee HD, Kim J, Minna JD, and Gazdar AF. Occurrence of p53 gene abnormalities in gastric carcinoma tumors and cell lines. *J. Natl. Cancer Inst.* 83:938-943, 1991. PMID: 1676761.
19. Szabo E, Preis LH, Brown PH and **Birrer MJ**: The role of jun and fos gene family members in 12-0-tetradecanoylphorbol-13-acetate induced hemopoietic differentiation. *Cell Growth Differ.* 2:475-482, 1991. PMID: 1751404.
20. Smeal T, Binetruy B, Mercola DA, **Birrer MJ**, and Karin M. Oncogenic and transcriptional cooperation with Ha-Ras requires phosphorylation of c-Jun on serines 63 and 73. *Nature* 354:494-496, 1991. doi: 10.1038/354494a0. PMID: 1749429.
21. Alani R, Brown P, Binetruy B, Dosaka H, Rosenberg RK, Angel P, Karin, M, and **Birrer MJ**. The transactivating domain of the c-jun proto-oncoprotein is required for cotransformation of rat embryo cells. *Mol. Cell. Biol* 11:6286-6295, 1991. PMID: 1944289; PMCID: PMC361817.
22. Mulshine JL, Linnoila RI, Treston AM, Scott FM, Quinn K, Avis I, Shaw GL, Jensen SM, Brown P, **Birrer MJ**, and Cuttitta F. Candidate biomarkers for application as intermediate end points of lung carcinogenesis. *J Cell Biochem* 16G (Supl.): 183-186, 1992. Review. PMID: 1469899.
23. **Birrer MJ**, Alani R, Cuttitta F, Preis LH, Sabichi AL, Sanders DA, Siegfried JM, Szabo E, and Brown PH. Early events in the neoplastic transformation of respiratory epithelium. *J Natl Cancer Inst Monogr* 13:31-38, 1992. PMID: 1389694.
24. Mulshine JL, Linnoila RI, Jensen SM, Magnani JL, Tockman MS, Gupta PK, Scott F S, Avis I, Quinn K, **Birrer MJ** and Cuttitta F. Rational targets for the early detection of lung cancer. . *Natl Cancer Inst Monogr* 13:183-190, 1992. Review. PMID: 1389692.
25. Mulshine JL, **Birrer MJ**, Treston AM, Scott F, Quinn K, Avis, I, and Cuttitta F. Growth factors and other targets for rational application as intervention agents. *Adv Exp Med Biol* 320:81-88, 1992. PMID: 1442286.
26. **Birrer MJ** and Brown PH. Application of molecular genetics to the early diagnosis and screening of lung cancer. *Cancer Res* 52:2658s-2664s, 1992. Review. PMID: 1562996.

27. Bar-Ner M, Messing LT, Cultraro CM, **Birrer MJ**, and Segal S. Regions within the c-myc protein that are necessary for transformation are also required for inhibition of differentiation of murine erythroleukemia cells. *Cell Growth Differ.* 3:183-190, 1992. PMID: 1633109.
28. Barrett J, **Birrer MJ**, Kato GJ, Dosaka-Akita H and Dang CV. Activation domains of L-myc and c-myc determine their transforming potencies in rat embryo cells. *Mol. Cell. Biol.* 12:3130-3137, 1992. PMID: 1620120; PMCID: PMC364527.
29. Brown PB, Alani R, Preis LH, Szabo E, and **Birrer MJ**. Suppression of oncogene- induced transformation by a deletion mutant of c-jun. *Oncogene* 8:877-886, 1993. PMID: 8455942.
30. Teneriello MG, Ebina M, Linnoila RI, Henry M, Nash JD, Park RC, and **Birrer MJ**. p53 and Ki-ras gene mutations in epithelial ovarian neoplasms. *Cancer Res.* 53:3103-3108, 1993. PMID: 8319218.
31. Mulshine JL, Treston AM, Brown PH, **Birrer MJ**, and Shaw GL. Initiators and promoters of lung cancer. *Chest* 103(1 Suppl) 4S-11S, 1993. Review. PMID: 8380133.
32. Sabichi AL and **Birrer MJ**: The molecular biology of lung cancer: application to early detection and prevention. *Oncology (Hunting)* 7:19-26; discussion 31-32, 37, 1993. Review. PMID: 8318356.
33. Kurie JM, Brown P, Salk E, Scheinberg D, **Birrer MJ**, Deutsch P, and Dmitrovsky E. Cooperation between retinoic acid and phorbol esters enhances human teratocarcinoma differentiation. *Differentiation* 54:115-122, 1993. PMID: 8243888.
34. Szabo E, **Birrer MJ**, and Mulshine JL. Early detection of lung cancer. *Semin. Oncol.* 20:374-382, 1993. Review. PMID: 8342067.
35. Brown PH, Chen TK, and **Birrer MJ**. Mechanism of action of a dominant-negative mutant of c-Jun. *Oncogene* 9:791-799, 1994. PMID: 8108121.
36. Domann FE, Levy JP, **Birrer MJ**, and Bowden GT. Stable expression of a c-JUN deletion mutant in two malignant mouse epidermal cell lines blocks tumor formation in nude mice. *Cell Growth Differ.* 5:9-16, 1994. PMID: 8123597.
37. Dong Z, **Birrer MJ**, Watts RG, Matrisian LM, and Colburn NH. Blocking of tumor promoter-induced AP-1 activity inhibits induced transformation in JB6 mouse epidermal cells. *Proc. Natl. Acad. Sci. USA* 91:609-613, 1994. PMID: 8290571; PMCID: PMC42998.
38. Petrak D, Memon SA, **Birrer MJ**, Ashwell JD, and Zacharchuk CM. A dominant negative mutant of c-jun inhibits NF-AT transcriptional activity and prevents IL-2 gene transcription. *J. Immunol.* 153:2046-2051, 1994. PMID: 8051409.
39. Rapp UR, Troppmair J, Beck T, and **Birrer MJ**. Transformation by raf and other oncogenes renders cells differentially sensitive to growth inhibition by a dominant negative c-jun mutant. *Oncogene* 9:3493-3498, 1994. PMID: 7970709.
40. Taylor RR, Teneriello MG, Nash JD, Park RC, and **Birrer M**. The molecular genetics of gyn malignancies. *Oncology (Huntingt)* 8:63-70, 73; discussion 73,78-82, 1994. Review. PMID:

7803216.

41. Szabo E, Preis LH, and **Birrer MJ**. Constitutive cJun expression induces partial macrophage differentiation in U-937 cells. *Cell Growth Differ.* 5:439-446, 1994. PMID: 8043518.
42. Taylor RR, Linnoila RI, Gerardts J, Teneriello MG, Nash JD, Park RC, and **Birrer MJ**. Abnormal expression of the retinoblastoma gene in ovarian neoplasms and correlation to p53 and K-ras mutations. *Gynecol. Oncol.* 58:307-311, 1995. PMID: 7545631.
43. Draoui M, Chung P, Park M, **Birrer MJ**, Jakowlew S, and Moody TW. Bombesin stimulates c-fos and c-jun mRNAs in small cell lung cancer cells. *Peptides* 16:289-292, 1995. PMID: 7784258.
44. Watts RG, Ben-Ari ET, Bernstein LR, **Birrer MJ**, Winterstein D, Wendel E, and Colburn NH. c-jun and multistage carcinogenesis: association of overexpression of introduced c-jun with progression toward a neoplastic endpoint in mouse JB6 cells sensitive to tumor promoter-induced transformation. *Mol. Carcinog.* 13:27-36, 1995. PMID: 7766308.
45. Cippitelli M, Sica A, Viggiano V, Ye J, Ghosh P, **Birrer MJ**, and Young HA. Negative transcriptional regulation of the interferon-gamma promoter by glucocorticoids and dominant negative mutants of c-Jun. *J. Biol. Chem.* 270:12548-12556, 1995. PMID: 7759501.
46. Lengye E, Singh B, Gum R, Nerlov C, Sabichi A, **Birrer MJ**, and Boyd D. Regulation of urokinase-type plasminogen activator expression by the v-mos oncogene. *Oncogene* 11:2639-2648, 1995. PMID: 8545121.
47. **Birrer MJ**. Translational research and epithelial carcinogenesis: molecular diagnostic assays now--molecular screening assays soon? [editorial; comment]. *J. Natl. Cancer Inst.* 87:1041-1043, 1995. PMID: 7616591.
48. Kim S, Brown PH, and **Birrer MJ**. The inhibitory activity of a transdominant c-jun mutant fused to the ligand binding domain of the estrogen receptor. *Oncogene* 12:1043-1053, 1996. PMID: 8649795.
49. Freemerman AJ, Turner AJ, **Birrer MJ**, Szabo E, Valerie K, and Grant S. Role of c-jun in human myeloid leukemia cell apoptosis induced by pharmacological inhibitors of protein kinase C. *Mol. Pharmacol.* 49:788-795, 1996. PMID: 8622627.
50. Antinore MJ, **Birrer MJ**, Patel D, Nader L, and McCance DJ. The human papillomavirus type 16 E7 gene product interacts with and trans-activates the AP1 family of transcription factors. *Embo J.* 15:1950-1960, 1996. PMID: 8617242; PMCID: PMC450114.
51. Chen TK, Smith LM, Gebhardt DK, **Birrer MJ**, and Brown PH. Activation and inhibition of the AP-1 complex in human breast cancer cells. *Mol. Carcinog.* 15:215-226, 1996. PMID: 8597534.
52. Verheij M, Bose R, Lin XH, Yao B, Jarvis WD, Grant S, **Birrer MJ**, Szabo E, Zon LI, Kyriakis JM, Haimovitz-Friedman A, Fuks Z, and Kolesnick RN. Requirement for ceramide-initiated SAPK/JNK signalling in stress-induced apoptosis. *Nature* 380:75-79, 1996. PMID: 8598911.

53. Szabo E, Riffe ME, Steinberg SM, **Birrer MJ**, and Linnoila RI. Altered cJUN expression: an early event in human lung carcinogenesis. *Cancer Res.* 56:305-315, 1996. PMID: 8542585.
54. Zia H, Hida T, Jakowlew S, **Birrer MJ**, Gozes Y, Reubi JC, Fridkin M, Gozes I, and Moody TW. Breast cancer growth is inhibited by vasoactive intestinal peptide (VIP) hybrid, a synthetic VIP receptor antagonist. *Cancer Res.* 56:3486-3489, 1996. PMID: 8758916.
55. Draoui M, Hida T, Jakowlew S, **Birrer MJ**, Zia F, and Moody TW. PACAP stimulates c-fos mRNAs in small cell lung cancer cells. *Life Sci.* 59:307-313, 1996. PMID: 8761002.
56. Brown PH, Kim SH, Wise SC, Sabichi AL, and **Birrer MJ**. Dominant-negative mutants of cJun inhibit AP-1 activity through multiple mechanisms and with different potencies. *Cell Growth Differ.* 7:1013-1021, 1996. PMID: 8853897.
57. Smith LM and **Birrer MJ**. Use of transcription factors as agents and targets for drug development. *Oncology (Huntingt)* 10:1532-1538; discussion 1541-1542, 1996. Review. PMID: 8905845.
58. Grant S, Freemerman AJ, **Birrer MJ**, Martin AH, Turner AJ, Szabo E, Chelliah J, and Jarvis WD. Effect of 1-beta-D-arabinofuranosylcytosine on apoptosis and differentiation in human monocytic leukemia cells (U937) expressing a c-Jun dominant-negative mutant protein (TAM67). *Cell Growth Differ.* 7:603-613, 1996. PMID: 8732670.
59. Sabichi AL and **Birrer MJ**. Regulation of nuclear oncogenes expressed in lung cancer cell lines. *J. Cell. Biochem.* 24 (Suppl.):218-227, 1996. Review. PMID: 8806104.
60. Parker MF, Arroyo GF, Geradts J, Sabichi AL, Park RC, Taylor RR, and **Birrer MJ**. Molecular characterization of adenocarcinoma of the cervix. *Gynecol. Oncol.* 64:242-251, 1997. PMID: 9038270.
61. Potapova O, Haghighi A, Bost F, Liu C, **Birrer MJ**, Gjerset R, and Mercola D. The Jun kinase/stress-activated protein kinase pathway functions to regulate DNA repair and inhibition of the pathway sensitizes tumor cells to cisplatin. *J. Biol. Chem.* 272:14041-14044, 1997. PMID: 9162025.
62. Hendricks DT, Taylor R, Reed M, and **Birrer MJ**. FHIT gene expression in human ovarian, endometrial, and cervical cell lines. *Cancer Res.* 57:2112-2115, 1997. PMID: 9187105.
63. Smith LM, **Birrer MJ**, Stampfer MR, and Brown PH. Breast cancer cells have lower activating protein 1 transcription factor activity than normal mammary epithelial cells. *Cancer Res.* 57:3046-3054, 1997. PMID: 9230221.
64. Pisegna JR, Leyton J, Coelho T, Hida T, Jakowlew S, **Birrer MJ**, Fridkin, M, Gozes, I, and Moody, TW. PACAP hybrid: a new PACAP receptor antagonist. *Life Sci.* 61:631-639, 1997. PMID: 9250719.
65. Zhao B, Yu W, Qian M, Simmons-Menchaca M, Brown P, **Birrer MJ**, Sanders BG, and Kline K. Involvement of activator protein-1 (AP-1) in induction of apoptosis by vitamin E succinate in human breast cancer cells. *Mol. Carcinog.* 19:180-90, 1997. PMID: 9254885.

66. **Birrer MJ**. Discoveries in the cell cycle and ovarian cancer [editorial]. *Gynecol. Oncol.* 64:187-188, 1997. PMID: 9038262.
67. Jarvis WD, Fornari FA Jr, Auer KL, Freerman AJ, Szabo E, **Birrer MJ**, Johnson CR, Barbour SE, Dent P, and Grant S. Coordinate regulation of stress-and mitogen-activated protein kinases in the apoptotic actions of ceramide and sphingosine. *Mol. Pharmacol.* 52:935-947, 1997. PMID: 9415703.
68. Hall KL, Teneriello MG, Taylor RR, Lemon S, Ebina M, Linnoila RI, Norris JH, Park RC, and **Birrer MJ**. Analysis of Ki-ras, p53, and MDM2 genes in uterine leiomyomas and leiomyosarcomas. *Gynecol. Oncol.* 65:330-335, 1997. PMID: 9159347.
69. Szabo E, Francis J, and **Birrer MJ**. Alterations in differentiation and apoptosis induced by bufalin in cJun overexpressing U-937 cells. *Int. J. Oncol.* 12:403-409, 1998. PMID: 9458368.
70. Zagariya A, Mungre S, Lovis R, **Birrer MJ**, Ness S, Thimmapaya B, and Pope R. Tumor necrosis factor alpha gene regulation: enhancement of C/EBP beta-induced activation by c-Jun. *Mol. Cell. Biol.* doi: 10.1128/MCB18.5.2815-2824, 1998. PMCID: PMC110660.
71. Carter S, Auer KL, Reardon DB, **Birrer MJ**, Fisher PB, Valerie K, Schmidt-Ulrich R, Michelson R, and Dent P. Inhibition of the mutagen activated protein (MAP) kinase cascade potentiates cell killing by low dose ionizing radiation in A431 human squamous carcinoma cells. *Oncogene* 16:2787-96, 1998. doi: 10.1038/sj.onc.1201802. PMID: 9652746.
72. Wise SC, Burmeister LA, Zhou XF, Bubulya A, Oberfield JL, **Birrer MJ**, Shemshedini L. Identification of domains of c-Jun mediating androgen receptor transactivation. *Oncogene* Apr 16;16(15):2001-9. PMID: 9591784.
73. Jacobs-Helber SM, Wickrema A, **Birrer MJ**, Sawyer ST AP1 regulation of proliferation and initiation of apoptosis in erythropoietin-dependent erythroid cells. *Mol Cell Biol* Jul;18(7):3699-707, 1998 Auer, K.L., 74. PMID: 9632752; PMCID: PMC108952.
74. Contessa J, Brenz-Verca S, Pirola L, Rusconi S, Cooper G, Abo A, Davis RJ, Wymann MP, **Birrer MJ** and Dent P. Stimulation of DNA synthesis in primary cultures of rat hepatocytes by multiple agonists via a Ras/Rac-Cdc42/SEK/JNK/c-Jun dependent mechanism. *Mol. Cell. Biol.* 9:561-73, 1998.
75. Sabichi AL, Hendricks DT, Bober MA, and **Birrer MJ**. Retinoic acid receptor beta expression and growth inhibition of gynecologic cancer cells by the synthetic retinoid N-(4- hydroxyphenyl) retinamide. *J. Natl. Cancer Inst.* 90:597-605, 1998. PMID: 9554442.
76. Leyton J, Coelho T, Coy DH, Jakowlew S, **Birrer MJ**, Moody TW. PACAP(6-38) inhibits the growth of prostate cancer cells. *Cancer Lett* 1998 Mar 13;125(1-2):131-9. PMID: 9566707.
77. Yu W, Simmons-Menchaca M, You H, Brown P, **Birrer MJ**, Sanders BG, and Kline K. RRR-alpha-tocopheryl succinate induces prolonged activation of c-jun amino-terminal kinase (JNK) and c-jun induction of apoptosis in human MDA-MB-435 breast cancer cells. *Mol. Carcinog.* 22:247-57, 1998. PMID: 9726817.

78. Dent P, Jarvis WD, **Birrer MJ**, Fisher PB, Schmidt-Ulrich RK, Grant S. The roles of signaling by the p42/p44 mutagen-activated protein (MAP) kinase pathway; a potential route to radio- and chemo-sensitization of tumor cells resulting in the induction of apoptosis and loss of clonogenicity: *Leukemia* 1998 Dec;12(12):1843-50. Review. PMID: 9844914.
79. Rao GN, Katki KA, Madamanchi NR, Wu Y, **Birrer MJ**. JunB forms the majority of the AP-1 complex and is a target for redox regulation by receptor tyrosine kinase and G protein-coupled receptor agonists smooth muscle cells. *J Biol Chem*. 1999 Feb 26; 274(9):6003-10. PMID: 10026227.
80. Geradts J, Maynard R, **Birrer MJ**, Hendricks D, Abbondanzo SL, Fong KM, Barrett JC, Lombardi DP. Frequent loss of KAI1 expression in squamous and lymphoid neoplasms. An immunohistochemical study of archival tissues. *Am J Pathol*. 1999 Jun;154(6):1665-71. PMID: 10362791; PMCID: PMC1866631.
81. Wang N, Verna L, Hardy S, Zhu Y, Ma KS, **Birrer MJ**, Stermerman MB. c-Jun triggers apoptosis in human vascular endothelial cells. *Circ Res*. 1999 Sep 3;85(5):387-93. PMID: 10473668.
82. **Birrer MJ**, Hendricks D, Farley J, Sundborg MJ, Bonome T, Walts MJ, Geradts J. Abnormal Fhit expression in malignant and premalignant lesions of the cervix. *Cancer Res*. 1999 Oct 15;59(20):5270-4. PMID: 10537308.
83. Smith LM, Wise SC, Hendricks DT, Sabichi AL, Bos T, Reddy P; Brown PH, **Birrer MJ**. cJun overexpression in MCF-7 breast cancer cells produces a tumorigenic, invasive and hormone resistant phenotype. *Oncogene*. 1999 Oct 28;18(44):6063-70. PMID: 10557095.
84. Johnson AC, Murphy BA, Matelis CM, Rubinstein Y, Piebenga EC, Akers LM, Neta G, Vinson C, **Birrer MJ**. Activator protein-1 mediates induced but not basal epidermal growth factor receptor gene expression. *Mol Med*. 2000 Jan;6(1):17-27. PMID: 10803405; PMCID: PMC1949911.
85. Park JS, Boyer S, Mitchell K, Gilfor D, **Birrer MJ**, Darlington G, El Deiry W, Firestone GL, Munger K, Band V, Fisher PB, Dent P. Expression of human papilloma virus E7 protein causes apoptosis and inhibits DNA synthesis in primary hepatocytes via increased expression of p21(Cip-1/WAF1/MDA6). *J Biol Chem* 2000 Jan 7;275(1):18-28. PMID: 10617580.
86. Cartee L, Vrana JA, Wang Z, Park JS, **Birrer MJ**, Fisher PB, Grant S, Dent P. Inhibition of the mutagen activated protein kinase pathway potentiates radiation-induced cell killing via cell cycle arrest at the G2/M transition and independently of increased signaling by the JNK/c-Jun pathway. *Int J Oncol* 2000 Feb;16(2):413-22. PMID: 10639586.
87. Liu H, Sidiropoulos P, Song G, Pagliari LJ, **Birrer MJ**, Stein B, Anrather J, Pope RM. TNF-alpha gene expression in macrophages: regulation by NF-kappa B is independent of c-Jun or C/EBP beta. *J Immunol* 2000 Apr 15;164(8):4277-85. PMID: 10754326.
88. Schmitz MJ, Hendricks DT, Farley J, Taylor RR, Geradts J, Rose GS, **Birrer MJ**. p27 and cyclin D1 abnormalities in uterine papillary serous carcinoma. *Gynecol Oncol*. 2000 Jun;77(3):439-45. PMID: 10831356.

89. Farley J, Gray K, Nycum L, Prentice M, **Birrer MJ**, Jakowlew SB. Endocervical cancer is associated with an increase in the ligands and receptors for transforming growth factor-beta and a contrasting decrease in p27(Kip1). *Gynecol Oncol*. 2000 Aug;78(2):113-22. PMID: 10926789.
90. Rinehart-Kim J, Johnston M, **Birrer MJ**, Bos T. Alterations in the gene expression profile of MCF-7 breast tumor cells in response to c-Jun. *Int J Cancer*. 2000 Oct 15;88(2):180-90. PMID: 11004666.
91. Farley JH, Nycum LR, **Birrer MJ**, Park RC, Taylor RR. Age-specific survival of women with endometrioid adenocarcinoma of the uterus. *Gynecol Oncol*. 2000 Oct;79(1):86-9. PMID:11006037.
92. Paasinen-Sohns A, Kielosto M, Kaariainen E, Eloranta T, Laine A, Janne OA, **Birrer MJ**, Holtta E. c-Jun activation-dependent tumorigenic transformation induced paradoxically by over expression or block of S-adenosylmethionine decarboxylase. *J Cell Biol*. 2000 Nov 13;151(4):801-10. PMID: 11076965; PMCID: PMC2169445.
93. Vos MD, Ellis CA, Bell A, **Birrer MJ**, Clark GJ. Ras uses the novel tumor suppressor RASSF1 as an effector to mediate apoptosis. *J Biol Chem*. 2000 Nov 17;275(46):35669-72. PMID: 10998413.
94. Kim JS, Pirnia F, Choi YH, Nguyen PM, Knepper B, Tsokos M, Schulte TW, **Birrer MJ**, Blagosklonny MV, Schaefer O, Mushinski JF, Trepel JB. Lovastatin induces apoptosis in a primitive neuroectodermal tumor cell line in association with RB down-regulation and loss of the G1 checkpoint. *Oncogene*, 2000 Dec 7;19(52):6082-90. PMID: 11146561.
95. Ebina M, Martinez A, **Birrer MJ**, Ilona Linnoila R. In situ detection of unexpected patterns of mutant p53 gene expression in non-small cell lung cancers. *Oncogene*. 2001 May 3;20(20):2579-86. PMID: 11420668.
96. Nycum LR, Smith LM, Farley JH, Kost ER, Method MW, **Birrer MJ**. The Role of p27 in Endometrial Carcinoma. *Gynecol Oncol*. 2001 May;81(2):242-6. PMID: 11330957.
97. Calvisi DF, Donniger H, Vos MD, **Birrer MJ**, Gordon L, Leaner V, Clark GJ. NORE1A tumor suppressor candidate modulates p21CIP1 via p53. *Cancer Res*. 2009 Jun 1;69(11):4629-37. Epub 2009 May 12. PMID: 19435914.
98. Fan M, Goodwin ME, **Birrer MJ**, Chambers TC. The c-Jun NH(2)-terminal protein kinase/AP-1 pathway is required for efficient apoptosis induced by vinblastine. *Cancer Res*. 2001 Jun 1;61(11):4450-8. PMID: 11389075.
99. Krivak TC, McBroom JW, Seidman J, Venzon D, Crothers B, MacKoul PJ, Rose GS, Carlson JW, **Birrer MJ**. Abnormal fragile histidine triad (FHIT) expression in advanced cervical carcinoma: a poor prognostic factor. *Cancer Res*. 2001 Jun 1;61(11):4382-5. PMID: 11389064.
100. Gardner GJ, **Birrer MJ**. Ovarian tumors of low malignant potential: Can molecular biology solve this enigma? *J Natl Cancer Inst*. 2001 Aug 1;93(15):1122-3. PMID: 11481376.
101. Manzano RG, Montuenga LM, Dayton M, Dent P, Kinoshita I, Vicent S, Gardner GJ, Nguyen P, Choi YH, Trepel J, Auersperg N, **Birrer MJ**. CL100 expression is down-regulated in advanced epithelial ovarian cancer and its re-expression decreases its malignant potential. *Oncogene*. 2002 Jun

- 27; 21(28):443547. PMID: 12080474.
102. Bowen C, **Birrer MJ**, Gelmann EP. Retinoblastoma Protein-mediated Apoptosis After gamma - Irradiation J Biol Chem. 2002 Nov 22;277(47):44969-79. PMID: 12297496.
 103. Quong J, Eppenberger-Castori S, Moore D 3rd, Scott GK, **Birrer MJ**, Kueng W, Eppenberger U, Benz CC. Age-dependent changes in breast cancer hormone receptors and oxidant stress markers. Breast Cancer Res Treat. 2002 Dec; 76(3):221-36. PMID: 12462383.
 104. Farley J, Smith LM, Darcy KM, Sobel E, O'Connor D, Henderson B, Morrison LE, **Birrer MJ**, Gynecologic Oncology Group. Cyclin E expression is a significant predictor of survival in advanced, suboptimally debulked ovarian epithelial cancers: a Gynecologic Oncology Group study. Cancer Res. 2003 Mar 15; 63(6):1235-41. PMID: 12649182.
 105. Dent P, Qiao L, Gilfor D, **Birrer MJ**, Grant S, Fisher PB. The regulation of tumor suppressor genes by ocogenes Methods Mol Biol. 2003 222:269-92. PMID: 12710693.
 106. Shen YH, Godlewski J, Zhu J, Sathyanarayana P, Leaner V, **Birrer MJ**, Rana A, Tzivion G. Cross-talk between JNK/SAPK and ERK/MAPK pathways: sustained activation of JNK blocks ERK activation by mitogenic factors. J Biol Chem. 2003 278(29):26715-21. Epub 2003 May 08. PMID: 12738796.
 107. Kinoshita I, Leaner V, Katabami M, Manzano RG, Dent P, Sabichi A, **Birrer MJ**. Identification of cJun- responsive genes in Rat-1a cells using multiple techniques: increased expression of stathmin is necessary or cJun-mediated anchorage-independent growth. Oncogene. 2003 May 8;22(18):2710-22. PMID: 12743595.
 108. Leaner VD, Kinoshita I, **Birrer MJ**. AP-1 complexes containing cJun and JunB cause cellular transformation of Rat1a fibroblasts and share transcriptional targets. Oncogene. 2003 Aug 28;22(36):5619-29. PMID: 12944910.
 109. Trepel J, **Birrer MJ**. A Link Between Histone Deacetylase Inhibitors and NF- kappaB Signaling. Cell Cycle. 2003 Sep-Oct; 2(5):452-3. Review. PMID: 12963841.
 110. Winter WE, Seidman JD, Krivak TC, Chauhan S, Carlson JW, Rose GS, **Birrer MJ**. Clinicopathological analysis of c-kit expression in carcinosarcomas and leiomyosarcomas of the uterine corpus. Gynecol Oncol. 2003 Oct;91(1):3-8. PMID: 14529656.
 111. Romashko J, Horowitz S, Franek WR, Palaia T, Miller EJ, Lin A, **Birrer MJ**, Scott W, Mantell LL. MAPK pathways mediate hyperoxia-induced oncotic cell death in lung epithelial cells. Free Radic Biol Med. 2003 Oct 15;35(8):978-93. PMID: 14556862.
 112. Zorn KK, Jazaeri AA, Awtrey CS, Gardner GJ, Mok SC, Boyd J, **Birrer MJ**. Choice of normal ovarian control influences determination of differentially expressed genes in ovarian cancer expression profiling studies. Clin Cancer Res. 2003 Oct 15; 9(13):4811-8. PMID: 14581352.
 113. Farley JH, **Birrer MJ**. Biologic directed therapies in gynecologic oncology. Curr Oncol Rep. 2003 Nov; 5(6):459-67. Review. PMID: 14521804.

114. Zeinoun Z, Teugels E, Vermeij J, Neyns B, **Birrer MJ**, De Greve J. Restoration of an impaired TGF-beta1 autocrine growth-inhibitory circuit results in growth inhibition of ovarian epithelial cancer cells and complete inhibition of their tumorigenicity. *Cancer Detect Prev.* 2003; 27(5):380-8. PMID: 14585325.
115. Farley J, Uyehara C, Hashiro G, Belnap C, **Birrer MJ**, Salminen E. Cyclooxygenase-2 expression predicts recurrence of cervical dysplasia following loop electrosurgical excision procedure. *Gynecol Oncol.* 2004 Feb; 92(2):596-602. doi: 10.1016/j.ygyno.2003.10.052. PMID: 14766253.
116. Liu S, Brown CW, Berlin KD, Dhar A, Guruswamy S, Brown D, Gardner GJ, **Birrer MJ**, Benbrook DM. Synthesis of flexible sulfur-containing heteroarotinoids that induce apoptosis and reactive oxygen species with discrimination between malignant and benign cells. *J Med Chem.* 2004 Feb 12; 47(4):999-1007. PMID: 14761202.
117. Hommura F, Katabami M, Leaner VD, Donninger H, Sumter TF, Resar LM, **Birrer MJ**. HMG-I/Y is a c-Jun/activator protein-1 target gene and is necessary for c-Jun-induced anchorage-independent growth in Rat1a cells. *Mol Cancer Res.* 2004 May; 2(5):305-14. PMID: 15192124.
118. Cuello M, Coats AO, Darko I, Ettenberg SA, Gardner GJ, Nau MM, Liu JR, **Birrer MJ**, Lipkowitz S. N-(4-hydroxyphenyl) retinamide (4HPR) enhances TRAIL-mediated apoptosis through enhancement of a mitochondrial-dependent amplification loop in ovarian cancer cell lines. *Cell Death Differ.* 2004 May; 11(5):527-41. PMID: 14765134.
119. Zou X, Jordan RC, Mok S, **Birrer MJ**, Wong DT. DNA copy number abnormality of oral squamous cell carcinoma detected with cDNA array-based comparative genomic hybridization. *Cancer Genet Cytogenet.* 2004 May; 151(1):90-2. PMID: 15120918.
120. Kielosto M, Nummela P, Katainen R, Leaner V, **Birrer MJ**, Holtta E. Reversible regulation of the transformed phenotype of ornithine decarboxylase- and ras-overexpressing cells by dominant-negative mutants of c-Jun. *Cancer Res.* 2004 Jun 1; 64(11):3772-9. PMID: 15172983.
121. Sherman, ME, Berman, J., **Birrer MJ**, Cho KR, Ellenson, LH, Gorstein, F, and Seidman, JD. Current challenges and opportunities for research on borderline ovarian tumors. *Human Pathology* 2004 Aug; 35(8):961-70. PMID: 15297963.
122. Elagib KE, Xiao M, Hussainin IM, Delehanty LL, Palmer LA, Racke FK, **Birrer MJ**, McDevitt MA, and Goldfarb AN. Jun blockage of erythropoiesis: a role for repression of GATA-1 by HERP2. *Mol. Cell. Biol* 2004 Sep; 24(17):7779-94. PMID: 15314183; PMCID: PMC506977.
123. Donninger H, Bonome T, Radonovich M, Pise-Masison CA, Brady J, Shih J, Barrett JC, and **Birrer MJ**. Whole genome expression profiling of advance stage papillary serous ovarian cancer reveals activated pathways. *Oncogene* 2004 Oct21; 23(49):8065-77. PMID: 15361855.
124. Tsuda H, Bandera CA, **Birrer MJ**, Hashiguchi Y, Berkowitz RS, Mok SC. Cyclin E amplification and over expression in clear cell adenocarcinoma of the ovary. *Oncology* 2004; 67(3-4):291-9. PMID: 15557791.
125. Tsuda H, **Birrer MJ**, Ito YM, Ohashi Y, Lin M, Lee C, Wong WH, Rao PH, Lau CC, Berkowitz

- RS, Wong KK, Mok SC. Identification of DNA copy number changes in microdissected serous ovarian cancer tissue using a cDNA microarray platform *Cancer Genet Cytogenet* 2004 Dec;155(2):97-107. PMID: 15571795.
126. Elam C, Hesson L, Vos MD, Eckfeld K, Ellis C, Bell A, Taylor B S, Krex D, **Birrer MJ**, Latif F, and Clark G. RRP22 is a farnesylated, nucleolar, Ras-related protein with tumor suppressor potential. 2005 *Cancer Research*. Apr 15; 65(8): 3117-25. PMID: 15833841.
 127. Leaner VD, Donniger H, Ellis CA, Clark GJ, and **Birrer MJ**. P75-Ras-GRF1 is a c-Jun/AP-1 target protein: its up regulation results in increased Ras activity and is necessary for c-Jun-induced nonadherent growth of Rat1a cells. *Mol Cell Biol*. 2005 Apr; 25(8):3324-37. PMID: 15798216; PMCID: PMC1069594.
 128. Katabami M, Donniger H, Hommura F, Leaner VD, Kinoshita I, and **Birrer MJ**. Cyclin A is a cJun target gene regulated by direct and indirect mechanisms and is necessary for cJun-induced anchorage independent growth in Rat1a cells. *J Biol. Chem* 2005 Apr 29; 280(17):16728-38. Epub 2005 Feb 28. PMID: 15737994.
 129. Jazaeri AA, Awtrey CS, Chandramouli GV, Chuang YE, Khan J, Sotiriou C, Aprelikova O, Yee CJ, Zorn KK, **Birrer MJ**, Barrett JC, Boyd. Gene expression profiles associated with response to chemotherapy in epithelial ovarian cancers. *Clin Cancer Res*. 2005 Sep 1; 11(17):6300-10. PMID: 16144934.
 130. Zorn KK, Bonome T, Gangi L, Chandramouli GV, Awtrey CS, Gardner GJ, Barrett JC, Boyd J, and **MJ Birrer**. Gene expression profiles of serous, endometrioid, and clear cell subtypes of ovarian and endometrial cancer. *Clin Cancer Res*. 2005 Sep 15;11(18):6422-30. PMID: 16166416.
 131. Tsuda H, Ito YM, Ohashi Y, Wong KK, Hashiguchi Y, Welch WR, Berkowitz RS, **Birrer MJ**, and Mok SC. Identification of over expression and amplification of ABCF2 in clear cell ovarian adenocarcinomas by cDNA microarray analyses. *Clin Cancer Res*. 2005 Oct 1; 11(19 Pt 1):6880-8. PMID: 16203778.
 132. Bonome T, Lee JY, Park DC, Radonovich M, Pise-Masison C, Brady J, Gardner GJ, Hao K, Wong WH, Barrertt JC, Lu KH, Sood AK, Gershenson DM, Mok SC, **Birrer MJ**. Expression profiling of serous low malignant potential, low-grade, and high-grade tumors of the ovary. *Cancer Res*. 2005 Nov 15; 65(22):10602-12. PMID: 16288054.
 133. Nummela P, Yin M, Kielosto M, Leaner V, **Birrer MJ**, Holtta E. Thymosin beta4 is a determinant of the transformed phenotype and invasiveness of S-adenosylmethionine decarboxylase-transfected fibroblasts. *Cancer Res*. 2006 Jan 15; 66(2):701-12. PMID: 16423999.
 134. Wamunyokoli FW, Bonome T, Lee JY, Feltmate CM, Welch WR, Radonovich M, Pise-Masison C, Brady J, Hao K, Berkowitz RS, Mok S, **Birrer MJ**. Expression profiling of mucinous tumors of the ovary identifies genes of clinicopathologic importance. *Clin Cancer Res*. 2006 Feb 1; 12(3 Pt 1):690-700. PMID: 16467078.
 135. DiFeo A, Narla G, Hirshfeld J, Camacho-Vanegas O, Narla J, Rose SL, Kalir T, Yao S, Levine A, **Birrer MJ**, Bonome T, Friedman SL, Buller RE, Martignetti JA. Roles of KLF6 and KLF6-SV1 in

- ovarian cancer progression and intraperitoneal dissemination. *Clin Cancer Res.* 2006 Jun 15; 12(12):3730-9. PMID: 16778100.
136. **Birrer MJ.** Ovarian cancer: not a borderline issue! *Cancer Biol Ther.* 2006 Jul; 5(7):786-7. Epub 2006 Jul 18. PMID: 16921259.
 137. Sunde JS, Donninger H, Wu K, Johnson ME, Pestell RG, Rose GS, Mok SC, Brady J, Bonome T, **Birrer MJ.** Expression Profiling Identifies Altered Expression of Genes That Contribute to the Inhibition of Transforming Growth Factor- β Signaling in Ovarian Cancer. *Cancer Res.* 2006 Sep 1; 66(17):8404-12. PMID: 16951150.
 138. Fountain J, Trimble E, **Birrer MJ.** Summary and discussion of session recommendations. *Gynecol Oncol.* 2006 Nov; 103(2 Suppl. 1):S23-5. Epub 2006 Oct 5. PMID: 17027068.
 139. Farley J, Bast RC Jr, **Birrer MJ.** Biomarkers and clinical trial design. *Gynecol Oncol.* 2006 Nov; 103(2 Suppl 1):S3-5. Epub 2006 Oct 5. PMID: 17027069.
 140. Farley J, **Birrer MJ,** Christian M.C. The future of phase II trials. *Gynecol Oncol.* 2006 Nov; 103(2 Suppl 1):S20. Epub 2006 Oct 4. PMID: 17027074.
 141. Wu K, Liu M, Li A, Donninger H, Rao M, Jiao X, Lisanti MP, Cvekl A, **Birrer MJ,** Pestell RG. The Cell Fate Determination Factor DACH1 Inhibits c-Jun Induced Contact-Independent Growth. *Mol Biol Cell.* 2007 Mar; 18(3):755-67. doi: 10.1091/mbc.e06-09-0793. PMID: 17182846; PMCID: PMC1805093.
 142. Mok SC, Elias KM, Wong KK, Ho K, Bonome T, **Birrer MJ.** Biomarker discovery in epithelial ovarian cancer by genomic approaches. *Adv Cancer Res.* 2007; 96:1-22. Review. PMID: 17161674.
 143. Lu C, Bonome T, Li Y, Kamat AA, Han LY, Schmandt R, Coleman RL, Gershenson DM, Jaffe RB, **Birrer MJ,** Sood AK. Gene alterations identified by expression profiling in tumor-associated endothelial cells from invasive ovarian carcinoma. *Cancer Res.* 2007 Feb 15; 67(4):1757-68. PMID: 17308118.
 144. Wong YF, Cheung TH, Lo KW, Yim SF, Siu NS, Chan SC, Ho TW, Wong KW, Yu MY, Wang VW, Li C, Gardner GJ, Bonome T, Johnson WB, Smith DI, Chung TK, and **Birrer MJ.** Identification of molecular markers and signaling pathway in endometrial cancer in Hong Kong Chinese women by genome-wide gene expression profiling. *Oncogene.* 2007 Mar 22; 26(13):1971-82. Epub 2006 Oct 16. PMID: 17043662.
 145. Gershenson DM, **Birrer MJ.** Time for action: a "sea change" in treatment strategies for rare types of epithelial ovarian cancer. *Gynecol Oncol.* 2007 Jul; 106(1):1-3. doi: 10.1016/j.ygyno.2007.05.003. PMID: 17574071.
 146. **Birrer MJ,** Johnson ME, Hao K, Wong KK, Park DC, Bell A, Welch WR, Berkowitz RS, Mok SC. Whole genome oligonucleotide-based array comparative genomic hybridization analysis identified fibroblast growth factor 1 as a prognostic marker for advanced-stage serous ovarian adenocarcinomas. *J Clin Oncol.* 2007 Jun 1; 25(16):2281-7. Erratum in: *J Clin Oncol.* 2007 Jul 20; 25(21):3184. PMID: 17538174.

147. Kajanne R, Miettinen P, Mehlem A, Leivonen SK, **Birrer MJ**, Foschi M, Kahari VM, Leppa S. EGF-R regulates MMP function in fibroblasts through MAPK and AP-1 pathways. *J Cell Physiol*. 2007 Aug; 212(2):489-97. doi: 10.1002/jcp.21041 PMID: 17348021.
148. Allen NP, Donninger H, Vos MD, Eckfeld K, Hesson L, Gordon L, **Birrer MJ**, Latif F, Clark GJ. RASSF6 is a novel member of the RASSF family of tumor suppressors. *Oncogene* 2007 Sep 13;26(42):6203-11. Epub 2007 Apr 2. PMID: 17404571.
149. Kelloff GJ, Sullivan DC, Baker H, Clarke LP, Nordstrom R, Tatum JL, Dorfman GS, Jacobs P, Berg CD, Pomper MG, **Birrer MJ**, Tempero M, Higley HR, Petty BG, Sigman CC, Maley C, Sharma P, Wax A, Ginsberg GG, Dannenberg AJ, Hawk ET, Messing EM, Grossman HB, Harisinghani M, Bigio IJ, Griebel D, Henson DE, Fabian CJ, Ferrara K, Fantini S, Schnall MD, Zujewski JA, Hayes W, Klein EA, DeMarzo A, Ocak I, Ketterling JA, Tempany C, Shtern F, Parnes HL, Gomez J, Srivastava S, Szabo E, Lam S, Seibel EJ, Massion P, McLennan G, Cleary K, Suh R, Burt RW, Pfeiffer RM, Hoffman JM, Roy HK, Wang T, Limburg PJ, El-Deiry WS, Papadimitrakopoulou V, Hittelman WN, MacAulay C, Veltri RW, Solomon D, Jeronimo J, Richards-Kortum R, Johnson KA, Viner JL, Stratton SP, Rajadhyaksha M, Dhawan A: Workshop Program Committee. Workshop on imaging science development for cancer prevention and preemption. *Cancer Biomarkers*. 2007; 3(1):1-33. PMID: 17655039.
150. Whibley CE, McPhail KL, Keyzers RA, Maritz MF, Leaner VD, **Birrer MJ**, Davies-Coleman MT, Hendricks DT. Reactive oxygen species mediated apoptosis of esophageal cancer cells induced by marine triprenyl toluquinones and oluhydroquinones. *Mol Cancer Ther*. 2007 Sep;6(9):2535-43. PMID: 17876050.
151. Farley J, Ozbun L, Samimi G, **Birrer MJ**. Cell cycle and related proteins. *Dis Markers*. 2007;23(5-6):433-43. Review. PMID: 18057526; PMCID: PMC3850569.
152. Samimi G, Ozbun L, Johnson ME, Mok SC, **Birrer MJ**. Biomarkers of mucinous tumors of the ovary. *Dis Markers*. 2007;23(5-6):389-96. PMID: 18057522; PMCID: PMC3851369.
153. Mok SC, Kwong J, Welch WR, Samimi G, Ozbun L, Bonome T, **Birrer MJ**., Berkowitz RS, Wong KK. Etiology and pathogenesis of epithelial ovarian cancer. *Dis Markers*. 2007;23 (5-6):367-76. Review. PMID: 18057520; PMCID: PMC3851194.
154. Irarrazabal CE, Williams CK, Ely MA, **Birrer MJ**, Garcia-Perez A, Burg MB, Ferraris JD. AP-1 contributes to high NaCl-induced increase in TonEBP/OREBP transactivating activity. *J Biol Chem*. 2008 Feb 1;283(5):2554-63. Epub 2007 Dec 4. PMID: 18056707.
155. Landen CN Jr, **Birrer MJ**, Sood AK. Early events in the pathogenesis of epithelial ovarian cancer. *J Clin Oncol*. 2008 Feb 20;26(6):995-1005. doi: 10.1200/JCO.2006.07.9970. Epub 2008 Jan 14. Review. PMID: 18195328.
156. Zudaire E, Cuesta N, Murty V, Woodson K, Adams L, Gonzalez N, Martínez A, Narayan G, Kirsch I, Franklin W, Hirsch F, **Birrer MJ**, Cuttitta F. The aryl hydrocarbon receptor repressor is a putative tumor suppressor gene in multiple human cancers. *J Clin Invest*. 2008 Feb;118(2):640-50. doi: 10.1172/JCI30024. PubMed PID: 18172554; PMCID: PMC2157559.
157. Shimizu Y, Kinoshita I, Kikuchi J, Yamazaki K, Nishimura M, **Birrer MJ**, Dosaka-Akita H. Growth inhibition of non-small cell lung cancer cells by AP-1 blockade using a cJun dominant-

- negative mutant. *Br J Cancer*. 2008 Mar 11;98(5):915-22. doi: 10.1038/sj.bjc.6604267. Epub 2008 Feb 19. PMID: 18283312; PMCID: PMC2266861.
158. Litkouhi B, Fleming E, Welch WR, Berkowitz RS, **Birrer MJ**, Mok SC. Overexpression of CEACAM6 in borderline and invasive mucinous ovarian neoplasms. *Gynecol Oncol*. 2008 May;109(2):234-9. . doi: 10.1016/j.ygyno.2008.01.031. Epub 2008 Mar 10. PMID: 18331757.
 159. Zhang L, Volinia S, Bonome T, Calin GA, Greshock J, Yang N, Liu CG, Giannakakis A, Alexiou P, Hasegawa K, Johnstone CN, Megraw MS, Adams S, Lassus H, Huang J, Kaur S, Liang S, Sethupathy P, Leminen A, Simossis VA, Sandaltzopoulos R, Naomoto Y, Katsaros D, Gimotty PA, DeMichele A, Huang Q, Bützow R, Rustgi AK, Weber BL, **Birrer MJ**, Hatzigeorgiou AG, Croce CM, Coukos G. Genomic and epigenetic alterations deregulate microRNA expression in human epithelial ovarian cancer. *Proc Natl Acad Sci U S A*. 2008 May 13;105(19):7004-9. doi: 0.1073/pnas.0801615105. Epub 2008 May 5. PMID: 18458333; PMCID: PMC2383982.
 160. Farley J, Ozbun LL, **Birrer MJ**. Genomic analysis of epithelial ovarian cancer. *Cell Res*. 2008 May;18(5):538-48. doi: 10.1038/cr.2008.52. Review. PMID: 18427574.
 161. Stany MP, Bonome T, Wamunyokoli F, Zorn K, Ozbun L, Park DC, Hao K, Boyd J, Sood AK, Gershenson DM, Berkowitz RS, Mok SC, **Birrer MJ**. Classification of ovarian cancer: a genomic analysis. *Adv Exp Med Biol*. 2008;622:23-33. Review. PMID: 18546616.
 162. Bonome T, Levine DA, Shih J, Randonovich M, Pise-Masison CA, Bogomolnii F, Ozbun L, Brady J, Barrett JC, Boyd J, **Birrer MJ**. A gene signature predicting for survival in suboptimally debulked patients with ovarian cancer. *Cancer Res*. 2008 Jul 1;68(13):5478-86. doi: 10.1158/0008-5472.CAN-07-6595. PMID: 18593951.
 163. Sood AK, **Birrer MJ**. Highlights from the 2008 Annual Meeting of the American Association for Cancer Research. *Gynecol Oncol*. 2008 Jul; 110(1):5-6. PMID: 18595162.
 164. Park DC, Yeo SG, Wilson MR, Yerbury JJ, Kwong J, Welch WR, Choi YK, **Birrer MJ**, Mok SC, Wong KK. Clusterin interacts with Paclitaxel and confer Paclitaxel resistance in ovarian Cancer. *Neoplasia* 2008 Sep; 10(9):964-72169. PMID: 18714397; PMCID: PMC2517641.
 165. Lorenzi PL, Llamas J, Gunsior M, Ozbun L, Reinhold WC, Varma S, Ji H, Kim H, Hutchinson AA, Kohn EC, Goldsmith PK, **Birrer MJ**, Weinstein JN. Asparagine synthetase is a predictive biomarker of L-asparaginase activity in ovarian cancer cell lines. *Mol Cancer Ther* 2008 Oct;7(10):3123-8. . doi: 10.1158/1535-7163.MCT-08-0589. PMID: 18852115; PMCID: PMC4123961.
 166. Anglesio MS, Arnold JM, George J, Tinker AV, Tothill R, Waddell N, Simms L, Locandro B, Fereday S, Traficante N, Russell P, Sharma R, **Birrer MJ**; AOCs Study Group, deFazio A, Chenevix-Trench G, Bowtell DD. Mutation of ERBB2 provides a novel alternative mechanism for the ubiquitous ctivation of RAS-MAPK in ovarian serous low malignant potential tumors. *Mol Cancer Res*. 2008 Nov; 6(11): 1678-90. doi: 10.1158/1541-7786.MCR-08-0193. PMID: 19010816.
 167. Kikuchi J, Kinoshita I, Shimizu Y, Oizumi S, Nishimura M, **Birrer MJ**, Dosaka-Akita H.

- Simultaneous blockade of AP-1 and phosphatidylinositol 3-kinase pathway in non-small cell lung cancer cells. *Br J Cancer*. 2008 Dec 16;99(12):2013-9. doi: 10.1038/sj.bjc.6604782. Epub 2008 Nov 18. PMID: 19018257; PMCID: PMC2607224.
168. Arora S, Wang Y, Jia Z, Vardar-Sengul S, Munawar A, Doctor KS, **Birrer MJ**, McClelland M, Adamson E, Mercola D. Egr1 regulates the coordinated expression of numerous EGF receptor target genes as identified by ChIP-on-chip. *Genome Biol*. 2008; 9(11):R166. doi: 10.1186/gb-2008-9-11-r166. Epub 2008 Nov 25. PMID: 19032775; PMCID: PMC2614498.
 169. Callahan MJ, Nagymanyoki Z, Bonome T, Johnson ME, Litkouhi B, Sullivan EH, Hirsch MS, Matulonis UA, Liu J, **Birrer MJ**, Berkowitz RS, Mok SC. Increased HLA-DMB expression in the tumor epithelium is associated with increased CTL infiltration and improved prognosis in advanced-stage serous ovarian cancer. *Cancer Res*. 2008 Dec 1;14(23):7667-73. doi: 10.1158/1078-0432.CCR-08-0479. PMID: 19047092; PMCID: PMC3000165.
 170. Leaner VD, Chick JF, Donniger H, Linniola I, Mendoza A, Khanna C, **Birrer MJ**. Inhibition of AP-1 transcriptional activity blocks the migration, invasion, and experimental metastasis of murine osteosarcoma. *Am J Pathol*. 2009 Jan;174(1):265-75. doi: 10.2353/ajpath.2009.071006. Epub 2008 Dec 12. PMID: 19074613; PMCID: PMC2631339.
 171. Merritt WM, Lin YG, Han LY, Kamat AA, Spannuth WA, Schmandt R, Urbauer D, Pennacchio LA, Cheng JF, Nick AM, Deavers MT, Mourad-Zeidan A, Wang H, Mueller P, Lenburg ME, Gray JW, Mok S, **Birrer MJ**, Lopez-Berestein G, Coleman RL, Bar-Eli M, Sood AK. Dicer, Drosha, and outcomes in patients with ovarian cancer *N Engl J Med*. 2008 Dec 18;359(25):2641-50. doi: 10.1056/NEJMoa0803785. Erratum in: *N Engl J Med*. 2010 Nov 4;363(19):1877. PMID: 19092150; PMCID: PMC2710981.
 172. Kitchener HC, Trimble EL, **Birrer MJ**, Endometrial Cancer Working Group of the Gynecologic Cancer Intergroup. Endometrial Cancer State of the Science Meeting. *Int J Gynecol Cancer*. 2009 Jan;19(1):134-40. doi: 10.1111/IGC.0b013e3181995f90. PMID: 19258955.
 173. Chung TK, Cheung TH, Huen NY, Wong KW, Lo KW, Yim SF, Siu NS, Wong YM, Tsang PT, Pang MW, Yu MY, To KF, Mok SC, Wang VW, Li C, Cheung AY, Doran G, **Birrer MJ**, Smith DI, Wong YF. Dysregulated microRNAs and their predicted targets associated with endometrioid endometrial adenocarcinoma in Hong Kong women. *Int J Cancer* 2009 Mar 15; 24(6):1358-65167. doi: 10.1002/ijc.24071. PMID: 19065659.
 174. Singh S, Manda SM, Sikder D, **Birrer MJ**, Rothermel BA, Garry DJ, Mammen PP. Calcineurin activates cytoglobin transcription in hypoxic myocytes. *J Biol Chem*. 2009 Apr 17;284(16):10409-21. doi: 10.1074/jbc.M809572200. Epub 2009 Feb 9. PMID: 19203999; PMCID: PMC2667728.
 175. van der Watt PJ, Maske CP, Hendricks DT, Parker MI, Denny L, Govender D, **Birrer MJ**, Leaner VD. The Karyopherin proteins, Crm1 and Karyopherin beta1, are overexpressed in cervical cancer and are critical for cancer cell survival and proliferation. *Int J Cancer*. 2009 Apr 15;124(8):1829-40. doi: 10.1002/ijc.24146. PMID: 19117056.
 176. Wang B, Khachigian LM, Esau L, **Birrer MJ**, Zhao X, Parker MI, Hendricks DT. A key role for early growth response-1 and nuclear factor-kappaB in mediating and maintaining GRO/CXCR2

- proliferative signaling in esophageal cancer. *Mol Cancer Res.* 2009 May;7(5):755-64. doi: 10.1158/1541-7786.MCR-08-0472. Epub 2009 May 12. PMID: 19435811.
177. Farley J, Fuchiuj S, Darcy KM, Tian C, Hoskins WJ, McGuire WP, Hanjani P, Warshal D, Greer BE, Belinson J, **Birrer MJ**. Associations between ERBB2 amplification and progression-free survival and overall survival in advanced stage, suboptimally-resected epithelial ovarian cancers: a Gynecologic Oncology Group Study. *Gynecol Oncol.* 2009 Jun;113(3):341-7. doi: 0.1016/j.ygyno.2009.02.009. Epub 2009 Mar 9. PMID: 19272639.
 178. Nosov V, Su F, Amneus M, **Birrer MJ**, Robins T, Kotlerman J, Reddy S, Farias-Eisner R. Validation of serum biomarkers for detection of early-stage ovarian cancer. *Am J Obstet Gynecol.* 2009 Jun;200(6):639.e1-5. doi: 10.1016/j.ajog.2008.12.042. Epub 2009 Mar 14. PMID: 19285648.
 179. Kwong J, Chan FL, Wong KK, **Birrer MJ**, Archibald KM, Balkwill FR, Berkowitz RS, Mok SC. Inflammatory cytokine tumor necrosis factor alpha confers precancerous phenotype in an organoid model of normal human ovarian surface epithelial cells. *Neoplasia.* 2009 Jun;11(6):529-41. PMID: 19484142; PMCID: PMC2685442.
 180. Terry KL, Vitonis AF, Hernandez D, Lurie G, Song H, Ramus SJ, Titus-Ernstoff L, Carney ME, Wilkens LR, Gentry-Maharaj A, Menon U, Gayther SA, Pharaoh PD, Goodman MT, Cramer DW, **Birrer MJ**. A polymorphism in the GALNT2 gene and ovarian cancer risk in four population based case-control studies. *Int J Mol Epidemiol Genet.* 2010 Jul 26;1(4):272-7. PMID: 21532840; PMCID: PMC3076782.
 181. Demelash A, Kim H, Jensen-Taubman S, Dakir EH, Ozbun L, **Birrer MJ**, Linnoila, RI. Matrilysin-1 Mediates Bronchiolization of Alveoli, A Potential Premalignant Change in Lung Cancer. *Am J Pathol.* 2009 Aug;175(2):592-604. doi: 10.2353/ajpath.2009.080461. PMID: 19608871; PMCID: PMC2716959.
 182. Wang XY, Demelash A, Kim H, Jensen-Taubman S, Dakir el H, Ozbun L, **Birrer MJ**, Linnoila RI. Matrilysin-1 mediates bronchiolization of alveoli, a potential premalignant change in lung cancer. *Am J Pathol.* 2009 Aug;175(2):592-604. Epub 2009 Jul 16. PMID: 19608871; PMCID: PMC2716959.
 183. Darcy KM, Brady WE, Blancato JK, Dickson RB, Hoskins WJ, McGuire WP, **Birrer MJ**. Prognostic relevance of c-MYC gene amplification and polysomy for chromosome 8 in suboptimally-resected, advanced stage epithelial ovarian cancers: A Gynecologic Oncology Group study. *Gynecol Oncol.* 2009 Sep;114(3):472-9. doi: 10.1016/j.ygyno.2009.05.012. Epub 2009 Jun 12. PMID: 19524285; PMCID: PMC5806536.
 184. Farley JH, Tian C, Rose GS, Brown CL, **Birrer MJ**, Maxwell GL. Race does not impact outcome for advanced ovarian cancer patients treated with cisplatin/paclitaxel: an analysis of Gynecologic Oncology Group trials. *Cancer.* 2009 Sep 15;115(18):4210-7. doi: 10.1002/cncr.24482. PMID: 19536873; PMCID: PMC4459778.
 185. Farley J, **Birrer MJ**. Novel Therapeutic Targets, *Cancer Treat Res.* 2009;149:63-84. doi: 10.1007/978-0-387-98094-2_3. Review. PMID: 19763431.

186. Mok SC, Bonome T, Vathipadiekal V, Bell A, Johnson ME, Wong KK, Park DC, Hao K, Yip DK, Donninger H, Ozbun L, Samimi G, Brady J, Randonovich M, Pise-Masison CA, Barrett JC, Wong WH, Welch WR, Berkowitz RS, **Birrer MJ**. A gene signature predictive for outcome in advanced ovarian cancer identifies a survival factor: microfibril-associated glycoprotein 2. *Cancer Cell*. 2009 Dec 8;16(6):521-32. doi: 10.1016/j.ccr.2009.10.018. PMID: 19962670; PMCID: PMC3008560.
187. Na YJ, Farley J, Zeh A, del Carmen M, Penson R, **Birrer MJ**. Ovarian cancer: markers of response. *Int J Gynecol Cancer*. 2009 Dec;19 Suppl 2:S21-9. doi: 10.1111/IGC.0b013e3181c2aeb5. Review. PMID: 19955910.
188. Farley JH, Tian C, Rose GS, Brown CL, **Birrer MJ**, Risinger JI, Thigpen JT, Fleming GF, Gallion HH, Maxwell GL. Chemotherapy intensity and toxicity among black and white women with advanced and Recurrent endometrial cancer: A Gynecologic Oncology Group Study. *Cancer*. 2010 Jan 15;116(2):355-61. doi: 10.1002/cncr.24769. PMID: 19924790; PMCID: PMC2811766.
189. Minig L, Trimble EL, **Birrer MJ**, Kim KY, Takebe N, Abrams JS. NIH and NCI support for development of novel therapeutics in gynecologic cancer: a user's guide *Gynecol Oncol*. 2010 Feb;116(2):177-80. doi: 10.1016/j.ygyno.2009.10.046. Epub 2009 Nov 3. Review. PMID: 19889449.
190. Clauss A, Ng V, Liu J, Piao H, Russo M, Vena N, Sheng Q, Hirsch MS, Bonome T, Matulonis U, Ligon AH, **Birrer MJ**, Drapkin R. Overexpression of elafin in ovarian carcinoma is driven by genomic gains and activation of the nuclear factor kappaB pathway and is associated with poor overall survival. *Neoplasia*. 2010 Feb;12(2):161-72. PMID: 20126474; PMCID: PMC2814354.
191. Byron SA, Gartside MG, Wellens CL, Goodfellow PJ, **Birrer MJ**, Campbell IG, Pollock PM. FGFR2 mutations are rare across histologic subtypes of ovarian cancer. *Gynecol Oncol*. 2010 Apr;117(1):125-9. doi: 10.1016/j.ygyno.2009.12.002. Epub 2010 Jan 27. PMID: 20106510.
192. Huh WK, Sill MW, Darcy KM, Elias KM, Hoffman JS, Boggess JF, Alvarez RD, Long HJ, O'Malley DM, **Birrer MJ**. Efficacy and safety of imatinib mesylate (Gleevec) and immunohistochemical expression of c-Kit and PDGFR-beta in a Gynecologic Oncology Group Phase II Trial in women with recurrent or persistent carcinosarcomas of the uterus. *Gynecol Oncol*. 2010 May;117(2):248-54. doi: 10.1016/j.ygyno.2010.01.002. Epub 2010 Feb 26. PMID: 20189232.
193. Hernandez L, Hsu SC, Davidson B, **Birrer MJ**, Kohn EC, Annunziata CM. Activation of NF-kappaB signaling by inhibitor of NF-kappaB kinase beta increases aggressiveness of ovarian cancer. *Cancer Res*. 2010 May 15;70(10):4005-14. doi: 10.1158/0008-5472.CAN-09-3912. Epub 2010 Apr 27. PMID: 20424119; PMCID: PMC2873166.
194. Darcy KM, **Birrer MJ**. Translational research in the Gynecologic Oncology Group: evaluation of ovarian cancer markers, profiles, and novel therapies. *Gynecol Oncol*. 2010 Jun;117(3):429-39. doi: 10.1016/j.ygyno.2010.01.048. Epub 2010 Mar 16. Review. PMID: 20233625; PMCID: PMC2877379.
195. Annunziata CM, Stavnes HT, Kleinberg L, Berner A, Hernandez LF, **Birrer MJ**, Steinberg SM, Davidson B, Kohn EC. Nuclear factor kappaB transcription factors are coexpressed and convey a poor outcome in ovarian cancer. *Cancer*. 2010 Jul 1;116(13):3276-84. doi: 10.1002/cncr.25190.

PMID: 20564628; PMCID: PMC2946598.

196. Annunziata, CM **Birrer MJ**. CD157 in ovarian carcinoma: How does it help us? *J Natl Cancer Inst*. 2010 Aug 4;102(15):1104-5. doi: 10.1093/jnci/djq269. Epub 2010 Jul 16. PMID: 20639477.
197. Lu C, Han HD, Mangala LS, Ali-Fehmi R, Newton CS, Ozbun L, Armaiz-Pena GN, Hu W, Stone RL, Munkarah A, Ravoori MK, Shahzad MM, Lee JW, Mora E, Langley RR, Carroll AR, Matsuo K, Spannuth WA, Schmandt R, Jennings NB, Goodman BW, Jaffe RB, Nick AM, Kim HS, Guven EO, Chen YH, Li LY, Hsu MC, Coleman RL, Calin GA, Denkbass EB, Lim JY, Lee JS, Kundra V, **Birrer MJ**, Hung MC, Lopez-Berestein G, Sood AK. Regulation of tumor angiogenesis by EZH2 *Cancer Cell*. 2010 Aug 9;18(2):185-97. doi: 10.1016/j.ccr.2010.06.016. PMID: 20708159; PMCID: PMC2923653.
198. Kikuchi J, Kinoshita I, Shimizu Y, Kikuchi E, Takeda K, Aburatani H, Oizumi S, Konishi J, Kaga K, Matsuno Y, **Birrer MJ**, Nishimura M, Dosaka-Akita H. Minichromosome maintenance (MCM) protein 4 as a marker for proliferation and its clinical and clinicopathological significance in non-small cell lung cancer. *Lung Cancer*. 2011 May;72(2):229-37. doi: 10.1016/j.lungcan.2010.08.020. Epub 2010 Sep 29. PMID: 20884074.
199. Ghosh S, Albitar L, Lebaron R, Welch WR, Samimi G, **Birrer MJ**, Berkowitz RS, Mok SC. Up-regulation of stromal versican expression in advanced state serous ovarian cancer. *Gynecol Oncol*. 2010 Oct;119(1):114-20. doi: 10.1016/j.ygyno.2010.05.029. Epub 2010 Jul 8. PMID: 20619446; PMCID: PMC3000175.
200. Goode EL, Chenevix-Trench G, Song H, Ramus SJ, Notaridou M, Lawrenson K, Widschwendter M, Vierkant RA, Larson MC, Kjaer SK, **Birrer MJ**, Berchuck A, Schildkraut J, Tomlinson I, Kiemeny LA, Cook LS, Gronwald J, Garcia-Closas M, Gore ME, Campbell I, Whittemore AS, Sutphen R, Phelan C, Anton-Culver H, Pearce CL, Lambrechts D, Rossing MA, Chang-Claude J, Moysich KB, Goodman MT, Dörk T, Nevanlinna H, Ness RB, Rafnar T, Hogdall C, Hogdall E, Fridley BL, Cunningham JM, Sieh W, McGuire V, Godwin AK, Cramer DW, Hernandez D, Levine D, Lu K, Iversen ES, Palmieri RT, Houlston R, van Altena AM, Aben KK, Massuger LF, Brooks-Wilson A, Kelemen LE, Le ND, Jakubowska A, Lubinski J, Medrek K, Stafford A, Easton DF, Tyrer J, Bolton KL, Harrington P, Eccles D, Chen A, Molina AN, Davila BN, Arango H, Tsai YY, Chen Z, Risch HA, McLaughlin J, Narod SA, Ziogas A, Brewster W, Gentry-Maharaj A, Menon U, Wu AH, Stram DO, Pike MC; Wellcome Trust Case-Control Consortium, Beesley J, Webb PM; Australian Cancer Study (Ovarian Cancer); Australian Ovarian Cancer Study Group; Ovarian Cancer Association Consortium (OCAC). A genome-wide association study identifies susceptibility loci for ovarian cancer at 2q31 and 8q24. *Nat Genet*. 2010 Oct;42(10):874-9. doi: 10.1038/ng.668. Epub 2010 Sep 19. PMID: 20852632; PMCID: PMC3020231.
201. Bolton KL, Tyrer J, Song H, Ramus SJ, Notaridou M, Jones C, Sher T, Gentry-Maharaj A, Wozniak E, Tsai YY, Weidhaas J, Paik D, Van Den Berg DJ, Stram DO, Pearce CL, Wu AH, Brewster W, Anton-Culver H, Ziogas A, Narod SA, Levine DA, Kaye SB, Brown R, Paul J, Flanagan J, Sieh W, McGuire V, Whittemore AS, Campbell I, Gore ME, Lissowska J, Yang HP, Medrek K, Gronwald J, Lubinski J, Jakubowska A, Le ND, Cook LS, Kelemen LE, Brooks-Wilson A, Massuger LF, Kiemeny LA, Aben KK, van Altena AM, Houlston R, Tomlinson I, Palmieri RT, Moorman PG, Schildkraut J, Iversen ES, Phelan C, Vierkant RA, Cunningham JM, Goode EL,

- Fridley BL, Kruger-Kjaer S, Blaeker J, Hogdall E, Hogdall C, Gross J, Karlan BY, Ness RB, Edwards RP, Odunsi K, Moyisch KB, Baker JA, Modugno F, Heikkinen T, Butzow R, Nevanlinna H, Leminen A, Bogdanova N, Antonenkova N, Doerk T, Hillemanns P, Dürst M, Runnebaum I, Thompson PJ, Carney ME, Goodman MT, Lurie G, Wang-Gohrke S, Hein R, Chang-Claude J, Rossing MA, Cushing-Haugen KL, Doherty J, Chen C, Rafnar T, Besenbacher S, Sulem P, Stefansson K, **Birrer MJ**, Terry KL, Hernandez D, Cramer DW, Vergote I, Amant F, Lambrechts D, Despierre E, Fasching PA, Beckmann MW, Thiel FC, Ekici AB, Chen X; Australian Ovarian Cancer Study Group; Australian Cancer Study (Ovarian Cancer); Ovarian Cancer Association Consortium, Johnatty SE, Webb PM, Beesley J, Chanock S, Garcia-Closas M, Sellers T, Easton DF, Berchuck A, Chenevix-Trench G, Pharoah PD, Gayther SA. Common variants at 19p13 are associated with susceptibility to ovarian cancer. *Nat Genet.* 2010 Oct;42(10):880-4. doi: 10.1038/ng.666. Epub 2010 Sep 19. Erratum in: *Nat Genet.* 2016 Jan;48(1):101. Brook-Wilson, Angela [corrected to Brooks-Wilson, Angela]. PMID: 20852633; PMCID: PMC3125495.
202. **Birrer MJ**. The origin of ovarian cancer—is it getting clearer? *N Engl J Med.* 2010 Oct 14;363(16):1574-5. doi: 10.1056/NEJMe1009527. PMID: 20942676.
203. Trimble EL, **Birrer MJ**, Hoskins WJ, Marth C, Petryshyn R, Quinn M, Thomas GM, Kitchener HC. Current academic clinical trials in ovarian cancer: Gynecologic Cancer Intergrout (GCIG) and United States National Cancer Institute (NCI) clinical trials planning meeting, May, 2009. *Int J Gynecol Cancer.* 2010 Oct;20(7):1290-8. doi: 10.1111/IGC.0b013e3181ee1c01. Review. PMID: 21151709; PMCID: PMC2998994.
204. Matei D, Sill MW, Lankes HA, Degeest K, Bristow RE, Mutch D, Yamada SD, Cohn D, Calvert V, Farley J, Petricoin EF, **Birrer MJ**. Activity of Sorafenib in Recurrent Ovarian Cancer and Primary Peritoneal Carcinomatosis: A Gynecologic Oncology Group Trial. *Clin Oncol.* 2011 Jan 1;29(1):69-75. doi: 10.1200/JCO.2009.26.7856. Epub 2010 Nov 22. PMID: 21098323; PMCID: PMC3055861.
205. Emmanuel C, Gava N, Kennedy C, Balleine RL, Sharma R, Wain G, Brand A, Hogg R, Etemadmoghadam D, George J; Australian Ovarian Cancer Study Group, **Birrer MJ**, Clarke CL, Chenevix-Trench G, Bowtell DD, Harnett PR, deFazio A. Comparison of expression profiles in ovarian epithelium in vivo and ovarian cancer identifies novel candidate genes involved in disease pathogenesis. *PLoS One.* 2011 Mar 15;6(3):e17617. doi: 10.1371/journal.pone.0017617. PMID: 21423607; PMCID: PMC3057977.
206. Konstantinopoulos PA, Cannistra SA, Fountzilias H, Culhane A, Pillay K, Rueda B, Cramer D, Seiden M, **Birrer M**, Coukos G, Zhang L, Quackenbush J, Spentzos D. Integrated analysis of multiple microarray datasets identifies a reproducible survival predictor in ovarian cancer. *PLoS One.* 2011 Mar 29;6(3):e18202. doi: 10.1371/journal.pone.0018202. PMID: 21479231; PMCID: PMC3066217.
207. Helland A, Anglesio MS, George J, Cowin PA, Johnstone CN, House CM, Sheppard KE, Etemadmoghadam D, Melnyk N, Rustgi AK, Phillips WA, Johnsen H, Holm R, Kristensen GB, **Birrer MJ**, Australian Ovarian Cancer Study Group, Pearson RB, Børresen-Dale AL, Huntsman DG, Defazio A, Creighton CJ, Smyth GK, Bowtell DD. Deregulation of MYCN, LIN28B and LET7 in a Molecular Subtype of Aggressive High-Grade Serous Ovarian Cancers. *PLoS One.*

2011 Apr 13;6(4):e18064. doi: 10.1371/journal.pone.0018064. PMID: 21533284; PMCID: PMC3076323.

208. Anglesio MS, George J, Kulbe H, Friedlander M, Rischin D, Lemech C, Power J, Coward J, Cowin PA, House CM, Chakravarty P, Gorringer KL, Campbell IG; Australian Ovarian Cancer Study Group, Okamoto A, **Birrer MJ**, Huntsman DG, de Fazio A, Kalloger SE, Balkwill F, Gilks CB, Bowtell DD. IL6-STAT3-HIF signaling and therapeutic response to the angiogenesis inhibitor sunitinib in ovarian clear cell cancer. *Clin Cancer Res*. 2011 Apr 15;17(8):2538-48. doi: 10.1158/1078-0432.CCR-10-3314. Epub 2011 Feb 22. PMID: 21343371.
209. Ledermann JA, Marth C, Carey MS, **Birrer M**, Bowtell DD, Kaye S, McNeish I, Oza A, Scambia G, Rustin G, Stehman FB, Gershenson D, Thomas G, Berns E, Casado A, Ottevanger N, Hilpert F, Kim BG, Okamoto A, Bacon M, Kitchener H, Stuart GC; and on behalf of the Gynecologic Cancer InterGroup. Role of molecular agents and targeted therapy in clinical trials for women with ovarian cancer. *Int J Gynecol Cancer*. 2011 May 21(4):763-70. doi: 10.1097/IGC.0b013e31821b2669. PMID: 21543938.
210. Maritz MF, van der Watt PJ, Holderness N, **Birrer MJ**, Leaner VD. Inhibition of AP-1 suppresses cervical cancer cell proliferation and is associated with p21 expression. *Biol Chem*. 2011 May 392(5):439-48. doi: 10.1515/BC.2011.036. Epub 2011 Mar 22. PMID: 21417953.
211. Farley J, Sill MW, **Birrer M**, Walker J, Schilder RJ, Thigpen JT, Coleman RL, Miller E, Rose PG, Lankes HA. Phase II study of cisplatin plus cetuximab in advanced, recurrent, and previously treated cancers of the cervix and evaluation of epidermal growth factor receptor immunohistochemical expression: A Gynecologic Oncology Group study. *Gynecol Oncol*. 2011 May 1 121(2):303-8. doi: 10.1016/j.ygyno.2011.01.030. Epub 2011 Feb 16. PMID: 21329967. PMCID: PMC3081894.
212. Farley J, Smith LM, Darcy KM, Brady MF, Bell J, McGuire W, **Birrer MJ**. Nuclear P27 expression in benign, borderline (LMP) and invasive tumors of the ovary and its association with prognosis: A gynecologic oncology group study. *Gynecol Oncol*. 2011 May 1;121(2):395-401. doi: 10.1016/j.ygyno.2010.11.023. Epub 2011 Feb 18. PMID: 21310472.
213. King ER, Tung CS, Tsang YT, Zu Z, Lok GT, Deavers MT, Malpica A, Wolf JK, Lu KH, **Birrer MJ**, Mok SC, Gershenson DM, Wong KK. The Anterior Gradient Homolog 3 (AGR3) Gene Is Associated With Differentiation and Survival in Ovarian Cancer. *Am J Surg Pathol*. 2011 Jun;35(6):904-12. doi: 10.1097/PAS.0b013e318212ae22. PMID: 21451362; PMCID: PMC3095702.
214. Pharoah PD, Palmieri RT, Ramus SJ, Gayther SA, Andrulis IL, Anton-Culver H, Antonenkova N, Antoniou AC, Goldgar D; for the BCFR Investigators, Beattie MS, Beckmann MW, **Birrer MJ**, Bogdanova N, Bolton KL, Brewster W, Brooks-Wilson A, Brown R, Butzow R, Caldes T, Caligo MA, Campbell I, Chang-Claude J, Chen YA, Cook LS, Couch FJ, Cramer DW, Cunningham JM, Despierre E, Doherty JA, Dörk T, Dürst M, Eccles DM, Ekici AB, Easton D; for the EMBRACE Investigators, Fasching PA, de Fazio A, Fenstermacher DA, Flanagan JM, Fridley BL, Friedman E, Gao B, Sinilnikova O; for the GEMO Study Collaborators, Gentry-Maharaj A, Godwin AK, Goode EL, Goodman MT, Gross J, Hansen TV, Harnett P, Rookus M; for the HEBON Investigators, Heikkinen T, Hein R, Høgdall C, Høgdall E, Iversen ES, Jakubowska A, Johnatty SE, Karlan BY,

- Kauff ND, Kaye SB, Chenevix-Trench G; for the kConFab Investigators and the Consortium of Investigators of Modifiers of BRCA1/2, Kelemen LE, Kiemeny LA, Kjaer SK, Lambrechts D, Lapolla JP, Lázaro C, Le ND, Leminen A, Leunen K, Levine DA, Lu Y, Lundvall L, Macgregor S, Marees T, Massuger LF, McLaughlin JR, Menon U, Montagna M, Moysich KB, Narod SA, Nathanson KL, Nedergaard L, Ness RB, Nevanlinna H, Nickels S, Osorio A, Paul J, Pearce CL, Phelan CM, Pike MC, Radice P, Rossing MA, Schildkraut JM, Sellers TA, Singer CF, Song H, Stram DO, Sutphen R, Lindblom A; for the SWE-BRCA Investigators, Terry KL, Tsai YY, van Altena AM, Vergote I, Vierkant RA, Vitonis AF, Walsh C, Wang-Gohrke S, Wappenschmidt B, Wu AH, Ziogas A, Berchuck A, Risch HA; for the Ovarian Cancer Association Consortium. The Role of KRAS rs61764370 in Invasive Epithelial Ovarian Cancer: Implications for Clinical Testing. *Clin Cancer Res*. 2011 Jun 1;17(11):3742-3750. doi: 10.1158/1078-0432.CCR-10-3405. Epub 2011 Mar 8. PMID: 21385923; PMCID: PMC3107901.
215. Permuth-Wey J, Kim D, Tsai YY, Lin HY, Chen YA, Barnholtz-Sloan J, **Birrer MJ**, Bloom G, Chanock SJ, Chen Z, Cramer DW, Cunningham JM, Dagne G, Ebbert-Syrett J, Fenstermacher D, Fridley BL, Garcia-Closas M, Gayther SA, Ge W, Gentry-Maharaj A, Gonzalez-Bosquet J, Goode EL, Iversen E, Jim H, Kong W, McLaughlin J, Menon U, Monteiro AN, Narod SA, Pharoah PD, Phelan CM, Qu X, Ramus SJ, Risch H, Schildkraut JM, Song H, Stockwell H, Sutphen R, Terry KL, Tyrer J, Vierkant RA, Wentzensen N, Lancaster JM, Cheng JQ, Sellers TA; Ovarian Cancer Association Consortium. LIN28B polymorphisms influence susceptibility to epithelial ovarian cancer. *Cancer Res*. 2011 Jun 1;71(11):3896-903. doi: 10.1158/0008-5472.CAN-10-4167. Epub 2011 Apr 11. PMID: 21482675; PMCID: PMC3107389.
 216. Bodurka DC, Deavers MT, Tian C, Sun CC, Malpica A, Coleman RL, Lu KH, Sood AK, **Birrer MJ**, Ozols R, Baergen R, Emerson RE, Steinhoff M, Behmaram B, Rasty G, Gershenson DM. Reclassification of serous ovarian carcinoma by a 2-tier system: A Gynecologic Oncology Group Study. *Cancer*. 2012 Jun 15;118(12):3087-94. doi: 10.1002/cncr.26618. Epub 2011 Nov 9. PMID: 22072418.
 217. Cancer Genome Atlas Research Network. Integrated genomic analyses of ovarian carcinoma. *Nature*. 2011 Jun 29;474(7353):609-15. doi: 10.1038/nature10166. PMID: 21720365. PMCID: PMC3163504.
 218. Stany MP, Vathipadikal V, Ozbun L, Stone RL, Mok SC, Xue H, Kagami T, Wang Y, McAlpine JN, Bowtell D, Gout PW, Miller DM, Gilks CB, Huntsman DG, Ellard SL, Wang YZ, Vivas-Mejia P, Lopez-Berestein G, Sood AK, **Birrer MJ**. Identification of novel therapeutic targets in microdissected clear cell ovarian cancers. *PLoS One*. 2011;6(7):e21121. doi: 10.1371/journal.pone.0021121. Epub 2011 Jul 6. PMID: 21754983; PMCID: PMC3130734.
 219. Righi E, Kashiwagi S, Yuan J, Santosuosso M, Leblanc P, Ingraham R, Forbes B, Edelblute B, Collette B, Xing D, Kowalski M, Mingari MC, Vianello F, **Birrer MJ**, Orsulic S, Dranoff G, Poznansky M. CXCL12/CXCR4 blockade induces multimodal anti-tumor effects and prolongs survival of immune competent mice with ovarian cancer. *Cancer Res*. 2011 Aug 15;71(16):5522-5534. doi: 10.1158/0008-5472.CAN-10-3143. Epub 2011 Jul 8. PMID: 21742774. PMCID: PMC3959864.
 220. Hagemann AR, Cadungog M, Hagemann IS, Hammond R, Adams SF, Chu CS, Rubin S, Zhang L,

- Addya K, **Birrer MJ**, Gimotty PA, Coukos G. Tissue-based immune monitoring I: Tumor core needle biopsies allow in-depth interrogation of the tumor microenvironment. *Cancer Biol Ther*. 2011 Aug 15;12(4):357-66. Epub 2011 Aug 15. PMID: 21785264; PMCID: PMC3173733.
221. Hagemann AR, Hagemann IS, Cadungog M, Hwang WT, Patel P, Lal P, Hammond R, Gimotty PA, Chu CS, Rubin S, **Birrer MJ**, Powell DJ Jr, Feldman MD, Coukos G. Tissue-based immune monitoring II: Multiple tumor sites reveal immunologic homogeneity in serous ovarian carcinoma. *Cancer Biol Ther*. 2011 Aug 15;12(4):367-77. Epub 2011 Aug 15. PMID: 21785280; PMCID: PMC3173734.
222. Permuth-Wey J, Chen Z, Tsai YY, Lin HY, Chen YA, Barnholtz-Sloan J, **Birrer MJ**, Chanock SJ, Cramer DW, Cunningham JM, Fenstermacher D, Fridley BL, Garcia-Closas M, Gayther SA, Gentry-Maharaj A, Gonzalez Bosquet J, Iversen E, Jim H, McLaughlin J, Menon U, Narod SA, Phelan CM, Ramus SJ, Risch H, Song H, Sutphen R, Terry KL, Tyrer J, Vierkant RA, Wentzensen N, Lancaster JM, Cheng JQ, Berchuck A, Pharoah PD, Schildkraut JM, Goode EL, Sellers TA. MicroRNA processing and binding site polymorphisms are not replicated in the Ovarian Cancer Association Consortium. *Cancer Epidemiol Biomarkers Prev*. 2011 Aug;20(8):1793-1797. doi: 10.1158/1055-9965.EPI-11-0397. Epub 2011 Jun 2. PMID: 21636674; PMCID: PMC3153581.
223. Bitler BG, Nicodemus JP, Li H, Cai Q, Wu H, Hua X, Li T, **Birrer MJ**, Godwin AK, Cairns P, Zhang R. Wnt5a Suppresses Epithelial Ovarian Cancer by Promoting Cellular Senescence. *Cancer Res*. 2011 Oct 1;71(19):6184-94. doi: 10.1158/0008-5472.CAN-11-1341. Epub 2011 Aug 4. PMID: 21816908; PMCID: PMC3185156.
224. McCann CK, Growdon WB, Kulkarni-Datar K, Curley MD, Friel AM, Proctor JL, Sheikh H, Deyneko I, Ferguson JA, Vathipadiekal V, **Birrer MJ**, Borger DR, Mohapatra G, Zukerberg LR, Foster R, Macdougall JR, Rueda BR. Inhibition of hedgehog signaling antagonizes serous ovarian cancer growth in a primary xenograft model. *PLoS One*. 2011;6(11):e28077. doi: 10.1371/journal.pone.0028077. Epub 2011 Nov 29. PMID: 22140510; PMCID: PMC3226669.
225. Burger RA, Brady MF, Bookman MA, Fleming GF, Monk BJ, Huang H, Mannel RS, Homesley HD, Fowler J, Greer BE, Boente M, **Birrer MJ**, Liang SX; Gynecologic Oncology Group. Incorporation of bevacizumab in the primary treatment of ovarian cancer. *N Engl J Med*. 2011 Dec 29;365(26):2473-83. doi: 10.1056/NEJMoa1104390. PMID: 22204724.
226. Vathipadiekal V, Saxena D, Mok SC, Hauschka PV, Ozbun L, **Birrer MJ**. Identification of a potential ovarian cancer stem cell gene expression profile from advanced stage papillary serous ovarian cancer. *PLoS One*. 2012;7(1):e29079. doi: 10.1371/journal.pone.0029079. Epub 2012 Jan 17. PMID: 22272227; PMCID: PMC3260150.
227. White KL, Schildkraut JM, Palmieri RT, Iversen ES, Berchuck A, Vierkant RA, Rider DN, Charbonneau B, Cicek MS, Sutphen R, **Birrer MJ**, Pharoah PD, Song H, Tyrer J, Gayther SA, Ramus SJ, Wentzensen N, Yang HP, Garcia-Closas M, Phelan CM, Cunningham JM, Fridley BL, Sellers TA, Goode EL. Ovarian Cancer Risk Associated with Inherited Inflammation-Related Variants. *Cancer Res*. 2012 Mar 1;72(5):1064-1069. doi: 10.1158/0008-5472.CAN-11-3512. Epub 2012 Jan 26. PMID: 22282663; PMCID: PMC3293997.

228. Li H, Bitler BG, Vathipadiekal V, Maradeo ME, Slifker M, Creasy CL, Tummino PJ, Cairns P, **Birrer MJ**, Zhang R. ALDH1A1 Is a Novel EZH2 Target Gene in Epithelial Ovarian Cancer Identified by Genome-Wide Approaches. *Cancer Prev Res (Phila)*. 2012 Mar;5(3):484-91. doi: 10.1158/1940-6207.CAPR-11-0414. Epub 2011 Dec 5. PMID: 22144423; PMCID: PMC3294119.
229. Stevens KN, Kelemen LE, Wang X, Fridley BL, Vierkant RA, Fredericksen Z, Armasu SM, Tsai YY, Berchuck A, Association Consortium OC, Narod SA, Phelan CM, Sutphen R, **Birrer MJ**, Schildkraut JM, Sellers TA, Goode EL, Couch FJ. Common variation in Nemo-like kinase (NLK) is associated with risk of ovarian cancer. *Cancer Epidemiol Biomarkers Prev*. 2012 Mar;21(3):523-528. doi: 10.1158/1055-9965.EPI-11-0797. Epub 2012 Jan 17. PMID: 22253297; PMCID: PMC3297683.
230. Del Carmen MG, **Birrer M**, Schorge JO. Carcinosarcoma of the ovary: A review of the literature. *Gynecol Oncol*. 2012 Apr;125(1):271-7. doi: 10.1016/j.ygyno.2011.12.418. Epub 2011 Dec 8. PMID: 22155675.
231. Ferriss JS, Kim Y, Duska L, **Birrer M**, Levine DA, Moskaluk C, Theodorescu D, Lee JK. Multi-gene expression predictors of single drug responses to adjuvant chemotherapy in ovarian carcinoma: predicting platinum resistance. *PLoS One*. 2012;7(2):e30550. doi: 10.1371/journal.pone.0030550. Epub 2012 Feb 10. PMID: 22348014. PubMed Central PMC3277593.
232. Engler DA, Gupta S, Growdon WB, Drapkin RI, Nitta M, Sergeant PA, Allred SF, Gross J, Deavers MT, Kuo WL, Karlan BY, Rueda BR, Orsulic S, Gershenson DM, **Birrer MJ**, Gray JW, Mohapatra G. Genome wide DNA copy number analysis of serous type ovarian carcinomas identifies genetic markers predictive of clinical outcome. *PLoS One*. 2012;7(2):e30996. doi: 10.1371/journal.pone.0030996. Epub 2012 Feb 15. PMID: 22355333; PMCID: PMC3280266.
233. Kassler S, Donninger H, **Birrer MJ**, Clark GJ. RASSF1A and the Taxol Response in Ovarian Cancer. *Mol Bio Int*. 2012;263267. doi: 10.1155/2012/263267. Epub 2012 Apr 3. PMID: 22548172; PMCID: PMC3324163.
234. Rubatt JM, Darcy KM, Tian C, Muggia F, Dhir R, Armstrong DK, Bookman MA, Niedernhofer LJ, Deloia J, **Birrer M**, Krivak TC. Pre-treatment tumor expression of ERCC1 in women with advanced stage epithelial ovarian cancer is not predictive of clinical outcomes: a Gynecologic Oncology Group study. *Gynecol Oncol*. 2012 May;125(2):421-6. doi:10.1016/j.ygyno.2012.01/008. Epub 2012 Jan 16. PMID: 22261301; PMCID: PMC3490188.
235. Alsop K, Fereday S, Meldrum C, Defazio A, Emmanuel C, George J, Dobrovic A, **Birrer MJ**, Webb PM, Stewart C, Friedlander M, Fox S, Bowtell D, Mitchell G. BRCA Mutation Frequency and Patterns of Treatment Response in BRCA Mutation-Positive Women With Ovarian Cancer: A Report From the Australian Ovarian Cancer Study Group. *J Clin Oncol*. 2012 Jul 20;30(21):2654-63. doi: 10.1200/JCO.2011.39.8545. Epub 2012 Jun 18. Erratum in: *J Clin Oncol*. 2012 Nov 20;30(33):4180. PMID: 22711857; PMCID: PMC3413277.
236. Del Carmen MG, **Birrer M**, Schorge JO. Clear cell carcinoma of the ovary: A review of the literature. *Gynecol Oncol*. 2012 Sep;126(3):481-90. doi: 10.1016/j.ygyno.2012.04.021. Epub 2012 Apr 21. PMID: 22525820.

237. Del Carmen MG, **Birrer M**, Schorge JO. Uterine papillary serous cancer: A review of the literature. *Gynecol Oncol.* 2012 Dec; 127(3):651-61. doi: 10.1016/j.ygyno.2012.09.012. Epub 2012 Sep 20. PMID: 23000148.
238. Sethi G, Pathak HB, Zhang H, Zhou Y, Einarson MB, Vathipadiekal V, Gunewardena S, **Birrer MJ**, Godwin AK. An RNA interference lethality screen of the human druggable genome to identify molecular vulnerabilities in epithelial ovarian cancer. *PLoS One.* 2012;7(10):e47086. doi: 10.1371/journal.pone.0047086. Epub 2012 Oct 9. doi: 10.1371/journal.pone.0047086. Epub 2012 Oct 9. PMID: 23056589; PMCID: PMC3467214.
239. Li H, Cai Q, Wu H, Vathipadiekal V, Dobbin ZC, Li T, Hua X, Landen CN Jr, **Birrer MJ**, Sanchez-Beato M, Zhang R. SUZ12 promotes human epithelial ovarian cancer by suppressing apoptosis via silencing HRK. *Mol Cancer Res.* 2012 Nov; 10 (11): 1462-72. doi: 10.1158/1541-7786.MCR-12-0335. Epub 2012 Sep 10. PMID: 22964433. PMCID: PMC3501543.
240. May T, Shoni M, Crum CP, Xian W, Vathipadiekal V, **Birrer M**, Rosen B, Tone A, Murphy KJ. Low-grade and high-grade serous Mullerian carcinoma: Review and analysis of publicly available gene expression profiles. *Gynecol Oncol.* 2012 Dec 16. S0090-8258(12)00956-0. doi: 10.1016/j.ygyno.2012.12.009. doi: 10.1016/j.ygyno.2012.12.009. Epub 2012 Dec 16. PMID: 23253401.
241. Verhaak RG, Tamayo P, Yang JY, Hubbard D, Zhang H, Creighton CJ, Fereday S, Lawrence M, Carter SL, Mermel CH, Kostic AD, Etemadmoghadam D, Saksena G, Cibulskis K, Duraisamy S, Levanon K, Sougnez C, Tsherniak A, Gomez S, Onofrio R, Gabriel S, Chin L, Zhang N, Spellman PT, Zhang Y, Akbani R, Hoadley KA, Kahn A, Köbel M, Huntsman D, Soslow RA, Defazio A, **Birrer MJ**, Gray JW, Weinstein JN, Bowtell DD, Drapkin R, Mesirov JP, Getz G, Levine DA, Meyerson M. Prognostically relevant gene signatures of high-grade serous ovarian carcinoma. *J Clin Invest.* 2013 Jan 2;123(1):517-25. doi: 10.1172/JCI65833. Epub 2012 Dec 21. PMID: 23257362; PMCID: PMC3533304.
242. Zaid T, Yeung TL, Thompson MS, Leung C, Harding T, Co N, Schmandt RE, Kwan SY, Rodriguez-Aguayo C, Lopez-Berestein G, Sood AK, Wong KK, **Birrer MJ**, Mok SC Identification of FGFR4 as a Potential Therapeutic Target for Advanced-Stage High-grade Serous Ovarian Cancer. *Clin Cancer Res.* 2013 Jan 29. doi: 10.1158/1078-0432.CCR-12-2736. Epub 2013 Jan 23. PMID: 23344261; PMCID: PMC3577959.
243. Farley J, Brady WE, Vathipadiekal V, Lankes HA, Coleman R, Morgan MA, Mannel R, Yamada SD, Mutch D, Rodgers WH, **Birrer M**, Gershenson DM. Selumetinib in women with recurrent low-grade serous carcinoma of the ovary or peritoneum: an open-label, single-arm, phase 2 study. *Lancet Oncol.* 2013 Feb;14(2):134-140. doi: 10.1016/S1470-2045(12)70572-7. Epub 2012 Dec 21. PMID: 23261356. PMCID: PMC3627419.
244. Permuth-Wey J, Lawrenson K, Shen HC, Velkova A, Tyrer JP, Chen Z, Lin HY, Ann Chen Y, Tsai YY, Qu X, Ramus SJ, Karevan R, Lee J, Lee N, Larson MC, Aben KK, Anton-Culver H, Antonenkova N, Antoniou AC, Armasu SM; stralian Cancer Study; stralian Ovarian Cancer Study, Bacot F, Baglietto L, Bandera EV, Barnholtz-Sloan J, Beckmann MW, **Birrer MJ**, Bloom G, Bogdanova N, Brinton LA, Brooks-Wilson A, Brown R, Butzow R, Cai Q, Campbell I, Chang-

- Claude J Chanock S, Chenevix-Trench G, Cheng JQ, Cicek MS, Coetzee GA; Consortium of Investigators of Modifiers of BRCA1/2, Cook LS, Couch FJ, Cramer DW, Cunningham JM, Dansonka-Mieszkowska A, Despierre E, Doherty JA, Dörk T, du Bois A, Dürst M, Easton DF, Eccles D, Edwards R, Ekici AB, Fasching PA, Fenstermacher DA, Flanagan JM, Garcia-Closas M, Gentry-Maharaj A, Giles GG, Glasspool RM, Gonzalez-Bosquet J, Goodman MT, Gore M, Górski B, Gronwald J, Hall P, Halle MK, Harter P, Heitz F, Hillemanns P, Hoatlin M, Høgdall CK, Høgdall E, Hosono S, Jakubowska A, Jensen A, Jim H, Kalli KR, Karlan BY, aye SB, Kelemen LE, Kiemeney LA, Kikkawa F, Konecny GE, Krakstad C, Krüger Kjaer S, Kupryjanczyk J, Lambrechts D, Lambrechts S, Lancaster JM, Le ND, Leminen A, Levine DA, Liang D, Kiong Lim B, Lin J, Lissowska J, Lu KH, Lubiński J, Lurie G, Massuger LF, Matsuo K, McGuire V, McLaughlin JR, Menon U, Modugno F, Moysich KB, Nakanishi T, Narod SA, Nedergaard L, Ness RB, Nevanlinna H, Nickels S, Noushmehr H, Odunsi K, Olson SH, Orlow I, Paul J, Pearce CL, Pejovic T, Pelttari LM, Pike MC, Poole EM, Raska P, Renner SP, Risch HA, Rodriguez-Rodriguez L, Anne Rossing M, Rudolph A, Runnebaum IB, Rzepecka IK, Salvesen HB, Schwaab I, Severi G, Shridhar V, Shu XO, Shvetsov YB, Sieh W, Song H, Southey MC, Spiewankiewicz B, Stram D, Sutphen R, Teo SH, Terry KL, Tessier DC, Thompson PJ, Tworoger SS, van Altena AM, Vergote I, Vierkant RA, Vincent D, Vitonis AF, Wang-Gohrke S, Palmieri Weber R, Wentzensen N, Whittemore AS, Wik E, Wilkens LR, Winterhoff B, Ling Woo Y, Wu AH, Xiang YB, Yang HP, Zheng W, Ziogas A, Zulkifli F, Phelan CM, Iversen E, Schildkraut JM, Berchuck A, Fridley BL, Goode EL, Pharoah PD, Monteiro AN, Sellers TA, Gayther SA. Identification and molecular characterization of a new ovarian cancer susceptibility locus at 17q21.31. *Nat Commun.* 2013 Mar 27;4:1627. doi: 10.1038/ncomms2613. PMID: 23535648; PubMed Central PMCID: PMC3709460.
245. Ganzfried BF, Riester M, Haibe-Kains B, Risch T, Tyekucheva S, Jazic I, Wang XV, Ahmadifar M, **Birrer MJ**, Parmigiani G, Huttenhower C, Waldron L. CuratedOvarianData: Clinically annotated data for the ovarian cancer transcriptome. *Database (Oxford)*. 2013 Apr 2;2013: bat013. doi: 10.1093/database/bat013. Print 2013. PMID: 23550061; PMCID: PMC3625954.
246. Pharoah PD, Tsai YY, Ramus SJ, Phelan CM, Goode EL, Lawrenson K, Buckley M, Fridley BL, Tyrer JP, Shen H, Weber R, Karevan R, Larson MC, Song H, Tessier DC, Bacot F, Vincent D, Cunningham JM, Dennis J, Dicks E; stralian Cancer Study; stralian Ovarian Cancer Study Group, Aben KK, Anton-Culver H, Antonenkova N, Armasu SM, Baglietto L, Bandera EV, Beckmann MW, **Birrer MJ**, Bloom G, Bogdanova N, Brenton JD, Brinton LA, Brooks-Wilson A, Brown R, Butzow R, Campbell I, Carney ME, Carvalho RS, Chang-Claude J, Chen YA, Chen Z, Chow WH, Cicek MS, Coetzee G, Cook LS, Cramer DW, Cybulski C, Dansonka-Mieszkowska A, Despierre E, Doherty JA, Dörk T, du Bois A, Dürst M, Eccles D, Edwards R, Ekici AB, Fasching PA, Fenstermacher D, Flanagan J, Gao YT, Garcia-Closas M, Gentry-Maharaj A, Giles G, Gjyshi A, Gore M, Gronwald J, Guo Q, Halle MK, Harter P, Hein A, Heitz F, Hillemanns P, Hoatlin M, Høgdall E, Høgdall CK, Hosono S, Jakubowska A, Jensen A, Kalli KR, Karlan BY, Kelemen LE, Kiemeney LA, Kjaer SK, Konecny GE, Krakstad C, Kupryjanczyk J, Lambrechts D, Lambrechts S, Le ND, Lee N, Lee J, Leminen A, Lim BK, Lissowska J, Lubiński J, Lundvall L, Lurie G, Massuger LF, Matsuo K, McGuire V, McLaughlin JR, Menon U, Modugno F, Moysich KB, Nakanishi T, Narod SA, Ness RB, Nevanlinna H, Nickels S, Noushmehr H, Odunsi K, Olson S, Orlow I, Paul J, Pejovic T, Pelttari LM, Permuth-Wey J, Pike MC, Poole EM, Qu X, Risch HA, Rodriguez-Rodriguez L, Rossing MA, Rudolph A, Runnebaum I, Rzepecka IK, Salvesen HB, Schwaab I, Severi G, Shen H, Shridhar V, Shu XO, Sieh W, Southey MC, Spellman P, Tajima K, Teo SH, Terry KL, Thompson PJ, Timorek A, Tworoger SS, van Altena AM, van den Berg D, Vergote I,

- Vierkant RA, Vitonis AF, Wang-Gohrke S, Wentzensen N, Whittemore AS, Wik E, Winterhoff B, Woo YL, Wu AH, Yang HP, Zheng W, Ziogas A, Zulkifli F, Goodman MT, Hall P, Easton DF, Pearce CL, Berchuck A, Chenevix-Trench G, Iversen E, Monteiro AN, Gayther SA, Schildkraut JM, Sellers TA. GWAS meta-analysis and replication identifies three new susceptibility loci for ovarian cancer. *Nat Genet.* 2013 Apr;45(4):362-70. 370e1-2. doi: 10.1038/ng.2564. PMID: 23535730; PMCID: PMC3693183.
247. Lesnock JL, Darcy KM, Tian C, Deloia JA, Thrall MM, Zahn C, Armstrong DK, **Birrer MJ**, Krivak TC. BRCA1 expression and improved survival in ovarian cancer patients treated with intraperitoneal cisplatin and paclitaxel: a Gynecologic Oncology Group Study. *Br J Cancer.* 2013 Apr 2;108(6):1231-7. doi: 10.1038/bjc.2013.70. Epub 2013 Mar 5. PMID: 23462720; PMCID: PMC3619264.
 248. Goode EL, DeRycke M, Kalli KR, Oberg AL, Cunningham JM, Maurer MJ, Fridley BL, Armasu SM, Serie DJ, Ramar P, Goergen K, Vierkant RA, Rider DN, Sicotte H, Wang C, Winterhoff B, Phelan CM, Schildkraut JM, Weber RP, Iversen E, Berchuck A, Sutphen R, **Birrer MJ**, Hampras S, Preus L, Gayther SA, Ramus SJ, Wentzensen N, Yang HP, Garcia-Closas M, Song H, Tyrer J, Pharoah PP, Konecny G, Sellers TA, Ness RB, Sucheston LE, Odunsi K, Hartmann LC, Moysich KB, Knutson KL. Inherited variants in regulatory T cell genes and outcome of ovarian cancer. *PLoS One.* 2013;8(1):e53903. doi: 10.1371/journal.pone.0053903. Epub 2013 Jan 30. PMID: 23382860; PMCID: PMC3559692.
 249. Cancer Genome Atlas Research Network, Kandoth C, Schultz N, Cherniack AD, Akbani R, Liu Y, Shen H, Robertson AG, Pashtan I, Shen R, Benz CC, Yau C, Laird PW, Ding L, Zhang W, Mills GB, Kucherlapati R, Mardis ER, Levine DA. Integrated genomic characterization of endometrial carcinoma. *Nature.* 2013 May 2;497(7447):67-73. doi: 10.1038/nature12113. PMID: 23636398; PMCID: PMC3704730.
 250. Bradford LS, Rauh-Hain JA, Schorge J, **Birrer MJ**, Dizon DS. Advances in the Management of Recurrent Endometrial Cancer. *Am J Clin Oncol.* 2013 Jun 11; doi: 10.1097/COC.0b013e31829a2974. Review. PMID:23764681
 251. Holderness Parker N, Donninger H, **Birrer MJ**, Leaner VD. p21-activated kinase 3 (PAK3) is an AP-1 regulated gene contributing to actin organisation and migration of transformed fibroblasts. *PLoS One.* 2013 Jun 20;8(6):e66892. doi:10.1371/journal.pone.0066892. Print 2013. PMID: 23818969; PMCID: PMC3688571.
 252. Yeung TL, Leung CS, Wong KK, Samimi G, Thompson MS, Liu J, Zaid TM, Ghosh S, **Birrer MJ**, Mok SC. TGF- β modulates ovarian cancer invasion by upregulating CAF-derived versican in the tumor micro-environment. *Cancer Res.* 2013 Aug 15;73(16):5016-28. doi: 10.1158/0008-5472.CAN-13-0023. Epub 2013 Jul 3. PMID: 23824740; PMCID: PMC3745588.
 253. Liu JF, Tolane SM, **Birrer M**, Fleming GF, Buss MK, Dahlberg SE, Lee H, Whalen C, Tyburski K, Winer E, Ivy P, Matulonis UA. A Phase 1 trial of the poly(ADP-ribose) polymerase inhibitor olaparib (AZD2281) in combination with the anti-angiogenic cediranib (AZD2171) in recurrent epithelial ovarian or triple-negative breast cancer. *Eur J Cancer.* 2013 Sep;49(14):2972-8. doi:10.1016/j.ejca.2013.05.020. Epub 2013 Jun 27. PMID: 23810467; PMCID: PMC3956307.

254. He L, Guo L, Vathipadiekal V, Sergeant PA, Growdon WB, Engler DA, Rueda BR, **Birrer MJ**, Orsulic S, Mohapatra G. Identification of LMX1B as a novel oncogene in human ovarian cancer. *Oncogene*. 2013 Sep 23. doi: 10.1038/onc.2013.375. PMID: 24056967.
255. Rauh-Hain JA, Guseh SH, Esselen KM, Growdon WB, Schorge JO, Horowitz NS, Krasner CN, del Carmen MG, **Birrer MJ**, Dizon DS. Patterns of recurrence in patients treated with bevacizumab in the primary treatment of advanced epithelial ovarian cancer. *Int J Gynecol Cancer*. 2013 Sep;23(7):1219-25. doi: 10.1097/IGC.0b013e31829f17c9. PMID: 23975042.
256. Penson RT, Dizon DS, **Birrer MJ**. Clear cell cancer of the ovary. *Curr Opin Oncol*. 2013 Sep;25(5):553-7. doi: 10.1097/CCO.0b013e328363e0c7. Review. PMID: 23942300.
257. Levanon K, Sapoznik S, Bahar-Shany K, Brand H, Shapira-Frommer R, Korach J, Hirsch MS, Roh MH, Miron A, Liu JF, Vena N, Ligon AH, Fotheringham S, Bailey D, Flavin RJ, **Birrer MJ**, Drapkin RI. FOXO3a loss is a frequent early event in high-grade pelvic serous carcinogenesis. *Oncogene*. 2013 Sep 30. doi:10.1038/onc.2013.394. PMID: 24077281; PMCID: PMC3969866.
258. Wei W, Mok SC, Oliva E, Kim SH, Mohapatra G, **Birrer MJ**. FGF18 as a prognostic and therapeutic biomarker in ovarian cancer. *J Clin Invest*. 2013 Oct 1;123(10):4435-48. doi: 10.1172/JCI70625. Epub 2013 Sep 9. PMID: 24018557; PMCID: PMC3784549.
259. Creutzberg CL, Kitchener HC, **Birrer MJ**, Landoni F, Lu KH, Powell M, Aghajanian C, Edmondson R, Goodfellow PJ, Quinn M, Salvesen HB, Thomas G. GCIG Endometrial Cancer Clinical Trials Planning Meeting. Gynecologic Cancer InterGroup (GCIG) endometrial cancer clinical trials planning meeting: taking endometrial cancer trials into the translational era. *Int J Gynecol Cancer*. 2013 Oct;23(8):1528-34. doi: 10.1097/IGC.0b013e3182a26edb. PMID: 24257568.
260. Dizon DS, Ambrosio AJ, Feltmate C, Wright AA, Campos SM, Viswanathan A. Cervical Cancer Special Interest Group of Dana-Farber/Harvard Comprehensive Cancer Center Gynecologic Cancer Management Team. Pushing the bar in treatment of cervical cancer: what can comprehensive cancer centers do on their own? *Gynecol Oncol*. 2013 Nov;131(2):464-6. doi: 10.1016/j.ygyno.2013.08.002. Epub 2013 Aug 9. PMID: 23938373.
261. Tanwar PS, Mohapatra G, Chiang S, Engler DA, Zhang L, Kaneko-Tarui T, Ohguchi Y, **Birrer MJ**, Teixeira JM. Loss of LKB1 and PTEN tumor suppressor genes in the ovarian surface epithelium induces papillary serous ovarian cancer. *Carcinogenesis*. 2014 Mar;35(3):546-53. doi: 10.1093/carcin/bgt357. Epub 2013 Oct 29. PMID: 24170201; PMCID: PMC3941742.
262. Peterson VM, Castro CM, Chung J, Miller NC, Ullal AV, Castano MD, Penson RT, Lee H, **Birrer MJ**, Weissleder R. Ascites analysis by a microfluidic chip allows tumor-cell profiling. *Proc Natl Acad Sci U S A*. 2013 Dec 17;110(51):E4978-86. doi:10.1073/pnas.1315370110. Epub 2013 Dec 2. PMID: 24297935; PMCID: PMC3870756.
263. Wei W, Dizon D, Vathipadiekal V, **Birrer MJ**. Ovarian cancer: genomic analysis. *Ann Oncol*. 2013 Dec; 24 Suppl 10:x7-x15. doi: 10.1093/annonc/mdt462. PMID: 24265410; PMCID: PMC3836569.
264. Jeong W, Kim SB, Sohn BH, Park YY, Park ES, Kim SC, Kim SS, Johnson RL, **Birrer M**, Bowtell DS, Mills GB, Sood A, Lee JS. Activation of YAP1 Is Associated with Poor Prognosis and

- Response to Taxanes in Ovarian Cancer. *Anticancer Res.* 2014 Feb;34(2):811-7. PMID: 24511017; PMCID: PMC4082822.
265. Bookman MA, Gilks CB, Kohn EC, Kaplan KO, Huntsman D, Aghajanian C, **Birrer MJ**, Ledermann JA, Oza AM, Sweneron KD. Better therapeutic trials in ovarian cancer. *J Natl Cancer Inst.* 2014 April 1;106(4):dju029. doi: 10.1093/jnci/dju029. Epub 2014 Mar 13. Review. PMID: 24627272; PMCID: PMC3982885.
 266. Riester M, Wei W, Waldron L, Culhane AC, Trippa L, Oliva E, Kim S, Michor F, Hutterenhower C, Parmigiani G, **Birrer MJ**. Risk prediction for late-stage ovarian cancer by meta-analysis of 1525 patient samples. *J Natl Cancer Instit.* 2014 April 3;106(5): dju 048. April 3 PMID: 24700803; PMCID: PMC4580556.
 267. Waldron L, Haibe-Kains B, Culhane AC, Riester M, Ding J, Wang XV, Ahmadifar M, Tyekucheva S, Bernau C, Risch T, Ganzfried BF, Hutterer C, **Birrer MJ**, Parmigiani G. Comparative meta-analysis of prognostic gene signatures for late-stage ovarian cancer. *J Natl Cancer Instit.* 2014 April 3;106(5): dju 049. doi: 10.1093/jnci/dju049. PMID: 24700801; PMCID: PMC4580554.
 268. **Birrer MJ**. Ovarian cancer: targeting the untargetable. *Am Soc Clin Oncol Educ Book.* 2014;34:13-5. doi: 10.14694/EdBook_AM.2014.34.13. Review. PMID: 24857054.
 269. Dizon DS, **Birrer MJ**. Advances in the diagnosis and treatment of uterine sarcomas. *Disc Med.* 2014 Jun;17(96):339-45. Review. PMID: 24979254.
 270. Leung CS, Yeung TL, Yip KP, Pradeep S, Balasubramanian L, Liu J, Wong KK, Mangala LS, Armaiz-Pena GN, Lopez-Berestein G, Sood AK, **Birrer MJ**, Mok SC. Calcium dependent FAK/CREB/TNNC1 signaling mediates the effect of stromal MFAP% on ovarian cancer metastatic potential. *Nat Commun* 2014, Oct 3;5:5092. doi:10.1038/ncomms6092. PMID: 25277212; PMCID: PMC4185407.
 271. Matulonis U, Vergote I, Backes F, Martin LP, McMeekin S, **Birrer M**, Campana F, Xu Y, Egile C, Ghamande S. Phase II study of the P13K inhibitor pilaralisib (SAR245408; XL147) in patients with advanced or recurrent endometrial carcinoma. *Gynecol Oncol.* 2014 Dec 17. pii: S0090-8258(14)01574-1. doi: 10.1016/j.ygyno.2014.12.019. PMID: 25528496.
 272. Ghosh D, Bagley AF, NaYJ, **Birrer MJ**, Bhatia SN, Beleher AM. Deep, noninvasive imaging and surgical guidance of submillimeter tumors using targeted M13-stabilized single-walled carbon nanotubes. *Proc Natl Acad Sci USA.* 2014 Sep 23;111(38):13948-53. doi:10.1073/pnas.1400821111. Epub 2014 Sept. 11. PMID 25214538.
 273. Liu JF, Barry WT, **Birrer M**, Lee JM, Buckanovich RJ, Fleming GF, Rimel B, Buss MK, Nattam S, Hurteau J, Luo W, Quy P, Whalen C, Obermayer L, Lee H, Winer EP, Kohn EC, Ivy SP, Matulonis UA. Combination cediranib and olaparib versus olaparib alone for women with recurrent platinum-sensitive ovarian cancer: a randomised phase 2 study Multicenter Study; Randomized Controlled Trial *Lancet Oncol.* 2014 Oct. 15(11):1207-14. doi: 10.1016/S1470-2045(14)70391-2. Epub 2014 Sept 10. PMID: 25218906; PMCID: PMC4294183.

274. Waldron L, Reister M, **Birrer MJ**. Molecular subtypes of high-grade serous ovarian cancer: the holy grail? *J Natl Cancer Inst*. 2014 Sept. 30;106(10). Pii: dju297. doi: 210.1093/jcni/dju297. Print 2014 Oct. PMID: 25269490.
275. Pham E, **Birrer MJ**, Eliasof S, Garmey E, Lazarus D, Lee CR, Man S, Matulonis UA, Peters CG, Xu P, Krasner C, Kerbel RS. Translational impact of nanoparticle-drug conjugate CRLX101 with or without bevacizumab in advanced ovarian cancer. *Clin Cancer Res*. 2015 Feb 15; 21(4):808-18. doi: 10.1158/1078-0432.CCR-14-2810. Epub 2014 Dec 18. PMID: 25524310.
276. Castro CM, Im H, Le C, Lee H, Weissleder R, **Birrer MJ**. Exploring alternative ovarian cancer biomarkers using innovative nanotechnology strategies. *Cancer Metastasis Rev*. 2015 Mar;34(1):75-82. doi: 10.1007/s10555-014-9546-9. Review. PMID: 25543192.
277. Tyekucheva S, Martin NE, Stack EC, Wei W, Vathipadiekal V, Waldron L, Fiorentino M, Lis RT, Stampfer MJ, Loda M, Parmigiani G, Mucci LA, **Birrer M**. Comparing Platforms for Messenger RNA Expression Profiling of Archival Formalin-Fixed, Paraffin-Embedded Tissues. *J Mol Diagn*. 2015 Jul;17(4):374-81. doi: 10.1016/j.jmoldx.2015.02.002. Epub 2015 Apr 30.
278. Vathipadiekal V, Wang V, Wei W, Waldron L, Drapkin R, Gillette M, Skates S, **Birrer M**. Creation of a Human Secretome: A Novel Composite Library of Human Secreted Proteins: Validation Using Ovarian Cancer Gene Expression Data and a Virtual Secretome Array. *Clin Cancer Res*. 2015 May 5
279. Elagib KE, Xiao M, Hussaini IM, Delehanty LL, Palmer LA, Racke FK, **Birrer MJ**, Ganapathy-Kanniappan S, McDevitt MA, Goldfarb AN. Erratum for Elagib et al., Jun blockade of erythropoiesis: role for repression of GATA-1 by HERP2. *Mol Cell Biol*. 2015 Jun;35(12):2215. doi: 10.1128/MCB.00374-15.
280. Wei W, **Birrer MJ**. Spleen Tyrosine Kinase Confers Paclitaxel Resistance in Ovarian Cancer. *Cancer Cell*. 2015 Jul 13;28(1):7-9. doi: 10.1016/j.ccell.2015.06.008. PMID: 26175410.
281. Pépin D, Sosulski A, Zhang L, Wang D, Vathipadiekal V, Hendren K, Coletti CM, Yu A, Castro, CM, **Birrer MJ**, Gao G, Donahoe PK. AAV9 delivering a modified human Mullerian inhibiting substance as a gene therapy in patient-derived xenografts of ovarian cancer. *Proc Natl Acad Sci U S A*. 2015 Aug 11;112(32):E4418-27. doi: 10.1073/pnas.1510604112. Epub 2015 Jul 27. PMID: 26216943.
282. Richards EJ, Permuth-Wey J, Li Y, Chen YA, Coppola D, Reid BM, Lin HY, Teer JK, Berchuck A, **Birrer MJ**, Lawrenson K, Monteiro AN, Schildkraut JM, Goode EL, Gayther SA, Sellers TA, Cheng JQ. A functional variant in HOXA11-AS, a novel long non-coding RNA, inhibits the oncogenic phenotype of epithelial ovarian cancer. *Oncotarget*. 2015 Oct 27;6(33):34745-57. doi: 10.18632/oncotarget.5784. PMID: 26430965.
283. Bowtell DD, Böhm S, Ahmed AA, Aspuria PJ, Bast RC Jr, Beral V, Berek JS, **Birrer MJ**, Blagden S, Bookman MA, Brenton JD, Chiappinelli KB, Martins FC, Coukos G, Drapkin R, Edmondson R, Fotopoulou C, Gabra H, Galon J, Gourley C, Heong V, Huntsman DG, Iwanicki M, Karlan BY, Kaye A, Lengyel E, Levine DA, Lu KH, McNeish IA, Menon U, Narod SA, Nelson BH, Nephew KP, Pharoah P, Powell DJ Jr, Ramos P, Romero IL, Scott CL, Sood AK, Stronach EA, Balkwill FR.

- Rethinking ovarian cancer II: reducing mortality from high-grade serous ovarian cancer. *Nat Rev Cancer*. 2015 Oct 23;15(11):668-79. doi: 10.1038/nrc4019. Review. PMID: 26493647; PMCID: PMC4892184.
284. Sarantopoulos J, Mita MM, **Birrer MJ**, Cranmer LD, Campos LT, Zhang X, Bristow P, Kaito H, Strout V, Camacho LH. Phase 1 Study of monotherapy with KHK2866, an anti-heparin-binding epidermal growth factor-like growth factor monoclonal antibody, in patients with advanced cancer. *Target Oncol*. 2016 Jun;11(3):317-27. 2015 Oct 27. doi: 10.1007/s11523-015-0394-5. PMID: 26507836.
 285. Ye H, Tanenbaum LM, Na YJ, Mantzavinou A, Fulci G, Del Carmen MG, **Birrer MJ**, Cima MJ. Sustained, low-dose intraperitoneal cisplatin improves treatment outcome in ovarian cancer mouse models. *J Control Release*. 2015 Dec 28;220(Pt A):358-67. doi: 10.1016/j.jconrel.2015.11.001. Epub 2015 Nov 5.
 286. Moran-Jones K, Gloss BS, Murali R, Chang DK, Colvin EK, Jones MD, Yuen S, Howell VM, Brown LM, Wong CW, Spong SM, Scarlett CJ, Hacker NF, Ghosh S, Mok SC, **Birrer MJ**, Samimi G. Connective tissue growth factor as a novel therapeutic target in high grade serous ovarian cancer. *Oncotarget*. 2015 Nov 11. doi: 10.18632/oncotarget.6082. PMID: 26575166; PMCID: PMC4792575.
 287. Ye H, Tanenbaum LM, Na YJ, Mantzavinou A, Fulci G, Del Carmen MG, **Birrer MJ**, Cima MJ. Sustained, low-dose intraperitoneal cisplatin improves treatment outcome in ovarian cancer mouse models. *J Control Release*. 2015 Dec 28;220(Pt A):358-367. doi: 10.1016/j.jconrel.2015.11.001. Epub 2015 Nov 5. PMID: 26548976.
 288. Bolton KL, Tyrer J, Song H, Ramus SJ, Notaridou M, Jones C, Sher T, Gentry-Maharaj A, Wozniak E, Tsai YY, Weidhaas J, Paik D, Van Den Berg DJ, Stram DO, Pearce CL, Wu AH, Brewster W, Anton-Culver H, Ziogas A, Narod SA, Levine DA, Kaye SB, Brown R, Paul J, Flanagan J, Sieh W, McGuire V, Whittemore AS, Campbell I, Gore ME, Lissowska J, Yang HP, Medrek K, Gronwald J, Lubinski J, Jakubowska A, Le ND, Cook LS, Kelemen LE, Brooks-Wilson A, Massuger LF, Kiemeny LA, Aben KK, van Altena AM, Houlston R, Tomlinson I, Palmieri RT, Moorman PG, Schildkraut J, Iversen ES, Phelan C, Vierkant RA, Cunningham JM, Goode EL, Fridley BL, Kruger-Kjaer S, Blaeker J, Hogdall E, Hogdall C, Gross J, Karlan BY, Ness RB, Edwards RP, Odunsi K, Moyisch KB, Baker JA, Modugno F, Heikkinen T, Butzow R, Nevanlinna H, Leminen A, Bogdanova N, Antonenkova N, Doerk T, Hillemanns P, Dürst M, Runnebaum I, Thompson PJ, Carney ME, Goodman MT, Lurie G, Wang-Gohrke S, Hein R, Chang-Claude J, Rossing MA, Cushing-Haugen KL, Doherty J, Chen C, Rafnar T, Besenbacher S, Sulem P, Stefansson K, **Birrer MJ**, Terry KL, Hernandez D, Cramer DW, Vergote I, Amant F, Lambrechts D, Despierre E, Fasching PA, Beckmann MW, Thiel FC, Ekici AB, Chen X; Australian Ovarian Cancer Study Group, Johnatty SE, Webb PM, Beesley J, Chanock S, Garcia-Closas M, Sellers T, Easton DF, Berchuck A, Chenevix-Trench G, Pharoah PD, Gayther SA. Corrigendum: Common variants at 19p13 are associated with susceptibility to ovarian cancer. *Nat Genet*. 2015 Dec 29;48(1):101. doi: 10.1038/ng0116-101b. PMID: 26711112.
 289. Norquist BM, Harrell MI, Brady MF, Walsh T, Lee MK, Gulsuner S, Bernards SS, Casadei S, Yi Q, Burger RA, Chan JK, Davidson SA, Mannel RS, DiSilvestro PA, Lankes HA, Ramirez NC, King

- MC, Swisher EM, **Birrer MJ**. Inherited mutations in women with ovarian carcinoma. *JAMA Oncol*. 2016 Apr;2(4):482-90. 2015 Dec 30;1-9. doi: 10.1001/jamaoncol.2015.5495. PMID: 26720728; PMCID: PMC4845939.
290. van der Watt PJ, Chi A, Stelma T, Stowell C, Strydom E, Carden S, Angus L, Hadley K, Lang D, Wei W, **Birrer MJ**, Trent JO, Leaner VD. Targeting the nuclear import receptor, Kpn β 1 as an anti-cancer therapeutic. *Mol Cancer Ther*. 2016 Apr;15(4):560-73. 2016 Feb 1. pii: molcanther.0052.2015. doi: 10.1158/1535-7163.MCT-15-0052. Epub 2016 Feb 1. PMID: 26832790.
 291. Dizon DS, **Birrer MJ**. Making a difference: Distinguishing two primaries from metastasis in synchronous tumors of the ovary and uterus. *J Natl Cancer Inst*. 2016 Feb 1;108(6). pii: djv442. doi: 10.1093/jnci/djv442. Print 2016 Jun. PMID: 26832772.
 292. Chan JK, Brady MF, Penson RT, Huang H, **Birrer MJ**, Walker JL, DiSilvestro PA, Rubin SC, Martin LP, Davidson SA, Huh WK, O'Malley DM, Boente MP, Michael H, Monk BJ. Weekly vs. every-3-week paclitaxel and carboplatin for ovarian cancer. *N Engl J Med*. 2016 Feb 25;374(8):738-48. doi: 10.1056/NEJMoa1505067. PMID: 26933849; PMCID: PMC5081077.
 293. Swisher EM, Harrell MI, Norquist BM, Walsh T, Brady M, Lee M, Hershberg R, Kalli KR, Lankes H, Konnick EQ, Pritchard CC, Monk BJ, Chan JK, Burger R, Kaufmann SH, **Birrer MJ**. Somatic mosaic mutations in PPM1D and TP53 in the blood of women with ovarian carcinoma. *JAMA Oncol*. 2016 Mar;2(3):370-2. 2016 Feb 4. doi: 10.1001/jamaoncol.2015.6053. PMID: 26847329; PMCID: PMC4865293.
 294. Penson RT, Sales E, Sullivan L, Borger DR, Krasner CN, Goodman AK, Del Carmen MG, Growdon WB, Schorge JO, Boruta DM, Castro CM, Dizon DS, **Birrer MJ**. A SNaPshot of potentially personalized care: Molecular diagnostics in gynecologic cancer. *Gynecol Oncol*. 2016 Apr;141(1):108-12. doi: 10.1016/j.ygyno.2016.02.032. PMID: 27016236.
 295. Myers AP, Filiaci VL, Zhang Y, Pearl M, Behbakht K, Makker V, Hanjani P, Zweizig S, Burke JJ 2nd, Downey G, Leslie KK, Van Hummelen P, **Birrer MJ**, Fleming GF. Tumor mutational analysis of GOG248, a phase II study of temsirolimus or temsirolimus and alternating megestrol acetate and tamoxifen for advanced endometrial cancer (EC): An NRG Oncology/Gynecologic Oncology Group study. *Gynecol Oncol*. 2016 Apr;141(1):43-8. doi: 10.1016/j.ygyno.2016.02.025. PMID: 27016228; PMCID: PMC5119517.
 296. Krzystyniak J, Ceppi L, Dizon DS, **Birrer MJ**. Epithelial ovarian cancer: the molecular genetics of epithelial ovarian cancer. *Ann Oncol*. 2016 Apr;27 Suppl 1:i4-i10. doi: 10.1093/annonc/mdw083. Review. PMID: 27141069; PMCID: PMC4852274.
 297. Sosulski A, Horn H, Zhang L, Coletti C, Vathipadiekal V, Castro CM, **Birrer MJ**, Nagano O, Saya H, Lage K, Donahoe PK, Pépin D. CD44 Splice Variant v8-10 as a Marker of Serous Ovarian Cancer Prognosis. *PLoS One*. 2016 Jun 2;11(6):e0156595. doi: 10.1371/journal.pone.0156595. eCollection 2016. PMID: 27253518; PMCID: PMC4890777.
 298. Lax T, Dizon DS, **Birrer M**, Long A, Del Carmen M, Goodman A, Krasner C, Penson RT, Growdon W, Camargo CA Jr, Banerji A. Extended carboplatin infusion does not reduce frequency of hypersensitivity reaction at initiation of retreatment in patients with recurrent platinum-sensitive

- ovarian cancer. *J Allergy Clin Immunol Pract*. 2017 Jan - Feb;5(1):177-178. doi: 10.1016/j.jaip.2016.07.010. No Abstract Available. PMID: 27641482.
299. Waldron L, Riester M, Ramos M, Parmigiani G, **Birrer M**. The Doppelgänger effect: Hidden duplicates in databases of transcriptome profiles. *J Natl Cancer Inst*. 2016 Jul 5;108(11). pii: djw146. doi: 10.1093/jnci/djw146.
 300. Wilbur MB, **Birrer MJ**, Spriggs DR. CLINICAL DECISIONS. Chemotherapy-Induced Nausea and Vomiting. *N Engl J Med*. 2016 Jul 14;375(2):177-9. doi: 10.1056/NEJMcldc1607577. PMID: 27410928.
 301. Rauh-Hain JA, **Birrer M**, Del Carmen MG. "Carcinosarcoma of the ovary, fallopian tube, and peritoneum: Prognostic factors and treatment modalities". *Gynecol Oncol*. 2016 Aug;142(2):248-54. doi: 10.1016/j.ygyno.2016.06.003. Epub 2016 June 16. PMID: 27321238.
 302. Del Carmen MG, Supko JG, Horick NK, Rauh-Hain JA, Clark RM, Campos SM, Krasner CN, Atkinson T, **Birrer MJ**. Phase 1 and 2 study of carboplatin and pralatrexate in patients with recurrent, platinum-sensitive ovarian, fallopian tube, or primary peritoneal cancer. *Cancer*. 2016 Nov 15;122(21):3297-3306. doi: 10.1002/cncr.30196. Epub 2016 Jul 15. PMID: 27421044.
 303. Liu JF, Moore KN, **Birrer MJ**, Berlin S, Matulonis UA, Infante JR, Wolpin B, Poon KA, Firestein R, Xu J, Kahn R, Wang Y, Wood K, Darbonne WC, Lackner MR, Kelley SK, Lu X, Choi YJ, Maslyar D, Humke EW, Burris HA. Phase I study of safety and pharmacokinetics of the anti-MUC16 antibody-drug conjugate DMUC5754A in patients with platinum-resistant ovarian cancer or unresectable pancreatic cancer. *Ann Oncol*. 2016 Nov;27(11):2124-2130. PMID: 27793850.
 304. Matulonis UA, Wulf GM, Barry WT, **Birrer M**, Westin SN, Farooq S, Bell-McGuinn KM, Obermayer E, Whalen C, Spagnoletti T, Luo W, Liu H, Hok RC, Aghajanian C, Solit DB, Mills GB, Taylor BS, Won H, Berger MF, Palakurthi S, Liu J, Cantley LC, Winer E. Phase I dose escalation study of the PI3kinase pathway inhibitor BKM120 and the oral poly (ADP ribose) polymerase (PARP) inhibitor olaparib for the treatment of high grade serous ovarian and breast cancer. *Ann Oncol*. 2016 Dec 19. pii: mdw672. doi: 10.1093/annonc/mdw672. PMID: 37993796; PMCID: PM5834157.
 305. Moore KN, Martin LP, O'Malley DM, Matulonis UA, Konner JA, Perez RP, Bauer TM, Ruiz-Soto R, **Birrer MJ**. Safety and activity of mirvetuximab soravtansine (IMGN853), a folate receptor alpha-targeting antibody-drug conjugate, in platinum-resistant ovarian, fallopian tube, or primary peritoneal cancer: A phase I expansion study. *J Clin Oncol*. 2016 Dec 28;JCO2016699538. Epub 2016 Dec 28. PMID: 28029313; PMCID: PMC5559878.
 306. McCourt CK, Deng W, Dizon DS, Lankes HA, **Birrer MJ**, Lomme MM, Powell MA, Kendrick JE, Saltzman JN, Warshal D, Tenney ME, Kushner DM, Aghajanian C. A phase II evaluation of ixabepilone in the treatment of recurrent/persistent carcinosarcoma of the uterus, an NRG Oncology/Gynecologic Oncology Group study. *Gynecol Oncol*. 2017 Jan;144(1):101-106. doi: 10.1016/j.ygyno.2016.10.026. Epub 2016 Oct 28. PMID: 28029447; PMCID: PMC5362250.

307. Cancer Genome Atlas Research Network. Integrated genomic and molecular characterization of cervical cancer. *Nature*. 2017 Jan 23. doi: 10.1038/nature21386. Epub 2017 Jan 23. PMID: 28112728; PMCID: PMC5354998.
308. Xiao H, Qi R, Li T, Awuah SG, Zheng Y, Wei W, Kang X, Song H, Wang Y, Yu Y, Bird MA, Jing X, Yaffe MB, **Birrer MJ**, Ghoroghchian PP. Maximizing Synergistic Activity When Combining RNAi and Platinum-based Anticancer Agents. *J Am Chem Soc*. 2017 Feb 6. doi: 10.1021/jacs.6b12108. Epub 2017 Feb 16. PMID: 28166401.
309. Gockley A, Melamed A, Bregar AJ, Clemmer JT, **Birrer M**, Schorge JO, Del Carmen MG, Rauh-Hain JA. Outcomes of women with high-grade and low-grade advanced-stage serous epithelial ovarian cancer. *Obstet Gynecol*. 2017 Mar;129(3):439-447. doi: 10.1097/AOG.0000000000001869. PMID: 28178043; PMCID: PMC5328143.
310. Yazinski SA, Comaills V, Buisson R, Genois MM, Nguyen HD, Ho CK, Todorova Kwan T, Morris R, Lauffer S, Nussenzweig A, Ramaswamy S, Benes CH, Haber DA, Maheswaran S, **Birrer MJ**, Zou L. ATR inhibition disrupts rewired homologous recombination and fork protection pathways in PARP inhibitor-resistant BRCA-deficient cancer cells. *Genes Dev*. 2017 Feb 1;31(3):318-332. doi: 10.1101/gad.290957.116. Epub 2017 Feb 27. PMID: 28242626; PMCID: PMC5358727.
311. Phelan CM, Kuchenbaecker KB, Tyrer JP, Kar SP, Lawrenson K, Winham SJ, Dennis J, Pirie A, Riggan MJ, Chornokur G, Earp MA, Lyra PC Jr, Lee JM, Coetzee S, Beesley J, McGuffog L, Soucy P, Dicks E, Lee A, Barrowdale D, Lecarpentier J, Leslie G, Aalfs CM, Aben KK, Adams M, Adlard J, Andrulis IL, Anton-Culver H, Antonenkova N; AOCS study group., Aravantinos G, Arnold N, Arun BK, Arver B, Azzollini J, Balmaña J, Banerjee SN, Barjhoux L, Barkardottir RB, Bean Y, Beckmann MW, Beeghly-Fadiel A, Benitez J, Bermisheva M, Bernardini MQ, **Birrer MJ**, Bjorge L, Black A, Blankstein K, Blok MJ, Bodelon C, Bogdanova N, Bojesen A, Bonanni B, Borg Å, Bradbury AR, Brenton JD, Brewer C, Brinton L, Broberg P, Brooks-Wilson A, Bruinsma F, Brunet J, Buecher B, Butzow R, Buys SS, Caldes T, Caligo MA, Campbell I, Cannioto R, Carney ME, Cescon T, Chan SB, Chang-Claude J, Chanock S, Chen XQ, Chiew YE, Chiquette J, Chung WK, Claes KB, Conner T, Cook LS, Cook J, Cramer DW, Cunningham JM, D'Aloisio AA, Daly MB, Damiola F, Damirovna SD, Dansonka-Mieszkowska A, Dao F, Davidson R, DeFazio A, Delnatte C, Doherty KF, Diez O, Ding YC, Doherty JA, Domchek SM, Dorfling CM, Dörk T, Dossus L, Duran M, Dürst M, Dworniczak B, Eccles D, Edwards T, Eeles R, Eilber U, Ejlersen B, Ekici AB, Ellis S, Elvira M; EMBRACE Study., Eng KH, Engel C, Evans DG, Fasching PA, Ferguson S, Ferrer SF, Flanagan JM, Fogarty ZC, Fortner RT, Fostira F, Foulkes WD, Fountzilas G, Fridley BL, Friebel TM, Friedman E, Frost D, Ganz PA, Garber J, García MJ, Garcia-Barberan V, Gehrig A; GEMO Study Collaborators., Gentry-Maharaj A, Gerdes AM, Giles GG, Glasspool R, Glendon G, Godwin AK, Goldgar DE, Goranova T, Gore M, Greene MH, Gronwald J, Gruber S, Hahnen E, Haiman CA, Håkansson N, Hamann U, Hansen TV, Harrington PA, Harris HR, Hauke J; HEBON Study., Hein A, Henderson A, Hildebrandt MA, Hillemanns P, Hodgson S, Høgdall CK, Høgdall E, Hogervorst FB, Holland H, Hoening MJ, Hosking K, Huang RY, Hulick PJ, Hung J, Hunter DJ, Huntsman DG, Huzarski T, Imyanitov EN, Isaacs C, Iversen ES, Izatt L, Izquierdo A, Jakubowska A, James P, Janavicius R, Jernetz M, Jensen A, Jensen UB, John EM, Johnatty S, Jones ME, Kannisto P, Karlan BY, Karnezis A, Kast K; KConFab Investigators., Kennedy CJ, Khusnutdinova E, Kiemeny LA, Kiiski JI, Kim SW, Kjaer SK, Köbel M, Kopperud RK, Kruse TA, Kupryjanczyk J, Kwong A, Laitman Y, Lambrechts D, Larrañaga N, Larson MC, Lazaro C, Le ND, Le Marchand L, Lee JW,

Lele SB, Leminen A, Leroux D, Lester J, Lesueur F, Levine DA, Liang D, Liebrich C, Lilyquist J, Lipworth L, Lissowska J, Lu KH, Lubinński J, Luccarini C, Lundvall L, Mai PL, Mendoza-Fandiño G, Manoukian S, Massuger LF, May T, Mazoyer S, McAlpine JN, McGuire V, McLaughlin JR, McNeish I, Meijers-Heijboer H, Meindl A, Menon U, Mensenkamp AR, Merritt MA, Milne RL, Mitchell G, Modugno F, Moes-Sosnowska J, Moffitt M, Montagna M, Moysich KB, Mulligan AM, Musinsky J, Nathanson KL, Nedergaard L, Ness RB, Neuhausen SL, Nevanlinna H, Niederacher D, Nussbaum RL, Odunsi K, Olah E, Olopade OI, Olsson H, Olswold C, O'Malley DM, Ong KR, Onland-Moret NC; OPAL study group., Orr N, Orsulic S, Osorio A, Palli D, Papi L, Park-Simon TW, Paul J, Pearce CL, Pedersen IS, Peeters PH, Peissel B, Peixoto A, Pejovic T, Pelttari LM, Permuth JB, Peterlongo P, Pezzani L, Pfeiler G, Phillips KA, Piedmonte M, Pike MC, Piskorz AM, Poblete SR, Pocza T, Poole EM, Poppe B, Porteous ME, Prieur F, Prokofyeva D, Pugh E, Pujana MA, Pujol P, Radice P, Rantala J, Rappaport-Fuerhauser C, Rennert G, Rhiem K, Rice P, Richardson A, Robson M, Rodriguez GC, Rodríguez-Antona C, Romm J, Rookus MA, Rossing MA, Rothstein JH, Rudolph A, Runnebaum IB, Salvesen HB, Sandler DP, Schoemaker MJ, Senter L, Setiawan VW, Severi G, Sharma P, Shelford T, Siddiqui N, Side LE, Sieh W, Singer CF, Sobol H, Song H, Southey MC, Spurdle AB, Stadler Z, Steinemann D, Stoppa-Lyonnet D, Sucheston-Campbell LE, Sukiennicki G, Sutphen R, Sutter C, Swerdlow AJ, Szabo CI, Szafron L, Tan YY, Taylor JA, Tea MK, Teixeira MR, Teo SH, Terry KL, Thompson PJ, Thomsen LC, Thull DL, Tihomirova L, Tinker AV, Tischkowitz M, Tognazzo S, Toland AE, Tone A, Trabert B, Travis RC, Trichopoulou A, Tung N, Tworoger SS, van Altena AM, Van Den Berg D, van der Hout AH, van der Luijt RB, Van Heetvelde M, Van Nieuwenhuysen E, van Rensburg EJ, Vanderstichele A, Varon-Mateeva R, Vega A, Edwards DV, Vergote I, Vierkant RA, Vijai J, Vratimos A, Walker L, Walsh C, Wand D, Wang-Gohrke S, Wappenschmidt B, Webb PM, Weinberg CR, Weitzel JN, Wentzensen N, Whittemore AS, Wijnen JT, Wilkens LR, Wolk A, Woo M, Wu X, Wu AH, Yang H, Yannoukakos D, Ziogas A, Zorn KK, Narod SA, Easton DF, Amos CI, Schildkraut JM, Ramus SJ, Ottini L, Goodman MT, Park SK, Kelemen LE, Risch HA, Thomassen M, Offit K, Simard J, Schmutzler RK, Hazelett D, Monteiro AN, Couch FJ, Berchuck A, Chenevix-Trench G, Goode EL, Sellers TA, Gayther SA, Antoniou AC, Pharoah PD. Identification of 12 new susceptibility loci for different histotypes of epithelial ovarian cancer. *Nat Genet.* 2017 Mar 27. doi: 10.1038/ng.3826. Epub 2017 Mar 27. PMID: 28346442; PMCID: PMC5612337.

312. Moore KN, Borghaei H, O'Malley DM, Jeong W, Seward SM, Bauer TM, Perez RP, Matulonis UA, Running KL, Zhang X, Ponte JF, Ruiz-Soto R, **Birrer MJ**. Phase 1 dose-excalation study of mirvetuximab soravtansine (IMGN853), a folate receptor α -targeting antibody-drug conjugate, in patients with solid tumors. *Cancer* 2017 Apr 25. doi: 10.1002/cncr.30736. Epub 2017 Apr 25. PMID: 28440955.
313. Tao Z, Dang X, Huang X, Muzumdar MD, Xu ES, Neelkanth NM, Song H, Qi R, Yu Y, Li T, Wei W, Wyckoff J, **Birrer MJ**, Belcher AM, Ghoroghchian PP. Early tumor detection afforded by *in vivo* imaging of near infrared II fluorescence. *Biomaterials* 134 July 2017, 202-215 doi: 10.1016/j.biomaterials. 2017.04.046. Epub 2017 Apr 25. PMID: 28482280.
314. Reyes HD, Miecznikowski J, Gonzalez-Bosquet J, Devor EJ, Zhang Y, Thiel KW, Samuelson MI, McDonald M, stephan JM, Hanjani P, Guntupalli S, Tewari KS, Backes F, Ramirez N, Fleming GF, Filiaci V, **Birrer MJ**, Leslie KK. High stathmin expression is a marker for poor clinical outcome in endometrial cancer: An NRG oncology group/gynecologic oncology group study. *Gynecol Oncol.*

2017, May 19 pii: S0090-8258(17)30870-3. Doi: 10.1016/j.ygyno.2017.05.017. Epub 2017 May 19. PMID: 28532857; PMCID: PMC5526627.

315. Tewari KS, Sill MW, Penson RT, Huang H, Ramondetta LM, Landrum LM, Oaknin A, Reid TJ, Leitao MM, Michael HE, DiSaia PJ, Copeland LJ, Creasman WT, Stehman FB, Brady MF, Burger RA, Thigpen JT, **Birrer MJ**, Waggoner SE, Moore DH, Look KY, Koh WJ, Monk BJ. Bevacizumab for advanced cervical cancer: final overall survival and adverse event analysis of a randomised, controlled, open-label, phase 3 trial (Gynecologic Oncology Group 240). *Lancet*. 2017 Jul 27. pii: S0140-6736(17)31607-0. doi: 10.1016/S0140-6736(17)31607-0. Epub 2017 Jul 27. PMID: 28756902; PMCID: PMC5714293.
316. Martin LP, Konner JA, Moore KN, Seward SM, Matulonis UA, Perez RP, Su Y, Berkenblit A, Ruiz-Soto R, **Birrer MJ**. Characterization of folate receptor alpha (FR α) expression in archival tumor and biopsy samples from relapsed epithelial ovarian cancer patients: A phase I expansion study of the FR α -targeting antibody-drug conjugate mirvetuximab soravtansine. *Gynecol Oncol*. 2017 Aug 24. pii: S0090-8258(17)31253-2. doi: 10.1016/j.ygyno.2017.08.015. Epub 2017 Aug 24. PMID: 28843653.
317. Moore KN, Trichtler D, Kaufman KM, Lankes H, Quinn MCJ; Ovarian Cancer Association Consortium, Van Le L, Berchuck A, Backes FJ, Tewari KS, Lee RB, Kesterson JP, Wenham RM, Armstrong DK, Krivak TC, Bookman MA, **Birrer MJ**. Genome-wide association study evaluating single-nucleotide polymorphisms and outcomes in patients with advanced stage serous ovarian or primary peritoneal cancer: An NRG Oncology/Gynecologic Oncology Group study. *Gynecol Oncol*. 2017 Sep 18. pii: S0090-8258(17)31261-1. doi: 10.1016/j.ygyno.2017.08.024. Epub 2017 Sep 19. PMID: 28935272; PMCID: PMC5706110.
318. Devor EJ, Miecznikowski J, Schickling BM, Gonzalez-Bosquet J, Lankes HA, Thaker P, Argenta PA, Pearl ML, Zweizig SL, Mannel RS, Brown A, Ramirez NC, Ioffe OB, Park KJ, Creasman WT, **Birrer MJ**, Mutch D, Leslie KK. Dysregulation of miR-181c expression influences recurrence of endometrial endometrioid adenocarcinoma by modulating NOTCH2 expression: An NRG Oncology/Gynecologic Oncology Group study. *Gynecol Oncol*. 2017 Sep 29. pii: S0090-8258(17)31349-5. doi: 10.1016/j.ygyno.2017.09.025. Epub 2017 Sep 29. PMID: 28969912; PMCID: PMC5698180.
319. Coleman RL, Oza AM, Lorusso D, Aghajanian C, Oaknin A, Dean A, Colombo N, Weberpals JI, Clamp A, Scambia G, Leary A, Holloway RW, Gancedo MA, Fong PC, Goh JC, O'Malley DM, Armstrong DK, Garcia-Donas J, Swisher EM, Floquet A, Konecny GE, McNeish IA, Scott CL, Cameron T, Maloney L, Isaacson J, Goble S, Grace C, Harding TC, Raponi M, Sun J, Lin KK, Giordano H, Ledermann JA; ARIEL3 investigators. Rucaparib maintenance treatment for recurrent ovarian carcinoma after response to platinum therapy (ARIEL3): a randomised, double-blind, placebo-controlled, phase 3 trial. *Lancet*. 2017 Oct 28;390(10106):1949-1961. doi: 10.1016/S0140-6736(17)32440-6. Epub 2017 Sep 12. Erratum in: *Lancet*. 2017 Oct 28;390(10106):1948. PMID: 28916367. PMCID: PMC5901715.
320. Bais C, Mueller B, Brady MF, Mannel RS, Burger RA, Wei W, Marien KM, Kockx MM, Husain A, **Birrer MJ**. Tumor Microvessel Density as a Potential Predictive Marker for Bevacizumab Benefit: GOG-0218 Biomarker Analyses. NRG Oncology/Gynecologic Oncology Group. *J Natl Cancer Inst*.

- 2017 Nov 1;109(11). doi: 10.1093/jnci/djx066. PMID: 29059426; PMCID: PMC5440032. 1.
Tsang TY, Wei W, Itamochi H, Tambouret R, **Birrer MJ**. Integrated genomic analysis of clear cell ovarian cancers identified PRKCI as a potential therapeutic target. *Oncotarget*. 2017 Aug 4;8(57):96482-96495. doi: 10.18632/oncotarget.19946. eCollection 2017 Nov 14. PMID: 29228547; PMCID: PMC5722499.
321. Moore KN, Martin LP, O'Malley DM, Matulonis UA, Konner JA, Vergote I, Ponte JF, **Birrer MJ**. A review of mirvetuximab soravtansine in the treatment of platinum-resistant ovarian cancer. *Future Oncol*. 2018 Jan;14(2):123-136. doi: 10.2217/fon-2017-0379. Epub 2017 Nov 3. Review. PMID: 29098867.
 322. Norquist BM, Brady MF, Harrell MI, Walsh T, Lee MK, Gulsuner S, Bernards SS, Casadei S, Burger RA, Tewari KS, Backes F, Mannel RS, Glaser G, Bailey C, Rubin S, Soper J, Lankes HA, Ramirez NC, King MC, **Birrer MJ**, Swisher EM. Mutations in Homologous Recombination Genes and Outcomes in Ovarian Carcinoma Patients in GOG 218: An NRG Oncology/Gynecologic Oncology Group Study. *Clin Cancer Res*. 2017 Nov 30. doi: 10.1158/1078-0432.CCR-17-1327. Epub 2017 Nov 30. PMID: 29191972; PMCID: PMC5815909.
 323. Noh K, Mangala LS, Han HD, Zhang N, Pradeep S, Wu SY, Ma S, Mora E, Rupaimoole R, Jiang D, Wen Y, Shahzad MMK, Lyons Y, Cho M, Hu W, Nagaraja AS, Haemmerle M, Mak CSL, Chen X, Gharpure KM, Deng H, Xiong W, Kingsley CV, Liu J, Jennings N, **Birrer MJ**, Bouchard RR, Lopez-Berestein G, Coleman RL, An Z, Sood AK. Differential Effects of EGFL6 on Tumor versus Wound Angiogenesis. *Cell Rep*. 2017 Dec 5;21(10):2785-2795. doi: 10.1016/j.celrep.2017.11.020. PMID: 29212026; PMCID: PMC5749980.
 324. Tsang TY, Wei W, Itamochi H, Tambouret R, **Birrer MJ**. Integrated genomic analysis of clear cell ovarian cancers identified PRKCI as a potential therapeutic target. *Oncotarget*. 2017 Aug 4;8(57):96482-96495. doi: 10.18632/oncotarget.19946. eCollection 2017 Nov 14. PMID: 29228547; PMCID: PMC5722499.
 325. Wei W, Giulia F, Luffer S, Kumar R, Wu B, Tavallai M, Bekele RT, **Birrer MJ**. How can molecular abnormalities influence our clinical approach? *Ann Oncol*. 2017 Nov 1;28(suppl_8):viii16-viii24. doi: 10.1093/annonc/mdx447. Review. PMID: 29232470.
 326. Moore KN, Martin LP, O'Malley DM, Matulonis UA, Konner JA, Vergote I, Ponte JF, **Birrer MJ**. A review of mirvetuximab soravtansine in the treatment of platinum-resistant ovarian cancer. *Future Oncol*. 2018 Jan;14(2):123-136. doi: 10.2217/fon-2017-0379. Epub 2017 Nov 3. PMID: 29098867.
 327. Leung CS, Yeung TL, Yip KP, Wong KK, Ho SY, Mangala LS, Sood AK, Lopez-Berestein G, Sheng J, Wong ST, **Birrer MJ**, Mok SC. Cancer-associated fibroblasts regulate endothelial adhesion protein LPP to promote ovarian cancer chemoresistance. *J Clin Invest*. 2018 Feb 1;128(2):589-606. doi: 10.1172/JCI95200. Epub 2017 Dec 18. PMID: 29251630.
 328. Qi R, Wang Y, Bruno PM, Xiao H, Yu Y, Li T, Lauffer S, Wei W, Chen Q, Kang X, Song H, Yang X, Huang X, Detappe A, Matulonis U, Pepin D, Hemann MT, **Birrer MJ**, Ghoroghchian PP. Nanoparticle conjugates of a highly potent toxin enhance safety and circumvent platinum resistance in ovarian cancer. *Nat Commun*. 2017 Dec 18;8(1):2166. doi: 10.1038/s41467-017-02390-7. Erratum in: *Nat Commun*. 2018 Feb 7;9(1):628. PMID: 29255160; PMCID: PMC5735131.

329. Moore KN, Vergote I, Oaknin A, Colombo N, Banerjee S, Oza A, Pautier P, Malek K, **Birrer MJ**. FORWARD I: a Phase III study of mirvetuximab soravtansine versus chemotherapy in platinum-resistant ovarian cancer. *Future Oncol*. 2018 Feb 9. doi: 10.2217/fon-2017-0646. [Epub ahead of print] PMID: 29424243
330. Hamilton CA, Miller A, Casablanca Y, Horowitz NS, Rungruang B, Krivak TC, Richard SD, Rodriguez N, **Birrer MJ**, Backes FJ, Geller MA, Quinn M, Goodheart MJ, Mutch DG, Kavanagh JJ, Maxwell GL, Bookman MA. Clinicopathologic characteristics associated with long-term survival in advanced epithelial ovarian cancer: an NRG Oncology/Gynecologic Oncology Group ancillary data study. *Gynecol Oncol*. 2018 Feb;148(2):275-280. doi: 10.1016/j.ygyno.2017.11.018. PMID: 29195926. PMCID PMC5918685.
331. Banerjee S, Oza AM, **Birrer MJ**, Hamilton EP, Hasan J, Leary A, Moore KN, Mackowiak-Matejczyk B, Pikiel J, Ray-Coquard I, Trask P, Lin K, Schuth E, Vaze A, Choi Y, Marsters JC, Maslyar DJ, Lemahieu V, Wang Y, Humke EW, Liu JF. Anti-NaPi2b antibody-drug conjugate lifastuzumab vedotin (DNIB0600A) compared with pegylated liposomal doxorubicin in patients with platinum-resistant ovarian cancer in a randomized, open-label, phase II study. *Ann Oncol*. 2018 Apr 1;29(4):917-923. doi: 10.1093/annonc/mdy023. PMID: 29401246.
332. Norquist BM, Brady MF, Harrell MI, Walsh T, Lee MK, Gulsuner S, Bernards SS, Casadei S, Burger RA, Tewari KS, Backes F, Mannel RS, Glaser G, Bailey C, Rubin S, Soper J, Lankes HA, Ramirez NC, King MC, **Birrer MJ**, Swisher EM. Mutations in Homologous Recombination Genes and Outcomes in Ovarian Carcinoma Patients in GOG 218: An NRG Oncology/Gynecologic Oncology Group Study. *Clin Cancer Res*. 2018 Feb 15;24(4):777-783. doi: 10.1158/1078-0432.CCR-17-1327. Epub 2017 Nov 30. PMID: 29191972.
333. Moore KN, **Birrer MJ**. Administration of the Tablet Formulation of Olaparib in Patients with Ovarian Cancer: Practical Guidance and Expectations. *Oncologist*. 2018 Mar 28. pii: theoncologist.2017-0485. doi: 10.1634/theoncologist.2017-0485. [Epub ahead of print] Review. PMID: 29593098; PMCID: PMC6067940.
334. Schaub FX, Dhankani V, Berger AC, Trivedi M, Richardson AB, Shaw R, Zhao W, Zhang X, Ventura A, Liu Y, Ayer DE, Hurlin PJ, Cherniack AD, Eisenman RN, Bernard B, Grandori C; Cancer Genome Atlas Network. Pan-cancer Alterations of the MYC Oncogene and Its Proximal Network across the Cancer Genome Atlas. *Cell Syst*. 2018 Mar 28;6(3):282-300.e2. doi: 10.1016/j.cels.2018.03.003. PMID: 29596783. PMCID: PMC5892207.
335. Ellrott K, Bailey MH, Saksena G, Covington KR, Kandoth C, Stewart C, Hess J, Ma S, Chiotti KE, McLellan M, Sofia HJ, Hutter C, Getz G, Wheeler D, Ding L; MC3 Working Group; Cancer Genome Atlas Research Network. Scalable Open Science Approach for Mutation Calling of Tumor Exomes Using Multiple Genomic Pipelines. *Cell Syst*. 2018 Mar 28;6(3):271-281.e7. doi: 10.1016/j.cels.2018.03.002. PMID: 29596782. PMCID: PMC6075717.
336. Ricketts CJ, De Cubas AA, Fan H, Smith CC, Lang M, Reznik E, Bowlby R, Gibb EA, Akbani R, Beroukhi R, Bottaro DP, Choueiri TK, Gibbs RA, Godwin AK, Haake S, Hakimi AA, Henske EP, Hsieh JJ, Ho TH, Kanchi RS, Krishnan B, Kwiatkowski DJ, Lui W, Merino MJ, Mills GB, Myers J, Nickerson ML, Reuter VE, Schmidt LS, Shelley CS, Shen H, Shuch B, Signoretti S, Srinivasan R,

- Tamboli P, Thomas G, Vincent BG, Vocke CD, Wheeler DA, Yang L, Kim WY, Robertson AG; Cancer Genome Atlas Research Network, Spellman PT, Rathmell WK, Linehan WM. The Cancer Genome Atlas Comprehensive Molecular Characterization of Renal Cell Carcinoma. *Cell Rep.* 2018 Apr 3;23(1):313-326.e5. doi: 10.1016/j.celrep.2018.03.075. Erratum in: *Cell Rep.* 2018 Jun 19;23(12):3698. PMID: 29617669. PMCID: PMC6075733.
337. Chiu HS, Somvanshi S, Patel E, Chen TW, Singh VP, Zorman B, Patil SL, Pan Y, Chatterjee SS; Cancer Genome Atlas Research Network, Sood AK, Gunaratne PH, Sumazin P. Pan-Cancer Analysis of lncRNA Regulation Supports Their Targeting of Cancer Genes in Each Tumor Context. *Cell Rep.* 2018 Apr 3;23(1):297-312.e12. doi: 10.1016/j.celrep.2018.03.064. PMID: 29617668. PMCID: PMC5906131.
 338. Seiler M, Peng S, Agrawal AA, Palacino J, Teng T, Zhu P, Smith PG; Cancer Genome Atlas Research Network, Buonamici S, Yu L. Somatic Mutational Landscape of Splicing Factor Genes and Their Functional Consequences across 33 Cancer Types. *Cell Rep.* 2018 Apr 3;23(1):282-296.e4. doi: 10.1016/j.celrep.2018.01.088. PMID: 29617667. PMCID: PMC5933844.
 339. 340. Jayasinghe RG, Cao S, Gao Q, Wendl MC, Vo NS, Reynolds SM, Zhao Y, Climente-González H, Chai S, Wang F, Varghese R, Huang M, Liang WW, Wyczalkowski MA, Sengupta S, Li Z, Payne SH, Fenyő D, Miner JH, Walter MJ; Cancer Genome Atlas Research Network, Vincent B, Eyraas E, Chen K, Shmulevich I, Chen F, Ding L. Systematic Analysis of Splice-Site-Creating Mutations in Cancer. *Cell Rep.* 2018 Apr 3;23(1):270-281.e3. doi: 10.1016/j.celrep.2018.03.052. PMID: 29617666. PMCID: PMC6055527.
 340. Peng X, Chen Z, Farshidfar F, Xu X, Lorenzi PL, Wang Y, Cheng F, Tan L, Mojumdar K, Du D, Ge Z, Li J, Thomas GV, Birsoy K, Liu L, Zhang H, Zhao Z, Marchand C, Weinstein JN; Cancer Genome Atlas Research Network, Bathe OF, Liang H. Molecular Characterization and Clinical Relevance of Metabolic Expression Subtypes in Human Cancers. *Cell Rep.* 2018 Apr 3;23(1):255-269.e4. doi: 10.1016/j.celrep.2018.03.077. PMID: 29617665. PMCID: PMC5916795.
 341. Knijnenburg TA, Wang L, Zimmermann MT, Chambwe N, Gao GF, Cherniack AD, Fan H, Shen H, Way GP, Greene CS, Liu Y, Akbani R, Feng B, Donehower LA, Miller C, Shen Y, Karimi M, Chen H, Kim P, Jia P, Shinbrot E, Zhang S, Liu J, Hu H, Bailey MH, Yau C, Wolf D, Zhao Z, Weinstein JN, Li L, Ding L, Mills GB, Laird PW, Wheeler DA, Shmulevich I; Cancer Genome Atlas Research Network, Monnat RJ Jr, Xiao Y, Wang C. Genomic and Molecular Landscape of DNA Damage Repair Deficiency across The Cancer Genome Atlas. *Cell Rep.* 2018 Apr 3;23(1):239-254.e6. doi: 10.1016/j.celrep.2018.03.076. PMID: 29617664. PMCID: PMC5961503.
 342. Gao Q, Liang WW, Foltz SM, Mutharasu G, Jayasinghe RG, Cao S, Liao WW, Reynolds SM, Wyczalkowski MA, Yao L, Yu L, Sun SQ; Fusion Analysis Working Group; Cancer Genome Atlas Research Network, Chen K, Lazar AJ, Fields RC, Wendl MC, Van Tine BA, Vij R, Chen F, Nykter M, Shmulevich I, Ding L. Driver Fusions and Their Implications in the Development and Treatment of Human Cancers. *Cell Rep.* 2018 Apr 3;23(1):227-238.e3. doi: 10.1016/j.celrep.2018.03.050. PMID: 29617662. PMCID: PMC5916809.
 343. Ge Z, Leighton JS, Wang Y, Peng X, Chen Z, Chen H, Sun Y, Yao F, Li J, Zhang H, Liu J, Shriver CD, Hu H; Cancer Genome Atlas Research Network, Piwnica-Worms H, Ma L, Liang H. Integrated

- Genomic Analysis of the Ubiquitin Pathway across Cancer Types. *Cell Rep.* 2018 Apr 3;23(1):213-226.e3. doi: 10.1016/j.celrep.2018.03.047. PMID: 29617661. PMCID: PMC5916807.
344. Campbell JD, Yau C, Bowlby R, Liu Y, Brennan K, Fan H, Taylor AM, Wang C, Walter V, Akbani R, Byers LA, Creighton CJ, Coarfa C, Shih J, Cherniack AD, Gevaert O, Prunello M, Shen H, Anur P, Chen J, Cheng H, Hayes DN, Bullman S, Pedamallu CS, Ojesina AI, Sadeghi S, Mungall KL, Robertson AG, Benz C, Schultz A, Kanchi RS, Gay CM, Hegde A, Diao L, Wang J, Ma W, Sumazin P, Chiu HS, Chen TW, Gunaratne P, Donehower L, Rader JS, Zuna R, Al-Ahmadie H, Lazar AJ, Flores ER, Tsai KY, Zhou JH, Rustgi AK, Drill E, Shen R, Wong CK; Cancer Genome Atlas Research Network, Stuart JM, Laird PW, Hoadley KA, Weinstein JN, Peto M, Pickering CR, Chen Z, Van Waes C. Genomic, Pathway Network, and Immunologic Features Distinguishing Squamous Carcinomas. *Cell Rep.* 2018 Apr 3;23(1):194-212.e6. doi: 10.1016/j.celrep.2018.03.063. PMID: 29617660. PMCID: PMC6002769.
345. Saltz J, Gupta R, Hou L, Kurc T, Singh P, Nguyen V, Samaras D, Shroyer KR, Zhao T, Batiste R, Van Arnem J; Cancer Genome Atlas Research Network, Shmulevich I, Rao AUK, Lazar AJ, Sharma A, Thorsson V. Spatial Organization and Molecular Correlation of Tumor-Infiltrating Lymphocytes Using Deep Learning on Pathology Images. *Cell Rep.* 2018 Apr 3;23(1):181-193.e7. doi: 10.1016/j.celrep.2018.03.086. PMID: 29617659. PMCID: PMC5943714.
346. Liu J, Lichtenberg T, Hoadley KA, Poisson LM, Lazar AJ, Cherniack AD, Kovatich AJ, Benz CC, Levine DA, Lee AV, Omberg L, Wolf DM, Shriver CD, Thorsson V; Cancer Genome Atlas Research Network, Hu H. An Integrated TCGA Pan-Cancer Clinical Data Resource to Drive High-Quality Survival Outcome Analytics. *Cell.* 2018 Apr 5;173(2):400-416.e11. doi: 10.1016/j.cell.2018.02.052. PMID: 29625055. PMCID: PMC6066282.
347. Chen H, Li C, Peng X, Zhou Z, Weinstein JN; Cancer Genome Atlas Research Network, Liang H. A Pan-Cancer Analysis of Enhancer Expression in Nearly 9000 Patient Samples. *Cell.* 2018 Apr 5;173(2):386-399.e12. doi: 10.1016/j.cell.2018.03.027. PMID: 29625054. PMCID: PMC5890960.
348. Huang KL, Mashl RJ, Wu Y, Ritter DI, Wang J, Oh C, Paczkowska M, Reynolds S, Wyczalkowski MA, Oak N, Scott AD, Krassowski M, Cherniack AD, Houlahan KE, Jayasinghe R, Wang LB, Zhou DC, Liu D, Cao S, Kim YW, Koiré A, McMichael JF, Huchtagowder V, Kim TB, Hahn A, Wang C, McLellan MD, Al-Mulla F, Johnson KJ; Cancer Genome Atlas Research Network, Lichtarge O, Boutros PC, Raphael B, Lazar AJ, Zhang W, Wendl MC, Govindan R, Jain S, Wheeler D, Kulkarni S, Dipersio JF, Reimand J, Meric-Bernstam F, Chen K, Shmulevich I, Plon SE, Chen F, Ding L. Pathogenic Germline Variants in 10,389 Adult Cancers. *Cell.* 2018 Apr 5;173(2):355-370.e14. doi: 10.1016/j.cell.2018.03.039. PMID: 29625052. PMCID: PMC5949147.
349. Malta TM, Sokolov A, Gentles AJ, Burzykowski T, Poisson L, Weinstein JN, Kamińska B, Huelsken J, Omberg L, Gevaert O, Colaprico A, Czerwińska P, Mazurek S, Mishra L, Heyn H, Krasnitz A, Godwin AK, Lazar AJ; Cancer Genome Atlas Research Network, Stuart JM, Hoadley KA, Laird PW, Noushmehr H, Wiznerowicz M. Machine Learning Identifies Stemness Features Associated with Oncogenic Dedifferentiation. *Cell.* 2018 Apr 5;173(2):338-354.e15. doi: 10.1016/j.cell.2018.03.034. PMID: 29625051. PMCID: PMC5902191.

350. Sanchez-Vega F, Mina M, Armenia J, Chatila WK, Luna A, La KC, Dimitriadou S, Liu DL, Kantheti HS, Saghafeinia S, Chakravarty D, Daian F, Gao Q, Bailey MH, Liang WW, Foltz SM, Shmulevich I, Ding L, Heins Z, Ochoa A, Gross B, Gao J, Zhang H, Kundra R, Kandoth C, Bahceci I, Dervishi L, Dogrusoz U, Zhou W, Shen H, Laird PW, Way GP, Greene CS, Liang H, Xiao Y, Wang C, Iavarone A, Berger AH, Bivona TG, Lazar AJ, Hammer GD, Giordano T, Kwong LN, McArthur G, Huang C, Tward AD, Frederick MJ, McCormick F, Meyerson M; Cancer Genome Atlas Research Network, Van Allen EM, Cherniack AD, Ciriello G, Sander C, Schultz N. Oncogenic Signaling Pathways in The Cancer Genome Atlas. *Cell*. 2018 Apr 5;173(2):321-337.e10. doi: 10.1016/j.cell.2018.03.035. PMID: 29625050. PMCID: PMC6070353.
351. Ding L, Bailey MH, Porta-Pardo E, Thorsson V, Colaprico A, Bertrand D, Gibbs DL, Weerasinghe A, Huang KL, Tokheim C, Cortés-Ciriano I, Jayasinghe R, Chen F, Yu L, Sun S, Olsen C, Kim J, Taylor AM, Cherniack AD, Akbani R, Suphavitai C, Nagarajan N, Stuart JM, Mills GB, Wyczalkowski MA, Vincent BG, Hutter CM, Zenklusen JC, Hoadley KA, Wendl MC, Shmulevich L, Lazar AJ, Wheeler DA, Getz G; Cancer Genome Atlas Research Network. Perspective on Oncogenic Processes at the End of the Beginning of Cancer Genomics. *Cell*. 2018 Apr 5;173(2):305-320.e10. doi: 10.1016/j.cell.2018.03.033. PMID: 29625049. PMCID: PMC5916814.
352. Hoadley KA, Yau C, Hinoue T, Wolf DM, Lazar AJ, Drill E, Shen R, Taylor AM, Cherniack AD, Thorsson V, Akbani R, Bowlby R, Wong CK, Wiznerowicz M, Sanchez-Vega F, Robertson AG, Schneider BG, Lawrence MS, Noushmehr H, Malta TM; Cancer Genome Atlas Network, Stuart JM, Benz CC, Laird PW. Cell-of-Origin Patterns Dominate the Molecular Classification of 10,000 Tumors from 33 Types of Cancer. *Cell*. 2018 Apr 5;173(2):291-304.e6. doi: 10.1016/j.cell.2018.03.022. PMID: 29625048. PMCID: PMC5957518.
353. Liu Y, Sethi NS, Hinoue T, Schneider BG, Cherniack AD, Sanchez-Vega F, Seoane JA, Farshidfar F, Bowlby R, Islam M, Kim J, Chatila W, Akbani R, Kanchi RS, Rabkin CS, Willis JE, Wang KK, McCall SJ, Mishra L, Ojesina AI, Bullman S, Pedamallu CS, Lazar AJ, Sakai R; Cancer Genome Atlas Research Network, Thorsson V, Bass AJ, Laird PW. Comparative Molecular Analysis of Gastrointestinal Adenocarcinomas. *Cancer Cell*. 2018 Apr 9;33(4):721-735.e8. doi: 10.1016/j.ccell.2018.03.010. Epub 2018 Apr 2. PMID: 29622466. PMCID: PMC5966039.
354. Bailey MH, Tokheim C, Porta-Pardo E, Sengupta S, Bertrand D, Weerasinghe A, Colaprico A, Wendl MC, Kim J, Reardon B, Ng PK, Jeong KJ, Cao S, Wang Z, Gao J, Gao Q, Wang F, Liu EM, Mularoni L, Rubio-Perez C, Nagarajan N, Cortés-Ciriano I, Zhou DC, Liang WW, Hess JM, Yellapantula VD, Tamborero D, Gonzalez-Perez A, Suphavitai C, Ko JY, Khurana E, Park PJ, Van Allen EM, Liang H; MC3 Working Group; Cancer Genome Atlas Research Network, Lawrence MS, Godzik A, Lopez-Bigas N, Stuart J, Wheeler D, Getz G, Chen K, Lazar AJ, Mills GB, Karchin R, Ding L. Comprehensive Characterization of Cancer Driver Genes and Mutations. *Cell*. 2018 Apr 5;173(2):371-385.e18. doi: 10.1016/j.cell.2018.02.060. Erratum in: *Cell*. 2018 Aug 9;174(4):1034-1035. PMID: 29625053. PMCID: PMC6029450.
355. Wang Z, Yang B, Zhang M, Guo W, Wu Z, Wang Y, Jia L, Li S; Cancer Genome Atlas Research Network, Xie W, Yang D. lncRNA Epigenetic Landscape Analysis Identifies EPIC1 as an Oncogenic lncRNA that Interacts with MYC and Promotes Cell-Cycle Progression in Cancer. *Cancer Cell*. 2018 Apr 9;33(4):706-720.e9. doi: 10.1016/j.ccell.2018.03.006. Epub 2018 Apr 2. PMID: 29622465. PMCID: PMC6143179.

356. Berger AC, Korkut A, Kanchi RS, Hegde AM, Lenoir W, Liu W, Liu Y, Fan H, Shen H, Ravikumar V, Rao A, Schultz A, Li X, Sumazin P, Williams C, Mestdagh P, Gunaratne PH, Yau C, Bowlby R, Robertson AG, Tiezzi DG, Wang C, Cherniack AD, Godwin AK, Kuderer NM, Rader JS, Zuna RE, Sood AK, Lazar AJ, Ojesina AI, Adebamowo C, Adebamowo SN, Baggerly KA, Chen TW, Chiu HS, Lefever S, Liu L, MacKenzie K, Orsulic S, Roszik J, Shelley CS, Song Q, Vellano CP, Wentzensen N; Cancer Genome Atlas Research Network, Weinstein JN, Mills GB, Levine DA, Akbani R. A Comprehensive Pan-Cancer Molecular Study of Gynecologic and Breast Cancers. *Cancer Cell*. 2018 Apr 9;33(4):690-705.e9. doi: 10.1016/j.ccell.2018.03.014. Epub 2018 Apr 2. PMID: 29622464. PMCID: PMC5959730.
357. Taylor AM, Shih J, Ha G, Gao GF, Zhang X, Berger AC, Schumacher SE, Wang C, Hu H, Liu J, Lazar AJ; Cancer Genome Atlas Research Network, Cherniack AD, Beroukheim R, Meyerson M. Genomic and Functional Approaches to Understanding Cancer Aneuploidy. *Cancer Cell*. 2018 Apr 9;33(4):676-689.e3. doi: 10.1016/j.ccell.2018.03.007. Epub 2018 Apr 2. PMID: 29622463. PMCID: PMC6028190.
358. Thorsson V, Gibbs DL, Brown SD, Wolf D, Bortone DS, Ou Yang TH, Porta-Pardo E, Gao GF, Plaisier CL, Eddy JA, Ziv E, Culhane AC, Paull EO, Sivakumar IKA, Gentles AJ, Malhotra R, Farshidfar F, Colaprico A, Parker JS, Mose LE, Vo NS, Liu J, Liu Y, Rader J, Dhankani V, Reynolds SM, Bowlby R, Califano A, Cherniack AD, Anastassiou D, Bedognetti D, Rao A, Chen K, Krasnitz A, Hu H, Malta TM, Noushmehr H, Peadarallu CS, Bullman S, Ojesina AI, Lamb A, Zhou W, Shen H, Choueiri TK, Weinstein JN, Guinney J, Saltz J, Holt RA, Rabkin CE; Cancer Genome Atlas Research Network, Lazar AJ, Serody JS, Demicco EG, Disis ML, Vincent BG, Shmulevich L. The Immune Landscape of Cancer. *Immunity*. 2018 Apr 17;48(4):812-830.e14. doi: 10.1016/j.immuni.2018.03.023. Epub 2018 Apr 5. PMID: 29628290.
359. Caumanns JJ, Berns K, Wisman GBA, Fehrmann RSN, Tomar T, Klip H, Meersma GJ, Hijmans EM, Gennissen A, Duiker EW, Weening D, Itamochi H, Kluin RJ, Reyners AKL, **Birrer MJ**, Salvesen HB, Vergote I, Van Nieuwenhuysen E, Brenton JD, Braicu EI, Kupryjanczyk J, Spiewankiewicz B, Mittempergher L, Bernards R, van der Zee AGJ, de Jong S. Integrative kinome profiling identifies mTORC1/2 inhibition as treatment strategy in ovarian clear cell carcinoma. *Clin Cancer Res*. 2018 Apr 23. pii: clincanres.3060.2017. doi: 10.1158/1078-0432.CCR-17-3060. [Epub ahead of print] 2018 Apr 23. PMID: 29685880; PMCID: PMC6098697.
360. Ricketts CJ, De Cubas AA, Fan H, Smith CC, Lang M, Reznik E, Bowlby R, Gibb EA, Akbani R, Beroukheim R, Bottaro DP, Choueiri TK, Gibbs RA, Godwin AK, Haake S, Hakimi AA, Henske EP, Hsieh JJ, Ho TH, Kanchi RS, Krishnan B, Kwiatkowski DJ, Lui W, Merino MJ, Mills GB, Myers J, Nickerson ML, Reuter VE, Schmidt LS, Shelley CS, Shen H, Shuch B, Signoretti S, Srinivasan R, Tamboli P, Thomas G, Vincent BG, Vocke CD, Wheeler DA, Yang L, Kim WY, Robertson AG; Cancer Genome Atlas Research Network, Spellman PT, Rathmell WK, Linehan WM. The Cancer Genome Atlas Comprehensive Molecular Characterization of Renal Cell Carcinoma. *Cell Rep*. 2018 Jun 19;23(12):3698. doi: 10.1016/j.celrep.2018.06.032. No abstract available. PMID: 29925010.
361. Bailey MH, Tokheim C, Porta-Pardo E, Sengupta S, Bertrand D, Weerasinghe A, Colaprico A, Wendl MC, Kim J, Reardon B, Kwok-Shing Ng P, Jeong KJ, Cao S, Wang Z, Gao J, Gao Q, Wang F, Liu EM, Mularoni L, Rubio-Perez C, Nagarajan N, Cortés-Ciriano I, Zhou DC, Liang WW, Hess JM, Yellapantula VD, Tamborero D, Gonzalez-Perez A, Suphavilai C, Ko JY, Khurana E, Park PJ,

- Van Allen EM, Liang H; MC3 Working Group; Cancer Genome Atlas Research Network, Lawrence MS, Godzik A, Lopez-Bigas N, Stuart J, Wheeler D, Getz G, Chen K, Lazar AJ, Mills GB, Karchin R, Ding L. Comprehensive Characterization of Cancer Driver Genes and Mutations. *Cell*. 2018 Aug 9;174(4):1034-1035. doi: 10.1016/j.cell.2018.07.034. No abstract available. PMID: 30096302.
362. Kahles A, Lehmann KV, Toussaint NC, Hüser M, Stark SG, Sachsenberg T, Stegle O, Kohlbacher O, Sander C; Cancer Genome Atlas Research Network, Räscher G. Comprehensive Analysis of Alternative Splicing Across Tumors from 8,705 Patients. *Cancer Cell*. 2018 Aug 13;34(2):211-224.e6. doi: 10.1016/j.ccell.2018.07.001. Epub 2018 Aug 2. PMID: 30078747.
 363. Moore KN, O'Malley DM, Vergote I, Martin LP, Gonzalez-Martin A, Malek K, **Birrer MJ**. Safety and activity findings from a phase 1b escalation study of mirvetuximab soravtansine, a folate receptor alpha (FR α)-targeting antibody-drug conjugate (ADC), in combination with carboplatin in patients with platinum-sensitive ovarian cancer. *Gynecol Oncol*. 2018 Oct; 151(1):46-52. doi: 10.1016/j.ygyno.2018.07.017. Epub 2018 Aug 6. PMID: 30093227.
 364. Wang Y, Xu X, Maglic D, Dill MT, Mojumdar K, Ng PK, Jeong KJ, Tsang YH, Moreno D, Bhavana VH, Peng X, Ge Z, Chen H, Li J, Chen Z, Zhang H, Han L, Du D, Creighton CJ, Mills GB; Cancer Genome Atlas Research Network, Camargo F, Liang H. Comprehensive Molecular Characterization of the Hippo Signaling Pathway in Cancer. *Cell Rep*. 2018 Oct 30;25(5):1304-1317.e5. doi: 10.1016/j.celrep.2018.10.001. PMID: 30380420. PMCID: PMC6326181.
 365. Korkut A, Zaidi S, Kanchi RS, Rao S, Gough NR, Schultz A, Li X, Lorenzi PL, Berger AC, Robertson G, Kwong LN, Datto M, Roszik J, Ling S, Ravikumar V, Manyam G, Rao A, Shelley S, Liu Y, Ju Z, Hansel D, de Velasco G, Pennathur A, Andersen JB, O'Rourke CJ, Ohshiro K, Jogunoori W, Nguyen BN, Li S, Osmanbeyoglu HU, Ajani JA, Mani SA, Houseman A, Wiznerowicz M, Chen J, Gu S, Ma W, Zhang J, Tong P, Cherniack AD, Deng C, Resar L; Cancer Genome Atlas Research Network, Weinstein JN, Mishra L, Akbani R. A Pan-Cancer Analysis Reveals High-Frequency Genetic Alterations in Mediators of Signaling by the TGF- β Superfamily. *Cell Syst*. 2018 Oct 24;7(4):422-437.e7. doi: 10.1016/j.cels.2018.08.010. Epub 2018 Sep 26. PMID: 30268436. PMCID: PMC6370347. 367.
 366. Matulonis UA, **Birrer MJ**, O'Malley DM, Moore KN, Konner J, Gilbert L, Martin LP, Bauer TM, Oza AM, Malek K, Pinkas J, Kim SK. Evaluation of Prophylactic Corticosteroid Eye Drop Use in the Management of Corneal Abnormalities Induced by the Antibody-Drug Conjugate Mirvetuximab Soravtansine. *Clin Cancer Res*. 2018 Nov 9. doi: 10.1158/1078-0432.CCR-18-2474. [Epub ahead of print] PMID: 30413525.
 367. Yeung TL, Tsai CC, Leung CS, Au Yeung CL, Thompson MS, Lu KH, Freedman RS, **Birrer MJ**, Wong KK, Mok SC. ISG15 Promotes ERK1 ISGylation, CD8⁺ T Cell Activation and Suppresses Ovarian Cancer Progression. *Cancers (Basel)*. 2018 Nov 22;10(12). pii: E464. doi: 10.3390/cancers10120464. PMID: 30469497. PubMed Central PMCID: PMC6316352.
 368. Rauh-Hain JA, Hidrue MK, Gaccione P, Melamed A, Meyer LA, Keating NL, Giordano SH, Rice LW, **Birrer MJ**, Del Carmen MG. Variation in resource utilization associated with the surgical

- management of ovarian cancer. *Gynecol Oncol*. 2018 Dec 19. pii: S0090-8258(18)31513-0. doi: 10.1016/j.ygyno.2018.12.013. [Epub ahead of print] PMID: 30579568; PMCID: PMC6420848.
369. **Birrer MJ**, Betella I, Martin LP, Moore KN. Is Targeting the Folate Receptor in Ovarian Cancer Coming of Age? *Oncologist*. 2019 Jan 11. pii: theoncologist.2018-0459. doi: 10.1634/theoncologist.2018-0459. [Epub ahead of print] No abstract available. PMID: 30635448.
 370. Randall LM, **Birrer MJ**, Herzog TJ. Ovarian Cancer Maintenance: Practice-Changing Data Calls for Changing Practice. *Oncologist*. 2019 Mar 20. pii: theoncologist.2019-0020. doi: 10.1634/theoncologist.2019-0020. [Epub ahead of print] PMID: 30894410.
 371. **Birrer MJ**, Moore KN, Betella I, Bates RC. Antibody-Drug Conjugate-Based Therapeutics: State of the Science. *J Natl Cancer Inst*. 2019 Mar 11. pii: djz035. doi: 10.1093/jnci/djz035. Epub ahead of print] PMID: 30859213.
 372. Brooks RA, Trichtler DS, Darcy KM, Lankes HA, Salani R, Sperduto P, Guntupalli S, DiSilvestro P, Kesterson J, Olawaiye AB, Moxley K, Waggoner S, Santin A, Rader JS, Kizer NT, Thaker PH, Powell MA, Mutch DG, **Birrer MJ**, Goodfellow PJ. GOG 8020/210: Risk stratification of lymph node metastasis, disease progression and survival using single nucleotide polymorphisms in endometrial cancer: An NRG oncology/gynecologic oncology group study. *Gynecol Oncol*. 2019 Feb 28. pii: S0090-8258(19)30138-6. doi: 10.1016/j.ygyno.2019.02.028. [Epub ahead of print] PMID: 30827726.
 373. Krasner CN, Castro C, Penson RT, Roche M, Matulonis UA, Morgan MA, Drescher C, Armstrong DK, Wolfe JK, Lee H, Supko JG, Seiden M, **Birrer MJ**, Dizon DS. Final report on serial phase II trials of all-intraperitoneal chemotherapy with or without bevacizumab for women with newly diagnosed, optimally cytoreduced carcinoma of Müllerian origin. *Gynecol Oncol*. 2019 Feb 12. pii: S0090-8258(19)30107-6. doi: 10.1016/j.ygyno.2019.02.004. [Epub ahead of print] PMID: 30765148.
 374. Zaborowski MP, Lee K, Na YJ, Sammarco A, Zhang X, Iwanicki M, Cheah PS, Lin HY, Zinter M, Chou CY, Fulci G, Tannous BA, Lai CP, **Birrer MJ**, Weissleder R, Lee H, Breakefield XO. Methods for Systematic Identification of Membrane Proteins for Specific Capture of Cancer-Derived Extracellular Vesicles. *Cell Rep*. 2019 Apr 2; 27(1):255-268.e6. doi: 10.1016/j.celrep.2019.03.003. PMID: 30943406.
 375. Ceppi L, Bardhan NM, Na Y, Siegel A, Rajan N, Fruscio R, Del Carmen MG, Belcher AM, **Birrer MJ**. Real-Time Single-Walled Carbon Nanotube-Based Fluorescence Imaging Improves Survival after Debulking Surgery in an Ovarian Cancer Model. *ACS Nano*. 2019 Apr 25. doi: 10.1021/acsnano.8b09829. [Epub ahead of print] PMID: 31009198.
 376. Roane BM, Arend RC, **Birrer MJ**. Review: Targeting the Transforming Growth Factor-Beta Pathway in Ovarian Cancer. *Cancers (Basel)*. 2019 May 14;11(5). pii: E668. doi: 10.3390/cancers11050668. Review. PMID: 3109174.
 377. Tewari KS, Burger RA, Enserro D, Norquist BM, Swisher EM, Brady MF, Bookman MA, Fleming GF, Huang H, Homesley HD, Fowler JM, Greer BE, Boente M, Liang SX, Ye C, Bais C, Randall LM, Chan JK, Ferriss JS, Coleman RL, Aghajanian C, Herzog TJ, DiSaia PJ, Copeland LJ, Mannel

- RS, **Birrer MJ**, Monk BJ. Final Overall Survival of a Randomized Trial of Bevacizumab for Primary Treatment of Ovarian Cancer. *J Clin Oncol*. 2019 Jun 19;JCO1901009. doi: 10.1200/JCO.19.01009. [Epub ahead of print] PMID: 31216226.
378. Yeung TL, Leung CS, Yip KP, Sheng J, Vien L, Bover LC, **Birrer MJ**, Wong STC, Mok SC. Anticancer Immunotherapy by MFAP5 Blockade Inhibits Fibrosis and Enhances Chemosensitivity in Ovarian and Pancreatic Cancer. *Clin Cancer Res*. 2019 Jul 22. doi: 10.1158/1078-0432.CCR-19-0187. [Epub ahead of print] PMID: 31332047.
379. Mirza MR, Bergmann TK, Mau-Sørensen M, Christensen RD, Åvall-Lundqvist E, **Birrer MJ**, Jørgensen M, Roed H, Malander S, Nielsen F, Lassen U, Brøsen K, Bjørge L, Mäenpää J. A phase I study of the PARP inhibitor niraparib in combination with bevacizumab in platinum-sensitive epithelial ovarian cancer: NSGO AVANOVA1/ENGOT-OV24. *Cancer Chemother Pharmacol*. 2019 Oct;84(4):791-798. doi: 10.1007/s00280-019-03917-z. Epub 2019 Aug 2. PMID: 31375879.
380. Lee EK, Tan-Wasielewski Z, Matulonis UA, **Birrer MJ**, Wright AA, Horowitz N, Konstantinopoulos PA, Curtis J, Liu JF. Results of an abbreviated Phase Ib study of the HDAC6 inhibitor ricolinostat and paclitaxel in recurrent ovarian, fallopian tube, or primary peritoneal cancer. *Gynecol Oncol Rep*. 2019 Aug 10;29:118-122. doi: 10.1016/j.gore.2019.07.010. eCollection 2019 Aug. PMID: 31467965 PMCID: PMC6712364.
381. Mirza MR, Åvall Lundqvist E, **Birrer MJ**, dePont Christensen R, Nyvang GB, Malander S, Anttila M, Werner TL, Lund B, Lindahl G, Hietanen S, Peen U, Dimoula M, Roed H, Ør Knudsen A, Staff S, Krog Vistisen A, Bjørge L, Mäenpää JU; AVANOVA investigators. Niraparib plus bevacizumab versus niraparib alone for platinum-sensitive recurrent ovarian cancer (NSGO-AVANOVA2/ENGOT-ov24): a randomised, phase 2, superiority trial. *Lancet Oncol*. 2019 Oct;20(10):1409-1419. doi: 10.1016/S1470-2045(19)30515-7. Epub 2019 Aug 29. PMID: 31474354.
382. Westin SN, Sill MW, Coleman RL, Waggoner S, Moore KN, Mathews CA, Martin LP, Modesitt SC, Lee S, Ju Z, Mills GB, Schilder RJ, Fracasso PM, **Birrer MJ**, Aghajanian C. Safety lead-in of the MEK inhibitor trametinib in combination with GSK2141795, an AKT inhibitor, in patients with recurrent endometrial cancer: An NRG Oncology/GOG study. *Gynecol Oncol*. 2019 Oct 15. pii: S0090-8258(19)31548-3. doi: 10.1016/j.ygyno.2019.09.024. [Epub ahead of print] PMID: 31623857.

BOOKS AND BOOK CHAPTERS

1. Minna JD, Battey JF, **Birrer MJ**, Cuttitta F, DeGreve J, Gazdar AF, Ihde DC, Johnson BE, Kaye F, Krystal GW, Lebacqz AM, Linnoila IR, Mulshine J, Nau MM, Sausville EA, Schutte T, Trepel JB. Genetic changes involved in the pathogenesis of human lung cancer including oncogene activation, chromosomal deletions, and autocrine growth factor production. In: Fortner JG, Rhoads JE, editors. *Accomplishments in cancer research*. Philadelphia: JB Lippincott, 1988. p. 155-182.
2. Minna JD, Kaye FJ, Takahashi T, Harbour JW, Rosenberg R, Nau M, Whang-Peng J, Johnson B, **Birrer MJ**, Gazdar AF. Recessive oncogenes and chromosomal deletions in human lung cancer. In: Cavennee W, Hastie N, Stanbridge E, editors. *Recessive oncogenes and tumor suppression*. Cold

Spring Harbor Laboratory, 1989, p. 57-65.

3. Brown PH, Mulshine J, and **Birrer MJ**. Tumor initiators and promoters in lung cancer. *Lung Cancer Research Quarterly* 1:3-16, 1991.
4. Siegfried JM, **Birrer MJ**, and Cuttitta F. Detection of growth factor effects and expression in normal and neoplastic human bronchial epithelial cell. In: Milo G.E., et al. editors. *Transformation of Human Epithelial Cells: Molecular Oncogenetic Mechanisms*. Boca Raton: CRC, 1992.
5. Mulshine JL, **Birrer MJ**, Treston AM, Scott F, Quinn K, Avis I, and Cuttitta F: Growth factors and targets for rational application intervention agents. In: Newell GR, Hong WK, editors. *The Biology and Prevention of Aerodigestive Tract Cancers*. New York: Plenum, 1992. p. 81-88.
6. Mulshine JL, Shaw GL, Cuttitta F, Scott F, Avis I, Treston AM, Linnoila RI, **Birrer MJ**, Brown P, Gupta PK, and Tockman MS: Applications of biomarkers for lung cancer early detection. In Fortner JG, Rhoads JE, editors. *Accomplishments in cancer research*. Philadelphia: JB Lippincott, 1992. p. 204-218.
7. Draoui M, Battey J, **Birrer MJ**, Moody TW. Regulation of gastrin releasing peptide gene expression. In: Moody TW, editor. *Growth Factors, Peptides, and Receptors*. New York: Plenum, 1993. p. 347-352.
8. Teneriello MG, Hall KL, Lemon SJ, Nash JD, **Birrer MJ**. Genetic alterations in gynecologic cancers. In: Srivastava S, Lippman SM, Hong WK, Mulshine, JL, editors. *Early Detection of Cancer: Molecular Markers*. Armonk, New York: Futura Publishing, 1994. p. 97-119.
9. **Birrer MJ**, Gray JW, Lippman SM, Lubet R, Mulshine JL, Shaw GL, Srivastava S, and Tockman S. Basic science, technical development, and clinical and laboratory-to-field application issues. In: Srivastava S, Lippman SM, Hong WK, Mulshine JL, editors. *Early Detection of Cancer: Molecular Markers*. Armonk, New York: Futura, 1994. p. 289-308.
10. Szabo E, **Birrer MJ**. Oncogenes, cancer and growth factors. In: Barnes PJ and Stockley RA, editors. *Molecular biology of lung diseases*. Oxford: Blackwell Scientific, 1994. p. 173-191.
11. Lemon SJ, Sabichi AL, and **Birrer MJ**. Genetic alterations in lung cancer. In: Garrett CT and Sells S, editors. *Cellular Cancer Markers*. Totowa: Humana, 1995. p. 209-231.
12. Sabichi AL, Bober MA, and **Birrer MJ**. Lung cancer. In Kurzrock R and Talpaz M, editors. *Molecular biology in cancer medicine*. London: Martin Dunitz, 1995. p. 223-241.
13. Parker MF, Sausville EA, **Birrer MJ**. Basic biology and biochemistry of gynecologic cancer. In: Hoskins W, Perez CA, Young RC, editors. *Principles and practice of gynecology oncology*, 2nd edition. Philadelphia: Lippincott-Raven, 1997, p. 61-86.
14. Farley J, Hendricks D, **Birrer MJ**. Ovarian and endometrial cancer molecular pathology. In: Srivastava S, Henson DE, and Gazdar A, editors. *Molecular pathology of early cancer*. Amsterdam, IOS, 1998, p.21-34.

15. Rose GS, Carlson J, and **Birrer MJ**. Basic biology and biochemistry of gynecologic cancer. In: Hoskins, W, Perez, CA, and Young, RC, editors. Principles and practice of gynecology oncology, 2nd ed. Philadelphia: Lippincott-Raven, 2000. p. 62-85.
16. Zorn K, Gardner G, **Birrer MJ**. Basic biology of gynecologic cancer. In: Hoskins W, Perez CA, Young RC, editors. Principles and practice of gynecology oncology, 3rd edition. Philadelphia: Lippincott-Raven, 2004.
17. Zorn KK, Gardner GJ, **Birrer MJ**. Epithelial ovarian Cancer. In: Kelloff GJ, Hawk ET, Sigman CC, editors. Cancer Chemoprevention Volume 2: Strategies for cancer chemoprevention. Totowa, Humana Press Inc, 2005. p. 473-489.
18. Annunziata CM, and **Birrer MJ**. Endometrial Cancer. In: Abraham J, Allegra CJ, Gulley J, editors. Bethesda Handbook of Clinical Oncology, 2nd ed. Philadelphia, Lippincott Williams & Wilkins, 2005. p. 237-245.
19. Annunziata CM, and **Birrer MJ**. Vulvar Cancer. In: Abraham J, Allegra CJ, Gulley J, editors. Bethesda. Handbook of Clinical Oncology, 2nd edition. Philadelphia, Lippincott Williams & Wilkins, 2005. p. 257-265.
20. Zorn K, Gardner G; Farley J, and **Birrer MJ**. Basic biology of gynecologic cancer. In: Hoskins W, Perez CA, Young RC, editors. Principles and practice of gynecology oncology, 4th edition. Philadelphia, Lippincott-Raven, 2007.
21. **Birrer MJ**, Zorn, KK, Gardner, GJ. Molecular profiling in ovarian cancer. In: Levenback CF, Sood, AK, Lu KH, Coleman RL, editors. Prognostic and predictive factors in gynecologic cancers. London, UK: Informa Ltd, 2007.
22. Farley J, Ozbun, LL, **Birrer MJ**. Whole-genome expression profiling of papillary serous ovarian cancer: Activated pathways, potential targets and noise. In: Yuryev A, editor. A pathway analysis for drug discovery. Hoboken, NJ: John Wiley & Sons, Inc., 2008.
23. Stany M, Farley J, **Birrer MJ**. Chemotherapy: principles and practice. In: Fishman D, editor. Gynecologic oncology. Requisites in obstetrics and gynecology, Philadelphia: Elsevier-Global Medicine, 2008.
24. Farley J, **Birrer MJ**. Novel therapeutic targets. In: Stack MS, Fishman DA, editors. Ovarian cancer, 2nd edition. Springer Science Business Media, LLS, 2009. p. 63-84.
25. Annunziata CM, **Birrer MJ**. Vulvar cancer. In: Abraham J, Allegra C, Gulley J, editors. Bethesda Manual of Clinical Oncology. Philadelphia: Lippincott, Williams and Wilkins, 2008. p. 257-264. (3rd ed. 2010, p. 252-260)
26. Annunziata CM, **Birrer MJ**. Endometrial Carcinoma. In: Abraham J, Allegra C, Gulley J, editors. Bethesda Manual of Clinical Oncology. Philadelphia: Lippincott, Williams and Wilkins, 2008, p. 237-244. (3rd ed. 2010, p. 233-240)
27. McNally T, Penson R, Tran C, **Birrer MJ**. Gynecologic Cancer. In: Skeel RT, Khlief SN, editors.

Handbook of Cancer Chemotherapy. 8th Edition. Philadelphia: Lippincott, Williams and Wilkins, 2011. p. 199-232.

28. Pejovic T, **Birrer MJ**, Anderson ML, Odunsi K. Molecular biology of gynecologic cancers. In: DeVita VT, Lawrence TS, Rosenberg SA, editors. Cancer: Principles and practice of oncology. 10th edition. Philadelphia: Lippincott, Williams and Wilkins, Jan 2015. p. 1005-1012.
29. del Carmen MG, Young RH, Schorge JO, **Birrer MJ**, editors. Uncommon Gynecologic Cancers. John Wiley & Sons, Ltd., 2015
30. **Birrer M**, Ceppi L, editors. Translational Advances in Gynecologic Cancers. Elsevier, 2017.

PUBLISHED ABSTRACTS - Greater than 500 published abstracts

CURRICULUM VITAE

Teresita Bellido, Ph.D.

EDUCATION

- 1979, 1981 Universidad Nacional del Sur, Argentina. BS Chemistry, BS Biochemistry
1988 Universidad Nacional del Sur, Argentina. Ph.D. Biochemistry.
 Dissertation: *Muscle phosphate uptake: effects and mechanism of action of Vitamin D₃ metabolites.*
- 1988-1990 Universidad Nacional del Sur, Argentina. Postdoctoral Fellowship with Ricardo L. Boland. *Signaling pathways involved in Vitamin D action in skeletal muscle.*
- 1990-1993 Endocrinology and Metabolism Section, Roudebush Veterans Administration Medical Center - Indiana University School of Medicine, Indianapolis, Indiana, USA. Postdoctoral Fellowship with Stavros C. Manolagas. *Molecular mechanism of the regulation of Interleukin-6 by estrogens and androgens in stromal/osteoblastic cells.*

ACADEMIC APPOINTMENTS

- 11/1993-5/2000 Research Assistant Professor of Medicine. Division of Endocrinology and Metabolism and UAMS Center for Osteoporosis and Metabolic Bone Diseases, Department of Internal Medicine, University of Arkansas for Medical Sciences, Little Rock, Arkansas
- 6/2000 – 6/2003 Research Associate Professor of Medicine
- 7/2003 – 6/2007 Associate Professor of Medicine
- 7/2007 – 6/2008 Professor of Medicine with Tenure
- 3/2007 – 6/2008 Faculty, Graduate School, University of Arkansas for Medical Sciences
- 4/2007 – 6/2008 Adjunct Faculty, Department of Applied Sciences, Nanotechnology Center, University of Arkansas at Little Rock
- 2/2007 – 6/2008 Central Arkansas Veterans Administration Health Care System, Little Rock, Arkansas, Non-clinician Investigator
- 7/2008 Professor with Tenure, Department of Anatomy and Cell Biology, Indiana University School of Medicine, Indianapolis, Indiana
- 7/2008 Adjunct Professor, Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, Indianapolis, Indiana
- 7/2008 Faculty, Graduate School, Indiana University, Indianapolis, Indiana
- 10/2009 Faculty, Graduate School, Purdue University, West Lafayette, Indiana
- 8/2011 Richard L. Roudebush Veterans Administration Medical Center, Indianapolis, Indiana, Senior Research Scientist, non-clinician Investigator.
- 4/1/2019 – 3/31/2024 Research Career Scientist (RCS), Department of Veterans Affairs, US
- 7/2016 Member of Indiana Center for Musculoskeletal Health (ICMH)
- 12/2016 Member of Indiana Center for Diabetes and Metabolic Diseases (CDMD)

RESEARCH INTERESTS

Signal transduction in bone cells. Bone cell apoptosis. Hormonal actions on cells of the musculoskeletal system: parathyroid hormone, glucocorticoids, sex steroids, Vitamin D. Crosstalk between hormonal and mechanical stimuli. Bisphosphonates. Wnt signaling in bone. Osteocyte biology in health and disease. Sost/sclerostin in bone physiology and pathology. Osteocytes and diabetes-induced musculoskeletal disease. Osteocytes and multiple myeloma. Mechanisms of nutritional diets on the musculoskeletal system.

CURRENT GRANTS

As Principal Investigator (PI) or Project Leader

- 10/1/2016-9/31/2020 PharmaMar S.A. Characterization of Aplidin® (plitidepsin) effects on multiple myeloma (MM)-induced bone disease. Role: PI
- 4/1/2019 3/31/2024 VA-IK6BX004596 Research Career Scientist (RCS) Award, Department of Veterans Affairs, US. Role: PI
- 04/2017-03/2022 NIH R01 CA209882. Contribution of Osteocytes to the Musculoskeletal Effects of Multiple Myeloma. Role MPI with GD Roodman
- 4/1/2018-3/30/2022 VA I01 BX002104-05 Merit Award. PTH receptor Signaling and Diabetes-induced Bone Disease. Role: PI
- 9/01/2011-5/31/2023 NIH R01 2R01AR059357-06. Glucocorticoid-induced Atrophy in Bone and Muscle Role: PI

As co-Investigator, Mentor or Collaborator

- 8/20/2018-7/31/2020 NIH-NIAMS R21AR074012-01. Nrf2 activation for treatment of osteoporosis. Role: Consultant; PI J Li
- 5/15/2018-4/30/2020 NIH-NIAMS R21AR071559-01. Mechanisms of Osteocyte Mechanotransduction in Dynamic Bone Adaptation. Role: PI of subcontract IU-University of Pennsylvania; PI J Boerckel
- 12/1/15-11/30/2020 NIH R01 AR068332. CaMKK2 Inhibition as a Dual-Action Bone Anabolic and Anti-Catabolic Therapy in Osteoporosis. Role: Co-Investigator. PI: U Sankar.
- 4/1/2015-3/31/2020 NIH R01AR067210. Osteocyte apoptosis and regulation of bone resorption with aging. Role: Co-Investigator. PI: LI Plotkin
- 12/1/2011-11/31/2020 VA I01 BX001478 Merit Award. Harnessing the anabolic potential of Wnt signaling to improve bone health. Role Co-I. PI: AR Robling

AWARDS AND PREVIOUS GRANTS

As Principal Investigator (PI) or Project Leader

- 9/30/2014-8/31/2019 NIH-NCCAM R01-AT008754 and O2S1-AT008754. Berries and bone. Role: PI of subcontract IU-Purdue University; PI C Weaver
- 10/1/2013-9/30/2017 VA I01 BX002104 Merit Award. Osteocyte control of bone remodeling through the PTH receptor. Role: PI

09/2011-08/2017	NIH R01 AR059357. FAK/Pyk2 signaling pathway and bone formation. Role: PI
06/2017	NSF Support for Junior Investigators at the ORS Musculoskeletal Biology Workshop at Sun Valley, Idaho. Role: PI
6/1/2015-5/31/2016	NIH-NCCAM Supplement to Berries and bone. Role: PI of subcontract IU-Purdue University. PI C Weaver
12/1/2014-11/31/2015	National Osteoporosis Foundation. Oat avenanthramides and protection from oxidative stress in bone cells. Role: PI
4/1/2011-3/31/2015	Department of Defense. Development of a novel synthetic drug for osteoporosis and fracture healing. Role: Co-PI with H Yokota
3/15/2013-9/30/2014	Indiana University Collaborative Research Grants (IUCRG). Localizing the skeletal effects of the serotonin transporter. Role: Co-PI with S Warden.
4/1/2013-12/31/2014	Indiana University Clinical and Translational Science Institute (ICTSI), P30 Role of osteocytes in multiple myeloma. Role: Co-PI with RD Roodman
5/15/2013-8/29/2014	Indiana University Clinical and Translational Science Institute (ICTSI), Procuring and maintaining a Nrf2 knock out mouse colony. Role: PI
07/2012-10/2013	IU Showalter Trust award. Glucocorticoids and bone and muscle atrophy. Role: PI (resigned by the original PI N Bivi due to change of employment)
07/2007-06/2012	NIH R01-DK076007 Osteocyte control of bone formation via Sost. Role: PI
04/2012-03/2015	Department of Defense. Antagonism between glucocorticoids and mechanical loading in bone. Role: PI. Resigned due to same project funded by the NIH.
03/2010-11/2010	ARRA Supplement to NIH R01. Osteocyte control of bone formation via Sost. Role: PI
06/2009-05/2010	Procter and Gamble. Prevention of osteoblast and osteocyte apoptosis in the absence of anti-resorptive effects by bisphosphonates. Role: Co-PI with LI Plotkin
09/01/05-08/31/09	NIH-Fogarty International Center 1 R03 TW06919-01A1. Bisphosphonate binding to connexin43 expressing cells. Role: PI
06/2006-05/2008	NIH Project 4. Mechanical forcers, osteocyte viability, and bone strength in old age. Role: Project Leader; P01, PI: SC Manolagas. Resigned due to change of institution.
04/2001-04/2006	NIH Project 5. Signals controlling osteocyte viability. Role: Project Leader; P01, PI: SC Manolagas.
07/01/05-07/01/06	College of Medicine, University of Arkansas for Medical Sciences. Osteoblast control of bone formation by Sost. Role: PI
01/2004-12/2004	Nuvios Sponsored Research Agreement. Role: PI

02/2003-12/2004	Procter and Gamble. Bisphosphonate effects on osteoclasts and osteocytes in vitro: Mechanisms of inhibition of glucocorticoid-induction of osteocyte apoptosis. Co-PIs: T Bellido and RS Weinstein.
2002	Advances in Mineral Metabolism AIMM Faculty Award.
10/2000-09/2005	NIH K02 Career Development Award, Cytokine Signal Transduction in Osteoblastic Cells. Role: PI.
12/1996-11/2001	NIH FIRST Award R29, Cytokine Signal Transduction in Osteoblastic Cells. Role: PI
1998-1999	Gador SA Argentina, Actions of Bisphosphonates on Genesis and Apoptosis of Osteoblastic Cells. Role: PI
1996-1997	American Cancer Society Institutional Grant 187-B (Arkansas Cancer Research Center). Role: PI
1995	International Conferences on Calcium Regulating Hormones Travel Award.
1994-1995	Medical Research Endowment, University of Arkansas for Medical Sciences. Role: PI
1993	Young Investigator Award, American Society for Bone and Mineral Research.
9/1990-8/1992	External Postdoctoral Fellowship (CONICET – Argentina)
1988	Biennial Prize “FABA 88” to young researchers, Argentinian Biochemical Federation.
1985-1990	Graduate Research Fellowship Consejo Nacional de Investigaciones Cientificas y Tecnicas Argentina (CONICET – Argentina)
1982-1985	Graduate Research Fellowship (Committee of Cientific Research, Buenos Aires, Argentina, CIC).

As co-Investigator, Mentor or Collaborator

4/1/2013-3/31/2018	NIH R01. Control of FGF23 bioactivity via circulating alphaKlotho. Role: Co-Investigator. PI.: KE White
7/1/2016-6/30/2017	AAOF – American Association of Orthodontics Foundation. The effect of intermittent PTH on mandibular condylar cartilage. Role: co-Investigator. PI: A Utreja
7/1/2011-6/30/2016	NIH R01. Identification of genes that affect peak BMD in men and women. Role: Co-Investigator; PI: ME Econs
5/1/2014-10/30/2015	Women's Global Health Institute/CTSI MEER Grant. Purdue University. Estrogen receptor-beta in mechanosensitive and estrogenic pathways in osteocytes. Role: Co-investigaror; PI: Russell Main
07/2010-06/2015	NIH R01. Clinical and genetic analysis of ADHR. Role: Co-Investigator; PI: ME Econs

12/2011-11/2015 VA I01 BX001478. Improving bone health by harnessing the anabolic potential of LDLR-related protein 5. Role: Co-Investigator; PI: AG Robling

1/1/2013-12/31/2015 International Bone and Mineral Society (IBMS) - Gideon and Sevgi Rodan Fellowship. Role of osteocytes in multiple myeloma bone disease. Role: co-Mentor with Dr. D. Roodman; PI: Jesus Delgado Calle

06/2003-08/2014 NIH Bridges to the Doctorate at IU School of Medicine. Role: Mentor; PI: H Broxmeyer

07/2010-06/2013 IUPUI Office of the Vice Chancellor for Research; Indiana Center for Translational Musculoskeletal Research; Role: Center Faculty; PI: S Warden

07/1/2011-6/30/2013 Indiana University Clinical and Translational Science Institute (ICTSI) Development of an effective therapy for familial tumoral calcinosis. Role: Co-Mentor with S Moe; PI S Ichikawa

07/2008-05/2013 NIH R01. Connexin43 hemichannels and osteocyte survival by bisphosphonates. Role: Co-Investigator; PI: LI Plotkin

7/1/2011-10/28/2012 IU Showalter Trust award. Glucocorticoids and bone and muscle atrophy. Role: Mentor/collaborator. PI: N Bivi

10/1/10-9/30/2012 NIH-NIAMS R21. Conditional isolation of FGF23 activity. Role: Co-Investigator. PI: KE White

12/2010-11/2012 Department of Defense Prostate Cancer Training Award. Mechanisms of radiation-induced bone loss and effect on prostate cancer bone metastases. Role: Collaborator; PI: J Buijs; Mentor: T Guise

3/1/2011-2/28/2012 Indiana University Collaborative Research Grant. Role of Kalirin in the Local and Central Control of Bone Mass. Role: Co-Investigator; PI: A Bruzzaniti

10/2010-09/2011 Amgen Pharmaceuticals. The Role of Sclerostin in Repair of Bone Erosions in Antigen-Induced Arthritis; Role: Investigator; PI: D Burr

06/2009-05/2010 Procter and Gamble. Influence of bone turnover rate and binding affinity on bisphosphonate skeletal distribution. Role: Co-Investigator; Co-PIs MR Allen and LI Plotkin

02/01/05–01/31/09 NIH, 1R01 AR051187-01A1. Osteoblast Commitment and Differentiation by ANGELS. Role: Collaborator; PI: S Kousteni.

06/2006-05/2008 NIH Project 3. Glucocorticoids, osteocytes, and bone strength in age-related osteoporosis. Role: Co-Investigator; Project Leader: RS Weinstein; P01, PI: SC Manolagas. Resigned due to change of institution.

06/2006-05/2008 NIH Project 1. Molecular mechanisms of the skeletal effects of estrogens in old age. Role: Co-Investigator; Project Leader: SC Manolagas; P01, PI: SC Manolagas. Resigned due to change of institution.

09/01/07-08/31/08 National Osteoporosis Foundation. The role of connexin 43 in the anabolic effect of parathyroid hormone. Role: Collaborator; PI: LI Plotkin.

04/2001-04/2006	NIH Project 2. Molecular mechanisms of the skeletal effects of estrogen. Role: Co-Investigator; Project Leader: SC Manolagas; P01, PI: SC Manolagas.
04/2000-03/2005	NIH R01, PTH-stimulated bone formation: the role of osteoblast apoptosis. Role: Co-Investigator; PI: RL Jilka.
11/2000- 3/2001	Fulbright International Exchange Program; Role: Mentor of Irina Mathov, Ph.D, Argentina
1998-1999	Endocrine Fellows Foundation, Research Study Grant; Role: Mentor of S Said

PATENTS

1. *Increasing bone strength with selected bisphosphonates*. Patent Number US 6,416,737. July 9, 2002. S.C. Manolagas and **T. Bellido**.
2. *In vitro and in vivo models for screening compounds to prevent glucocorticoid-induced bone destruction*. Patent Number US 6,660,468 B1. December 9, 2003. S.C. Manolagas, R.L. Jilka, R. S. Weinstein, **T. Bellido**.
3. *Bone remodeling and bone diseases*. Patent Number US 62/239,709. Filed October, 2015. J. Delgado-Calle and **T. Bellido**.
4. *Materials and methods for suppressing and/or treating bone related diseases and symptoms*. U.S. Provisional Patent Application 62/540,396. Filed August 2, 2017. **T. Bellido**, D.G. Roodman, and J. Delgado-Calle

AWARDS AND RECOGNITIONS

1993	ASBMR Young Investigator Award
2000	AIMM/ASBMR John Haddad Young Investigator Award (Advances in Mineral Metabolism)
2015	Outstanding Woman Faculty Leader IUPUI (Indiana University Purdue University at Indianapolis)
2015	Outstanding Postdoc Mentor Award Indiana University School of Medicine
2015	ASBMR Paula Stern Achievement Award
2016	Remodeling in Bone (RIB) award. Sun Valley Workshop in Skeletal Biology
2018	ASBMR Gideon A. Rodan Excellence in Mentorship Award
2018	ASBMR Fellow, Inaugural Class 2018
2018	ASBMR, Candidate for President
2018	ASBMR, President Elect (total term 2018-2021)
2019	ASBMR President (9/22/2019)

PROFESSIONAL ASSOCIATIONS

1990-present	American Society of Bone and Mineral Research (ASBMR)
1992-present	American Association for the Advancement of Science (AAAS)
2002-present	American Society for Biochemistry and Molecular Biology (ASBMB)
2006-present	Endocrine Society
1982-1990	Argentinean Society of Research in Biochemistry

2008	Argentinean Association of Osteobiology and Mineral Metabolism (AAOMM), Honorary member
2014	Osteobiology Society, member
2015-present	Osteobiology Society, board member
2015, 17, 18	Women in Academic Medicine, member of Nominating committee
2018-present	Women in Endocrinology (WE)

COMMITTEE SERVICE, LEADERSHIP AND MENTORSHIP ACTIVITIES

At IU

2008-2018	Chair, Bone Journal Club, Anatomy & Cell Biology Department
2009-2018	Co-Chair, Indiana Bone and Mineral Club
2008-2020	Primary Committee, Department of Anatomy and Cell Biology
2008-2019	Graduate Studies Committee, Department of Anatomy and Cell Biology
2008-2014	Member, Mentoring committee Melissa Kacena, Ph.D., junior faculty Orthopaedics Department
2010-2014	Member, Mentoring committee Angela Bruzzaniti, Ph.D., junior faculty Dental School
2008	Next Generation @ IUPUI Leadership Development Program
2010-present	Member, Indiana University Women's Advisory Committee
2010-2011	Basic Science Chair, Indiana University School of Medicine Faculty Development Coordinating Committee – FDCC (co-chairing with a Clinical Chair)
2010	Search Committee, Chair Anatomy and Cell Biology
2011-2014	Search and Screen committee, Department of Anatomy and Cell Biology
2014-2015	Mentor, Enhanced Mentoring Opportunities for ways to Excel in Research (EMPOWER) Achint Utreja, DDS, PhD. Dental School
2014	Career Development Consultant (CDC), Indiana University School of Medicine
2014-2016	Chair, Mentoring program for Associate Professors, Department of Anatomy and Cell Biology
2015	Women Faculty Leadership Award (Indiana University Purdue University at Indianapolis Women's History Month)
2015	Outstanding Postdoc Mentor Award Indiana University School of Medicine
2015-2016	Mentor, IUPUI Post-Baccalaureate Research Education Program (IPREP)
2017-2020	Member, Mentoring committee Jesus Delgado Clle, PhD, junior faculty Department of Medicine, Hematology/Oncology, and Anatomy and Cell Biology
2017-2020	Member, Mentoring committee Nilsson Holgin, PhD, junior faculty Department of Bioengineering, and Anatomy and Cell Biology
2018-2019	Mentor, Enhanced Mentoring Opportunities for ways to Excel in Research (EMPOWER) Shunning Li, PhD. Assistant Professor, School of Engineering and Technology.
2019-2020	Mentor, Enhanced Mentoring Opportunities for ways to Excel in Research (EMPOWER) Aqueasha Martin-Hammond, PhD. Assistant Professor, Human-Centered Computing, School of Informatics and Computing
2018-2020	Member, Faculty Steering Committee, IU School of Medicine

At UAMS

1996-2008	Member, Women in Basic Sciences Subcommittee, Faculty Development Caucus
2000-2001	Co-chair, Women in Basic Sciences Subcommittee, Faculty Development Caucus
2006-2008	Mentoring program for Postdoctoral Fellows and Junior Faculty, Women Research Subcommittee, Faculty Development Caucus
1999-2000	Member, Grant Process Committee
2006-2007	Research Council

National Organizations***American Society for Bone and Mineral Research - ASBMR***

since 2000	Member, ASBMR Scientific Program Committee
2000-2002	Ad Hoc Member, ASBMR Education Committee
2002-2005	Permanent Member, ASBMR Education Committee
2004-2007	Chair, ASBMR Education Committee
2001 and 2005	Member, ASBMR Web Site Evaluation Task Force
2004	Member, ASBMR Primer Evaluation Task Force
2004-2007	Member, ASBMR Career Enhancement Awards Committee
2005	Member, ASBMR Nominating Committee
2008-2011	Councilor, ASBMR
2012-2015	Chair, ASBMR Women in Bone and Mineral Research Committee
2012	Co-chair, ASBMR Speed Networking Session, October, 2012
2012	Co-chair, ASBMR Career Development Session on Grant Writing, October 2012
2012	Member, Working Group on Reinventing the ASBMR Exhibit Hall
2013	Inaugural Class, Leadership Program for volunteer scientific leaders, SmithBucklin Leadership Institute, Chicago, US, 3-11, 2013
2013	Co-chair, ASBMR Speed Networking Session, Houston, September, 2014
2014	Co-chair, ASBMR Career Development Session: Identifying and Securing Alternate Funding Sources, Houston, September, 2014
2014	Co-chair, ASBMR Speed Networking Session, September, 2014
2014	Ambassador, ASBMR Outreach to Latin America (Argentina). AAOMM meeting August 20-23, 2014 and FASEN meeting October 5-8, 2014
2015	Ambassador, ASBMR Outreach to China. April 5-18, 2015
2015	Ambassador, ASBMR Outreach to Latin America (Argentina). Argentinean Society of Osteoporosis (SAO) meeting September 3-5, 2015 and AAOMM meeting October 28-30, 2015
2017	Ambassador, ASBMR Outreach to Latin America (Argentina). AAOMM meeting October 14-16, 2017
2018	Ambassador, ASBMR Outreach to Latin America (Argentina). AAOMM/SAO meeting October 10-12, 2018
2015-2018	Member, ASBMR Development Committee
2016, 2017, 2018	Chair for US applications. ASBMR Rising Star Awards program.
2017	ASBMR Program Committee, Chair – Translational Science
2018	ASBMR, Candidate for President
2018	ASBMR, President Elect

2019 ASBMR President (9/22/2019)

Sun Valley Workshop of Musculoskeletal Biology

2014, 2015 Panelist, Career Development Session, Sun Valley Workshop on Skeletal Biology
2017 Moderator, Career Development Session, Sun Valley Workshop on Skeletal Biology
2014-2017 Associate Chair, Sun Valley Workshop on Skeletal Biology
2019 Chair, Sun Valley Workshop on Skeletal Biology

OTHER PROFESSIONAL ACTIVITIES

2003, 2004, 2007 Co-Chair ASBMR Workshop on Career Options for Scientists
2006 Co-Chair, ASBMR Biotechniques Workshop on Histomorphometry
2006 Chair, Sclerostin Session at Sun Valley Workshop on Skeletal Biology
2006-2009 Scientific Advisory Board, Sun Valley Workshop on Skeletal Biology
2006-2007 Scientific Advisory Board, International Conference on the Chemistry and Biology of Mineralized Tissues
2007 Chair, Non Genomic Actions of Steroid Hormones, Endocrine Society Meeting, Toronto
2007 Organizing Committee, ASBMR topical meeting on Targeting Bone Remodeling for the Treatment of Osteoporosis
2008 Co-Chair, Symposium: Novel Treatments of Bone Disease, ASBMR Annual Meeting
2009 Chair, Secret World of the Osteocyte, Endocrine Society Meeting, Washington DC
2009 Chair, Mechanotransduction in bone and muscle Session, Sun Valley Workshop on Skeletal Biology
2009 Chair, Symposium: Osteo-sight of Mechanical loading, ASBMR Annual Meeting
2011 Organizing Committee, Forum on Aging and Skeletal Health, ASBMR and NIH
2011 Session Chair, Mechanisms of cellular aging, Forum on Aging and Skeletal Health, ASBMR and NIH
2011 Session Chair, Cross-talk among bone cells, IBMS Sun Valley Workshop on Skeletal Biology
2008, 2013 NIH/NIAMS; Roundable Discussions on Anabolic Therapies and Strategies to Regenerate the Musculoskeletal System.
2016, 2017 International Osteoporosis Foundation (IOF); 2016 and 2017 ASBMR meeting international outreach
2010-current Faculty, Endocrine Fellows Foundation (EFF)/ASBMR Fellows Forum
2018-current Co-Director with Dr. John Bilezikian, Endocrine Fellows Foundation (EFF)/ASBMR Fellows Forum
2018-2019 Member, Board of Scientific Counselors, National Institute of Dental and Craniofacial Research (NIDCR)

EDITORIAL BOARDS SCIENTIFIC JOURNALS

Deputy Editor, *Journal of Bone and Mineral Research (JBMR) Plus* (2016-2019)
Editor, *Scientific Reports* (2016-2019)

Section Editor, Osteocytes. *Current Osteoporosis Reports* (2014-2019)

Section Editor, Molecular Biology of Skeletal Development. *Current Molecular Biology Reports* (2015-2019)

Editorial Board Member,

Bone (2006-present)

Journal of Biological Chemistry (2013-2023)

Spanish Bone and Mineral Metabolism Journal (2012-present)

Endocrinology and Metabolism (Korean Endocrine Society) (2013-present)

Argentinean Dental Society Journal (2012-present)

Argentinean Association of Bone and Mineral Metabolism Journal (2012-present)

Endocrine (2015-2021)

MANUSCRIPT AD HOC REVIEW

Journal of Bone and Mineral Research, Bone, Journal of Biological Chemistry, Endocrinology, Journal of Clinical Investigation, American Journal of Physiology, Journal of Cellular Biochemistry, Journal of Cellular Physiology, Oncogene, Calcified Tissue International, Cytokine, International Journal of Cancer, Journal of Laboratory and Clinical Medicine, Journal of Pharmacology and Experimental Therapeutics, Experimental Cell Research, PLoS ONE, PLoS Genetics.

GRANT REVIEW

For US organizations

2018-2024	Permanent member, Skeletal Biology Development and Disease (SBDD) Study Section, NIH
2018	Ad hoc member, Veterans Administration Regenerative Rehabilitation Study Section (RRD0) August 10, 2018
2018	Indiana CTSI Obesity and Metabolism PRMC Team, IU School of Medicine
2017	Indiana CTSI pilot grants, IU School of Medicine
2017-2019	Reviewer, young investigator awards and fellowships EFF (Endocrine Fellows Foundation)
2018-2019	Member, Board of Scientific Counselors, National Institute of Dental and Craniofacial Research (NIDCR), NIH (reviews investigators of NIDCR intramural research programs)
2016	Chair, Center for Scientific Review Special Emphasis Panel ZRG1 MOSS-C(03); Hormonal Regulation of Bone Metabolism
2016	Indiana-CTSI
2014	NIH Fellowships: Physiology and pathobiology of musculoskeletal, oral and skin systems. ZRG1 F10B-B
2008-2012	Permanent member, Skeletal Biology Structure & Regeneration (SBSR) Study Section, NIH
2002-2006	Permanent member, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Special Grants Review Committee
2002	NIH Orthopedics and Musculoskeletal Study Section, ad hoc Reviewer
1999/2000/03	NIH/NIAMS, Program Project Reverse Site Visit Reviewer, Bethesda, MD
2003/2008/2013	NIH/NIA, Program Project Site Visit Reviewer, Rochester, MN

2006/07/11/12	Reviewer for the Harold Frost Awards; ASBMR – Sun Valley Workshop on Skeletal Biology
2011/12	Reviewer for the Advances in Mineral Metabolism AIMM Faculty Awards
1997-2007	Scientific Reviewer, American Cancer Society Institutional Research Grants Arkansas Cancer Research Center/UAMS
2012	Signature Center Initiative Grants Reviewer, Indiana University Purdue University at Indianapolis (IUPUI)
2011, 2012, 2014	RSFG Trust Pilot Grants Reviewer, IUPUI
2012, 2013	Roudebush VA Medical Center, Young investigator Pilot grants, Indianapolis, IN

For international organizations

2006; 2007	Scientific Reviewer, Netherlands Organization for Scientific Research (the Dutch research council)
2007	Arthritis Research Campaign (ACR), England
2002	Scientific Reviewer, Canadian Institutes of Health Research (CIHR)
1999	Scientific Reviewer, Wellcome Trust, London, England
2000-present	Scientific Reviewer, National Agency for the Advancement of Science and Technology, Argentina

RESEARCH TRAINEES AND MENTEES

Junior Faculty

1. Ioana Pavel, Ph.D. Research Assistant Professor, Department of Applied Sciences and Nanotechnology Center, University of Arkansas at Little Rock (UALR). 7/1/2006-7/1/2007
2. Lilian Plotkin, Ph.D. Research Instructor (2002-2004) and Research Assistant Professor (2004-2008), University of Arkansas for Medical Sciences; Assistant Professor (2008-2014). Indiana University School of Medicine.
3. Nicoletta Bivi, Ph.D. Research Assistant Professor. Indiana University School of Medicine. Recipient of IU Showalter Trust award to young investigators (7/1/2011-10/28/12).
4. Xiaolin Tu, Ph.D. Research Assistant Professor. Indiana University School of Medicine, 11/1/2009-5/30/2014
5. Melissa Kacena, Ph.D. Assistant Professor. Indiana University School of Medicine. Mentoring committee, 1/1/2008-1/1/2013
6. Angela Bruzzaniti, Ph.D. Assistant Professor. Indiana University School of Medicine. Mentoring committee, 1/1/2008-1/1/2013
7. Achint Utreja, DDS, Ph.D. Research Assistant Professor. Indiana University School of Dentistry. 6/1/2014-2017
8. Tatiana Kostrominova, Ph.D. Associate Professor. Indiana University School of Medicine, North West Campus, Gary, Indiana. 12/15/2014-2017
9. Jesus Delgado-Calle, Ph.D. Research Assistant Professor. Indiana University School of Medicine. 1/1/2016-present (Mentor American Society of Hematology–ASH scholar)
10. Nilsson Holgin, Ph.D. Assistant Professor. Mechanical Engineering. Indiana University School of Medicine. 1/1/2017-2020
11. Shuning Li, PhD. Assistant Professor, School of Engineering and Technology. Indiana University. 1/2018-1/2019
12. Matthew Prideaux, PhD. Research Assistant Professor. Dept. Anatomy and Cell Biology. Indiana University School of Medicine. 6/1/2018

13. Silvia Marino, PhD. Research Assistant Professor. Dept. of Medicine, Division of Hematology/Oncology. Indiana University School of Medicine. 6/1/2018 (Mentor American Society of Hematology–ASH scholar)
14. Aqueasha M. Martin-Hammond, Ph.D. Assistant Professor, Human-Centered Computing, School of Informatics and Computing, Indiana University. 1/2019-1/2020

Postdoctoral Fellows

1. Victoria Borba, M.D. 1994-1996. Postdoctoral fellow. Recipient of UAMS Student Research Day Award, 1994.
2. Song-Chang Lin, Ph.D. 1994-1995. Postdoctoral fellow. Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 1995.
3. Sufyan Said, M.D. 1997- 1999. Clinical Fellow Division of Endocrinology. Recipient of a 1998 award from the Endocrine Fellows Foundation.
4. Lilian Plotkin, Ph.D. Postdoctoral fellow (1998-2002), Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 2002
5. Luis Angel Dominguez, Ph.D. Postdoctoral fellow. 4/2003-4/2004.
6. Jose Ignacio Aguirre, D.V.M., Ph.D. 7/2002-7/2005. Postdoctoral fellow. Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 2005
7. Arancha Rodriguez de Gortazar, Ph.D. Postdoctoral fellow. 3/10/2006-2/28/2007
8. Marta Martin Millan, M.D. Postdoctoral fellow. 3/10/2006-10/1/2008
9. Yumie Rhee, M.D. Postdoctoral fellow. 7/1/2008-6/31/2010. Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 2009; and Recipient A. Jee Award IBMS Sun Valley Workshop in Skeletal Biology, 2009
10. Nicoletta Bivi, Ph.D. Postdoctoral fellow (co-mentoring with L Plotkin). 7/1/2008-6/30/2011. Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 2009; and Recipient H. Frost/ASBMR Award, IBMS Sun Valley Workshop in Skeletal Biology, 2010.
11. Jesus Delgado Calle, PhD. Postdoctoral fellow (co-mentoring with D Roodman). 1/3/2013-12/31/2015. Recipient of following awards: 2013 International Bone and Mineral Society (IBMS) Gideon and Sevgi Rodan Fellowship; 2014 travel award and poster presentation at the American Society Hematology meeting; 2015 AIMM/ASBMR John Haddad Young Investigator Award (Advances in Mineral Metabolism); 2015 Best Translational/Clinical Research presentation, Indiana University Melvin and Bren Simon Cancer Center Research Meeting; 2015 Best Translational Research presentation, Richard L. Roudebush VAMC Hospital Research Meeting; 2015 ASBMR Harold M. Frost Young Investigator Award, ORS Sun Valley Workshop on Musculoskeletal Biology; 2015 ASBMR Young Investigator Award; 2015 Scholar American Society of Hematology; 2016 ASBMR Most Outstanding Translational Abstract.
12. Gretel Pellegrini, DDS, Ph.D. Postdoctoral Fellow. 9/2014-9/2016. Recipient 2015 Under-Represented Minority Award ORS Sun Valley Workshop on Musculoskeletal Biology; Recipient of 2016 ASBMR Young Investigator Award.
13. Aiji Yajima, MD. Postdoctoral fellow. 11/2015 – 3/2016
14. Amy Sato, PhD. 2/2017- present
15. Serra Ucer, PhD. 7/2018- present

Graduate Students

1. Meena Mahmood, 4/1/2007-6/30/08 Graduate student, Nanotechnology Center, Department of Applied Biosciences. University of Arkansas at Little Rock.

2. Naomie Olivos, Master Student, University of California at Dominguez Hills/ NIH Bridges to the Doctorate at IU School of Medicine, 2010-2012.
3. Abdulah Ben-Awadh, Master Student in Anatomy and Cell Biology, Indiana University School of Medicine, 2010-2012. Recipient of Young Investigator Award of the American Society for Bone and Mineral Research, 2012
4. Amy Y. Sato, Graduate student Ph.D. candidate, IU School of Medicine 6/2012-present. 2015 Alice L. Jee Young Investigator Award, ORS Sun Valley Workshop on Musculoskeletal Biology; Recipient 2015 ASBMR Young Investigator Award; IU Honorable Mention Award Erica M. Daniel Kepner Award for Scientific Achievement.
5. Emily G. Atkinson. Graduate student Ph.D. candidate, IU School of Medicine 5/2017-2019.

Short Term Scholars

1. Irina Mathov, Ph.D. 11/2000- 3/2001. Fulbright International Exchange Program fellow. From University of Buenos Aires, Argentina, at University of Arkansas for Medical Sciences
2. Virginia Lezcano. 10/2007-12/2007. Graduate Student trainee, supported by the NIH-FIRCA program. From Universidad Nacional del Sur, Argentina, at University of Arkansas for Medical Sciences
3. Virginia Lezcano. 3/2009-6/2009. Graduate Student trainee, supported by the NIH-FIRCA program. From Universidad Nacional del Sur, Argentina, at Indiana University School of Medicine
4. Arancha Rodriguez de Gortazar, Ph.D. Postdoctoral short-term scholar. Assistant professor. Department of Medicine. From Universidad San Pablo-CEU, Madrid, Spain, at Indiana University School of Medicine. 6-7/2009
5. Ana Carolina Ronda, Ph.D. Postdoctoral short-term scholar. From Universidad Nacional del Sur, Argentina, at Indiana University School of Medicine. 7/2009-10/2009
6. Eun Young Lee. Short-term scholar. From Yonsei University, Seoul, South Korea, at Indiana University School of Medicine. 4/2010-6/2010
7. Giovanni Passeri. Short-term scholar. From University of Parma, Parma, Italy, at Indiana University School of Medicine. 6/2010-8/2010
8. Carlo Galli. Short-term scholar. From University of Parma, Parma, Italy, at Indiana University School of Medicine. 7/2010-8/2010
9. Won Jin Kim. Short-term scholar. From Yonsei University, Seoul, South Korea, at Indiana University School of Medicine. 6/2012-7/2012
10. Marta Maycas-Cepeda. Short-term scholar (3 visits). From Universidad of Madrid, Spain, at Indiana University School of Medicine. 9/2013-12/2013; 9/2014-12/2014; and 8/2015-10/2015

Summer Students

1. Edwin Peng, Summer 1995. 1st year medical student. University of Arkansas for Medical Sciences
2. Brandy Brooks, Summer 1996. Undergraduate student, Partners in Research Program ACRC. Recipient of 1st Award for Undergraduate students. University of Arkansas for Medical Sciences
3. Daniel Felton, Summer 1997. 1st year medical student. University of Arkansas for Medical Sciences
4. Matt Quick, Summer 2002. 1st year medical student. University of Arkansas for Medical Sciences

5. Baraka Williams. Summer graduate student. Bridges to the Doctorate Program, Indiana University-Jackson State University and STEM Summer Scholars Institute, Indiana University. 5/2009-7/2009
6. Naomi Olivos. Summer graduate student. Bridges to the Doctorate Program, Indiana University-California State University Dominguez Hills, Carson, CA, 5/2010-8/2010 and 5/2011-8/2011
7. Rachel Edwards. Summer medical student. Summer Research Program in Academic Medicine (SRPinAM), Indiana University. 5/2010-8/2010
8. Danielle Richardson. Summer medical student. Summer Research Program in Academic Medicine (SRPinAM), Indiana University. 5/2012-8/2012
9. Kali Kuhlenschmidt. Summer medical student. Summer Research Program in Academic Medicine (SRPinAM), Indiana University. 5/2013-8/2013
10. Jasmine Tzegai. Summer student, volunteer. 6/2013-9/2013
11. Monica Feustel. Summer student, Women in Science Program (WISE), Indiana University School of Medicine. 5/2014-8/2014
12. Jasmine Tzegai. Summer student, volunteer. 6/2014-9/2014
13. Benjamin Hancock. Summer medical student. Summer Research Program in Academic Medicine (SRPinAM), Indiana University. 5/2015-8/2015
14. Victor Dominguez. Summer student. 6/2017-8/2017
15. Elive Likine. Summer student. 6/2017-8/2017
16. Troy Li. Summer student, volunteer. 5/2017- 8/2017
17. Anna Dan, volunteer, 2/2017-present
18. Gerald Wu. Summer student, 5/2017- 8/2017
19. Olivia Jonhson, Summer Medical Student, Indiana Medical Student Program for Research and Scholarship (IMSPRS), Indiana University. 5/2018-8/2018
20. Roberto Rico, High School Summer Student, SEED program, IUPUI, 5/2018-8/2018
21. Sam Bosco, Medical Student, Marian University, Indianapolis, 7/2018-6/2019
22. Punit Vyas, Engineer from Purdue University and accepted Medical Student Indiana Universtiy, Summer student, 5/2017-9/2019
23. Bharat Gummalla, Indiana University 2nd year student Chemistry, summer student volunteer, 5/2019-8/2019

Graduate student advisory committees

1. Member advisory committee of Lihua Du, Department of Biochemistry and Molecular Biology. UAMS. *Role of Bcl-xl phosphorylation in microtubule inhibitor-induced apoptosis*. Ph.D. degree. 2000-2004.
2. Member advisory committee of Luis Corral Gudino, Department of Medicine, School of Medicine, University of Salamanca, Spain. *Polymorphisms of osteoclastogenic cytokines in Paget disease of bone*. Ph.D. degree. 2004
3. Member advisory committee of Dan Kubek, Anatomy and Cell Biology Department, Indiana University School of Medicine. *Biphosphonate action in bone*. M.S. degree. 2008-2010
4. Member advisory committee of Scott Van Dyke, Weldon School of Biomedical Engineering, Purdue University. *Mechanobiology*. Ph.D. degree. 10/2009-6/2013
5. Chair advisory committee of Abdullah Ben-Awadh, Anatomy and Cell Biology Department, Indiana University School of Medicine. *Contribution of RANKL regulation to bone resorption induced by PTH receptor signaling in osteocytes*. M.S. degree. 2010-2012
6. Member advisory committee of Paul Childress, IBMG program at Indiana Universtiy. *PTH and hematopoiesis*. Ph.D. degree. 2011- 2014.

7. Member advisory committee of Whitney Pavalko Bullock, Interdisciplinary Biomedical Sciences Program. Purdue University. *Role of estrogen receptor beta in bone mechanotransduction and osteoporosis*. Ph.D. degree. 2012- 2014.
8. Chair advisory committee of Amy Y. Sato, IBMG program at Indiana University, Anatomy and Cell Biology Department, Indiana University School of Medicine. *Antagonizing the deleterious effects of glucocorticoids in bone*. Ph.D. degree. 2012-2017
9. Mentor, IUPUI Post-Baccalaureate Research Education Program (IPREP), of Cynthia Morales, 6/2015-5/2016
10. Member advisory committee of Maria Maiz, Interdisciplinary Biomedical Sciences Program. Purdue University. Ph.D. degree, 2016-1/2019
11. Chair advisory committee of Emily G. Atkinson, IBMG program at Indiana University, Anatomy and Cell Biology Department, Indiana University School of Medicine. *Osteocyte role in multiple myeloma*. Ph.D. degree. 2017-2019

TEACHING LECTURES

At IU

Department of Anatomy and Cell Biology

1. Bone Biology class, for graduate students. Lectures on “Cell signaling”, “Osteocytes”, and “Hormonal effects on bone cells”. 2009 - present

IU Dental School

2. Systems Approach to the Biomedical Sciences II. Lecture on “Bone and Mineral Metabolism”. 2012-present

At UAMS

Department of Medicine

1. Coordinator and Lecturer of Basic Science Tutorial for Clinical Fellows of the Division of Endocrinology. 1998 to 2008

Department of Physiology

2. Osteoporosis Case Conference for 1st year medical students. 1998 to 2006
3. Lectures on “Cytokine Actions” for the Cellular Endocrinology Course (Master and Ph.D. students). 1995 to 2008.

Department of Biochemistry and Molecular Biology

4. Lectures on “Osteoporosis” for the Molecular Biology of Human Genetic Diseases Course (Master and Ph.D. students). 1998.
5. Lectures on “Cytoplasmic Signaling Circuitry” for the Course on Biology of Cancer (Master and Ph.D. Students). 2007

Department of Anatomy

6. Lectures on “Cell to Cell Signaling” for the Cell Biology Course (Master and Ph.D. Students). 2000, 2001.

Other Teaching Lectures

7. Lectures for Clinical Analysis and Biological Chemistry Undergraduate Courses. Universidad Nacional del Sur, Argentina. 11/83-9/90.

8. Lectures on Metabolic Regulation (Master and Ph.D. students). Universidad Nacional de San Luis, Argentina. 3/88.
9. Teacher Assistant Chemistry Laboratory, Universidad Nacional del Sur High Schools. 3/82-9/82

PUBLICATIONS

Original Peer-Reviewed Articles

1. **Bellido T**, Boland R. In vitro muscle phosphate uptake. Characteristics and action of Vitamin D₃ metabolites. *In*: "Vitamin D: Basic Research and its Clinical Application" (Norman A.W. et al, eds) Walter de Gruyter, Berlin. pp 590-591 (1985)
2. **Bellido T**, Boland R. Phosphate accumulation by muscle in vitro and the influence of Vitamin D₃ metabolites. *Zeitschrift fur Naturforschung* 42c:60-67 (1987)
3. **Bellido T**, Drittanti L., Boland R., de Boland A. The phospholipid and fatty acid composition of skeletal muscle cells during culture in the presence of Vitamin D₃ metabolites. *Biochem Biophys Acta* 922:162-169 (1987)
4. **Bellido T**, Boland R. Stimulation of synthesis of myoblast membrane proteins by 25-hydroxy-Vitamin D₃. *In*: "Vitamin D: Basic Research and its Clinical Application" (Norman A.W. et al, eds) Walter de Gruyter, Berlin. pp 421-422 (1988)
5. **Bellido T**. Skeletal muscle phosphate metabolism. Effects and mechanism of action of 25-hydroxy-Vitamin D. *Acta Bioquimica Clinica Latinoamericana*, 23(1):3-51 (1989)
6. **Bellido T** and Boland R. Stimulation of myoblast membrane protein synthesis by 25-hydroxy-vitamin D₃. *Zeitschrift fur Naturforschung. Journal of Biosciences*, 44c:807-812, 1989.
7. **Bellido T**, Boland R. Stimulation of myoblast membrane protein synthesis by 25-hydroxy-Vitamin D₃. *Hormone and Metabolic Research* 23:113-116 (1991)
8. **Bellido T.**, Boland R. Role of second messengers in the stimulation of muscle cell proliferation by 1,25-dihydroxy-Vitamin D₃. *In*: "Vitamin D: Gene Regulation, Structure-Function Analysis and Clinical Application" (Norman A.W. et al, eds) Walter de Gruyter, Berlin. pp 409-410 (1991)
9. Manolagas S.C., Yu X.P., Hustmyer F., Mocharla H., Girasole G., **Bellido T.**, Crabb D. The immunomodulating properties of Vitamin D: Receptors and mechanisms of biologic action. *In*: "Vitamin D: Gene Regulation, Structure-Function Analysis and Clinical Application" (Norman A.W. et al, eds) Walter de Gruyter, Berlin. pp 469-477, 1991
10. **Bellido T.**, Morelli S., Fernandez L., Boland R. Evidence for the participation of protein kinase C and 3',5'-cyclic AMP-dependent protein kinase in the stimulation of muscle cell

- proliferation by 1,25-dihydroxy-Vitamin D₃. *Molecular and Cellular Endocrinology* 90:231-238, 1993
11. Manolagas S.C., **Bellido T.**, Yu X.P., Girasole G., Mocharla H., Passeri G., Rice N., Crabb D., Jilka R. The role of vitamin D in the immune system and in osteoclastogenesis. *In: "Proceedings of IXth International Congress on Endocrinology." Nice, France, 1992.*
 12. Manolagas S.C., Girasole G., Passeri G., **Bellido T.**, Crabb D., Broxmeyer H. and Jilka R. Estrogen loss, cytokines, and osteoclast development. *In: "Proceedings of IXth International Congress on Endocrinology." Nice, France, 1992*
 13. **Bellido T.**, Girasole G., Passeri G., Yu X.P., Jilka R., Notides A., Manolagas S.C. Demonstration of estrogen and vitamin D receptors in bone marrow derived murine stromal cells: Upregulation of the estrogen receptor by 1,25(OH)₂D₃. *Endocrinology* 133:553-562, 1993
 14. Manolagas S.C., Jilka R.L., Girasole G., Passeri G., and **Bellido T.** Estrogens, cytokines, and the pathophysiology of osteoporosis. *In: Current Opinion in Endocrinology and Diabetes*, vol. 1, Kohler PO (Ed.), Current Science, Philadelphia, pp. 275-281, 1994.
 15. Pottratz S., **Bellido T.**, Mocharla H., Crabb D., Manolagas S.C. 17β-estradiol inhibits transcription from the human interleukin-6 promoter. *Journal of Clinical Investigation*, 93:944-950, 1994.
 15. Selles J., **Bellido T.**, Boland R. Modulation of calcium uptake in cultured cardiac muscle cells by 1,25-dihydroxyvitamin D₃. *Journal of Molecular and Cellular Cardiology* 26:1593-1599, 1994.
 16. **Bellido T.**, Jilka R.L., Boyce B., Girasole G., Broxmeyer H., Dalrymple S.A., Murray R., Manolagas S.C. Regulation of interleukin-6 and osteoclastogenesis and bone mass by androgens: The role of the androgen receptor. *Journal of Clinical Investigation*, 95:2886-2895, 1995.
 17. Yu X-P, **Bellido T.**, and SC Manolagas. Downregulation of NF- B protein levels in activated human lymphocytes by 1,25-dihydroxyvitamin D₃. *Proceedings of the National Academy of Science USA*, 92:10990-10994, 1995.
 18. **Bellido T.**, Stahl, N., Farruggella, T., Borba, V., Yancopoulos, G., Manolagas, S.C. Detection of receptors for Interleukin-6, Interleukin-11, Leukemia Inhibitory Factor, Oncostatin M, and Ciliary Neurotrophic Factor in bone marrow stromal/osteoblastic cells. *Journal of Clinical Investigation*, 97:431-437, 1996.
 19. **Bellido T.**, Borba, V.Z.C., Roberson, P. and Manolagas S.C. Activation of the JAK/STAT signal transduction pathway by IL-6 type cytokines promotes osteoblast differentiation. *Endocrinology*, 138:3666-3676, 1997.
 20. Lin, S.-C., Yamate, T., Taguchi, Y., Borba, V.Z.C., Girasole, G., O'Brien, C. A., **Bellido T.**, Abe, E., Manolagas, S.C. Regulation of the gp80 and gp130 subunits of the IL-6

- receptor by sex steroids in the murine bone marrow. *Journal of Clinical Investigation*, 100:1980-1990, 1997.
21. Jilka, R.L., Weinstein, R.S., **Bellido, T.**, Parfitt, A.M., Manolagas, S.C. Osteoblast programmed cell death (apoptosis): Modulation by growth factors and cytokines. *Journal of Bone and Mineral Research*, 13:793-802, 1998.
 22. **Bellido, T.**, O'Brien, C.A., Roberson, P.K., Manolagas, S.C., Transcriptional activation of the p21^{WAF1,CIP1,SDII} gene by IL-6 type cytokines: A prerequisite for their prodifferentiating and anti-apoptotic effects on human osteoblastic cells. *Journal of Biological Chemistry*, 273:21137-21144, 1998.
 23. Carter C.A., **Bellido T.** Decrease in tyrosine phosphorylation is associated with F-actin reorganization by retinoic acid in human endometrial adenocarcinoma (RL95-2) cells. *Journal of Cellular Physiology*, 178:320-332, 1999.
 24. Jilka, R.L., Weinstein, R.S., **Bellido, T.**, Roberson, P., Parfitt, A.M., Manolagas, S.C. Increased bone formation by prevention of osteoblast apoptosis with PTH. *Journal of Clinical Investigation*, 104:439-446, 1999.
 25. Plotkin, L.I., Weinstein, R.S., Parfitt, A.M., Roberson, P.K., Manolagas, S.C., **Bellido, T.** Prevention of osteocyte and osteoblast apoptosis by bisphosphonates and calcitonin. *Journal of Clinical Investigation*, 104:1363-1374, 1999. *Featured in the cover and the comments.
 26. **Bellido, T.**, Huening, M., Raval-Pandya, M., Manolagas, S.C., Christakos, S. Calbindin-D_{28k} is expressed in osteoblastic cells and suppresses their apoptosis by inhibiting caspase-3 activity. *Journal of Biological Chemistry* 275:26328-26332, 2000.
 27. O'Brien, C.A., Lin, S.-C., **Bellido, T.**, Manolagas, S.C. Expression levels of gp130 in bone marrow stromal cells determine the magnitude of osteoclastogenic signals generated by IL-6 type cytokines. *Journal of Cellular Biochemistry* 79:532-541, 2000.
 28. Kousteni, S.*, **Bellido, T.***, Plotkin, L.I., O'Brien, C.A., Bodenner, D.L., Han, L., Han, K., Katzenellenbogen, J.A., Katzenellenbogen, B.S., Roberson, P.K., Weinstein, R.S., Jilka, R.L., Manolagas, S.C. Non-genotropic, sex non-specific signalling through the estrogen or androgen receptors: dissociation from transcriptional activity. *Cell* 104:719-730, 2001. * **Both considered first authors.**
 29. Mathov, I., Plotkin, L.I., Sgarlata, C.L., Leoni, J., **Bellido, T.** ERKs and calcium channels are involved in the proliferative effect of bisphosphonates on osteoblastic cells in vitro. *Journal of Bone and Mineral Research*, 16:2050-2056, 2001.
 30. Plotkin, L.I., **Bellido T.** Bisphosphonate-induced, hemichannel-mediated anti-apoptosis through the Src/ERK pathway: a gap junction-independent action of connexin43. *Cell Communication and Adhesion*, 8(4-6):377-382, 2001.

31. Plotkin, L.I., Manolagas, S.C., **Bellido T.** Transduction of cell survival signals by connexin43 hemichannels. *Journal of Biological Chemistry*, 277:8648-8657, 2002. *Featured in *Nature Reviews Molecular Cell Biology* 4, 285-295, 2003.
32. Weinstein, R.S., Chen, J-R, Powers, C.C., Stewart, S.A., Landes, R.D., **Bellido, T.**, Jilka, R.L., Parfitt, A.M., Manolagas, S.C. Promotion of osteoclast survival and antagonism of bisphosphonate-induced osteoclast apoptosis by glucocorticoids. *Journal of Clinical Investigation* 109:1041-1048, 2002.
33. Kousteni, S., Chen, J-R., **Bellido, T.**, Han, L., Ali, A.A., O'Brien, C.A., Plotkin, L. I., Fu, Q., Mancino, A.T., Wen, Y., Vertino, C.C. Powers, A.M., Stewart, S.A., Ebert, R., Parfitt, A.M., Weinstein, R.S., Jilka, R.L., Manolagas, S.C. Reversal of bone loss in mice by nongenotropic signaling of sex steroids. *Science* 298:843-846, 2002.
34. Ahuja, S.S, Zhao, S, **Bellido, T.**, Plotkin, L.I., Jimenez, F. Bonewald, L.F. CD40 ligand blocks apoptosis induced by tumor necrosis factor α , glucocorticoids, and etoposide in osteoblasts and the osteocyte-like cell line MLO-Y4. *Endocrinology* 144:1761-1769, 2003.
35. Kousteni, S., Han, L., Chen, J-R., Almeida, M., Plotkin, L.I., **Bellido, T.**, Manolagas, S.C. Kinase-mediated regulation of common transcription factors accounts for the bone protective effects of sex steroids. *Journal of Clinical Investigation* 111:1651-1664, 2003. *Featured in the comments.
36. **Bellido, T.**, Ali, A.A., Plotkin, L.I., Fu, Q., Gubrij, I., Roberson, P.K., Weinstein, R.S., O'Brien, C.A., Manolagas, S.C., Jilka, R.L. Proteosomal degradation of Runx2 shortens PTH-induced anti-apoptotic signaling in osteoblasts: A putative explanation for why intermittent administration is needed for bone anabolism. *Journal of Biological Chemistry* 278:50259-50272, 2003. *Featured in *Science's Signal Transduction Knowledge Environment (STKE)*, Vol 2003, Issue 213, pg 489, December 16, 2003.
37. Liu, Y. Porta, A., Peng, X., Gengaro, K., Cunningham, E.B., Li, H., Dominguez, L.A., **Bellido, T.**, Christakos, S. Prevention of glucocorticoid induced apoptosis in osteocytes and osteoblasts by calbindin-D28k. *Journal of Bone and Mineral Research* 19:479-490, 2004.
38. O'Brien, C.A., Jia, D., Plotkin, L.I., **Bellido, T.**, Powers, C.C., Stewart, S.A., Manolagas, S.C., Weinstein, R.S. Glucocorticoids act directly on osteoblasts and osteocytes to induce their apoptosis and reduce bone formation and strength. *Endocrinology* 145:1835-1841, 2004.
39. Chen, J.R., Plotkin, L.I., Aguirre, J.I., Han, L., Jilka, R.L., Kousteni, S., **Bellido, T.**, Manolagas, S.C. Transient versus sustain phosphorylation and nuclear accumulation of ERKs underlie anti-versus pro-apoptotic effects of estrogens. *Journal of Biological Chemistry*, 280:4632-4638, 2005.

40. Plotkin, L.I., Aguirre, J.I., Kousteni, S., Manolagas, S.C., **Bellido, T.** Bisphosphonates and estrogens inhibit osteocyte apoptosis via distinct molecular mechanisms downstream of ERK activation. *Journal of Biological Chemistry*, 280:7317-7325, 2005.
41. Vertino, A.M., Bula, C.M., Chen, J-R., Almeida, M., Han, L., **Bellido, T.**, Kousteni, S., Norman, A.W., Manolagas, S.C. Nongenotropic, anti-apoptotic signaling of $1\alpha,25(\text{OH})_2$ -vitamin D₃ and analogs through the ligand binding domain (LBD) of the vitamin D receptor (VDR) in osteoblasts and osteocytes: Mediation by Src, PI3, and JNK kinases. *Journal of Biological Chemistry* 280:14130-14137, 2005.
42. Plotkin, L.I., Mathov, I., Aguirre, J.I., Parfitt, A.M., Manolagas, S.C., **Bellido, T.** Mechanical stimulation prevents osteocyte apoptosis: Requirement of integrins, Src kinases and ERKs. *American Journal of Physiology (Cell Physiology)* 289:C633-C643, 2005.
43. **Bellido, T.**, Ali, A.A., Gubrij, I., Plotkin, L.I., O'Brien, C.A., Manolagas, S.C., Jilka, R.L. Chronic elevation of PTH in mice reduces expression of sclerostin by osteocytes: a novel mechanism for hormonal control of osteoblastogenesis. *Endocrinology* 146:4577-4583, 2005.
44. Almeida M, Han L, **Bellido T**, Manolagas SC, Kousteni S. Wnts prevent apoptosis of both uncommitted osteoblast progenitors and differentiated osteoblasts by beta-catenin-dependent as well as independent signaling cascades involving Src/ERK and PI3K/Akt. *Journal of Biological Chemistry* 280: 41342-41351, 2005.
45. Aguirre JI, Plotkin LI, Stewart SA, Weinstein RS, Parfitt AM, Manolagas SC, **Bellido T.** Osteocyte apoptosis is induced by weightlessness in mice and precedes osteoclast recruitment and bone loss. *Journal of Bone and Mineral Research*, 21:605-615, 2006.
46. Plotkin LI, Manolagas SC, **Bellido T.** Dissociation of the pro-apoptotic effects of bisphosphonates on osteoclasts from their anti-apoptotic effects on osteoblasts/osteocytes with novel analogs. *Bone*, 39:443-452, 2006.
47. **Bellido T** and Plotkin LI. Prevención de la apoptosis de osteocitos y osteoblastos con bifosfonatos: vía de sobrevida mediada por hemicanales de Cx43 y la activación de quinasas reguladas por señales extracelulares, independientemente de la transcripción génica. *Actualizaciones en Osteología (Spanish)*, 2(3):131-136, 2006.
48. Kousteni S, Almeida M, Han L, **Bellido T**, Jilka RL, Manolagas SC. Induction of osteoblast differentiation by selective activation of kinase-mediated actions of the estrogen receptor. *Molecular and Cellular Biology*, 27:1516-1530, 2006.
49. Manolagas SC, Jilka RL, Kousteni S, **Bellido T**, Weinstein RS, O'Brien CA, Plotkin L, Han L. Letter in response to Windahl et al (Journal of Clinical Investigation, 116:2500-2509, 2006). *Journal of Clinical Investigation* 116:2834, 2006.
50. Plotkin LI, Manolagas SC, **Bellido T.** Glucocorticoids induce osteocyte apoptosis by blocking focal adhesion kinase-mediated survival: Evidence for inside-out signaling

- leading to anoikis. *Journal of Biological Chemistry* 282:24120–24130, 2007. *Featured in *Science's Signal Transduction Knowledge Environment (STKE)*, Vol 2007, Issue 400, pg tw298, August 21, 2007.
51. Aguirre JI, Plotkin LI, Gortazar AR, Martin Millan M, O'Brien CA, Manolagas SC, **Bellido T**. A novel ligand-independent function of the estrogen receptor is essential for osteocyte and osteoblast mechanotransduction. *Journal of Biological Chemistry*, 282:25501-25508, 2007.
 52. Almeida M, Han L, Martin Millan M, Plotkin LI, Stewart SE, Roberson PK, Kousteni S, O'Brien CA, **Bellido T**, Parfitt AM, Weinstein RS, Jilka RL, Manolagas SC. Skeletal involution by age-associated oxidative stress and its acceleration by loss of sex steroids. *Journal of Biological Chemistry*, 282:27285-27297, 2007.
 53. Robling AG, Niziolek PJ, Baldridge LA, Condon KW, Allen MJ, Alam I, Mantila SM, Gluhak-Heinrich J, **Bellido T**, Harris SE, Turner CH. Mechanical stimulation of bone in vivo reduces osteocyte expression of Sost/sclerostin. *Journal of Biological Chemistry*, 283:5866-5875, 2008.
 54. Plotkin LI, Lezcano V, Thostenson J, Weinstein RS, Manolagas SC, **Bellido T**. Connexin 43 is required for the anti-apoptotic effect of bisphosphonates on osteocytes and osteoblasts *in vivo*. *Journal of Bone and Mineral Research*, 23:1712-1721, 2008. *Featured in a *Commentary*.
 55. O'Brien CA, Plotkin LI, Galli C, Goellner JJ, Gortazar AR, Allen MR, Robling AG, Bouxsein M, Schipani E, Turner CH, Jilka RL, Weinstein RS, Manolagas SC, **Bellido T**. Control of bone mass and remodeling by PTH receptor signaling in osteocytes. *PLoS ONE* 3(8):32942, 2008. doi:10.1371/journal.pone.0002942
 56. Plotkin LI, Bivi N, **Bellido T**. A bisphosphonate that does not affect osteoclasts prevents osteoblast and osteocyte apoptosis and the loss of bone strength induced by glucocorticoids in mice, *Bone*, 49:122-127, 2011. doi:10.1016/j.bone.2010.08.011
 57. Rhee Y, Allen MR, Condon K, Lezcano V, Ronda AC, Galli C, Olivos N, Passeri G, O'Brien CA, Bivi N, Plotkin LI, **Bellido T**. PTH receptor signaling in osteocytes governs periosteal bone formation and intra-cortical remodeling. *Journal of Bone and Mineral Research*, 26 (5): 1035-1046, 2011. doi:10.1002/jbmr.304
 58. Gurkan UA, Kishore V, Condon KW, **Bellido T**, Akkus O. A scaffold-free multicellular three-dimensional in vitro model of osteogenesis. *Calcified Tissue International*, 88: 388-401, 2011. doi 10.1007/s00223-011-9467-3
 59. Robling AG, Kedlaya R, Ellis SN, Childress PJ, Bidwell J, **Bellido T**, Turner CH. Anabolic and catabolic regimens of human parathyroid hormone 1-34 elicit bone- and envelope-specific attenuation of skeletal effects in Sost-deficient mice. *Endocrinology*, 152: 2963-2975, 2011.

60. Bivi N, Lezcano V, Romanello M, **Bellido T**, Plotkin, L.I. Connexin43 interacts with β arrestin: a pre-requisite for osteoblast survival induced by parathyroid hormone. *Journal of Cellular Biochemistry*, 112:2920-2930, 2011. doi:10.1002/jcb.23208.
61. Rhee Y, Farrow E, Bivi N, Lezcano V, Plotkin LI, White KE, **Bellido T**. Parathyroid hormone controls the endocrine and auto/paracrine function of osteocytes by upregulating the expression of fibroblast growth factor-23. *Bone*, 49:636-643, 2011. doi:10.1016/j.bone.2011.06.025
62. Bivi N, Condon K, Allen MR, Farlow N, Passeri G, Rhee Y, **Bellido T**, Plotkin LI. Cell autonomous requirement of Cx43 for osteocyte viability: consequences for endocortical resorption and periosteal bone formation. *Journal of Bone and Mineral Research*, 27:374-379, 2012. doi:10.1002/jbmr.548
63. Tu X, Rhee Y, Condon K, Bivi N, Allen MR, Dwyer D, Stolina M, Turner CH, Robling AG, Plotkin LI, **Bellido T**. Sost downregulation and local Wnt signaling are required for the osteogenic response to mechanical loading. *Bone*, 50:209-217, 2012. (*Most cited paper published in Bone in 2012-2013*)
64. Calvi LM, Bromberg O, Rhee Y, Weber JM, Smith JN, Basil M, Frisch BJ, **Bellido T**. Osteoblastic expansion induced by parathyroid hormone receptor signaling in murine osteocytes is not sufficient to increase hematopoietic stem cells. *Blood*, 119:2489-2499, 2012.
65. Turek J, Ebetino FH, Lundy MW, Sun S, Kashemirov BA, McKenna CE, Gallant MA, Plotkin LI, **Bellido T**, Duan X, Triffitt JT, Russell RGG, Burr DB, Allen MR. Bisphosphonate binding affinity affects drug distribution in both intracortical and trabecular bone of rabbits. *Calcified Tissue International*, 90:202-210, 2012. doi:10.1007/s00223-012-9570-0
66. Lezcano V, **Bellido T**, Plotkin LI, Boland R, Morelli S. Role of connexin 43 in the mechanism of action of alendronate: dissociation of anti-apoptotic and proliferative signaling pathways. *Archives of Biochemistry and Biophysics*, 518:95-102, 2012. doi:10.1016/j.abb.2011.12.022
67. Rodriguez de Gortazar A, Martin-Millan M, Bravo B, Plotkin LI, **Bellido T**. Crosstalk between caveolin-1/ERKs and β -catenin survival pathways in osteocyte mechanotransduction. *Journal of Biological Chemistry*, 288:8168-8175, 2013
68. Bivi N, Pacheco-Costa R, Brun LR, Murphy TR, Farlow NR, Robling AG, **Bellido T**, Plotkin LI. Absence of Cx43 selectively from osteocytes enhances responsiveness to mechanical force in mice. *Journal of Orthopedic Research*, 31:1075-1081, 2013; DOI:10.1002/jor.22341.
69. Rhee Y, Lee E-Y, Lezcano V, Ronda AC, Allen MR, Plotkin LI, **Bellido T**. Resorption controls bone anabolism driven by PTH receptor signaling in osteocytes. *Journal of Biological Chemistry*, 288:29809-29820, 2013; doi: 10.1074/jbc.M113.485938.

70. Liu S, Song W, Boulanger JH, Tang W, Sabbagh Y, Kelley B, Gotschall R, Ryan S, Phillips L, Malley K, Cao X, Xia T-H, Zhen G, Cao X, Ling H, Dechow PC, **Bellido T**, Ledbetter SR, Schiavi SC. Anti-TGF- β Antibody Attenuates High-turnover Bone Disease Associated with CKD. *Journal of Bone and Mineral Research*, 29:1141-1157, 2014.
71. Lezcano V, **Bellido T**, Plotkin LI, Boland RL, Morelli S. Osteoblastic protein tyrosine phosphatases inhibition and connexin43 phosphorylation by alendronate. *Experimental Cell Research*, 324:30-39, 2014.
72. Wang L, Zhang H, Rodriguez S, Cao L, Parish J, Mumaw C, Zollman A, Kamoka G, Mu J, Chen DZ, Srouf EF, Chitteti BR, HogenEsch H, Tu X, **Bellido T**, Boswell S, Manshoury T, Verstovsek S, Yoder M, Kapur R, Cardoso AA, Carlesso N. Notch-dependent repression of miR-155 in the bone marrow niche regulates hematopoiesis in a NF- κ B dependent manner. *Cell Stem Cell*, 15:51-65, 2014.
73. Ben-Awadh A, Delgado-Calle J, Tu X, Kuhlenschmidt K, Allen MR, Plotkin LI, **Bellido T**. Parathyroid hormone receptor signaling induces bone resorption in the adult skeleton by directly regulating the RANKL gene in osteocytes. *Endocrinology*, 155:2797-2809, 2014.
74. Artsi A, Cohen-Kfir E, Gurt I, Shahar R, Bajayo A, Kalish N, Gabet Y, **Bellido T**, Dresner-Pollak R. The sirtuin1 activator SRT3025 down-regulates sclerostin and rescues ovariectomy-induced bone loss and biomechanical deterioration in female mice. *Endocrinology*, 155:3508-3515, 2014.
75. Sato AY, Tu X, McAndrews KA, Plotkin LI, **Bellido T**. Prevention of Glucocorticoid Induced-Apoptosis of Osteoblasts and Osteocytes by Protecting against Endoplasmic Reticulum (ER) Stress in vitro and in vivo in Female Mice. *Bone*, 73: 60-68, 2015
76. Tu X,* Delgado-Calle J,* Condon K, Maycas M, Zhang H, Carlesso N, Taketo MM, Burr D, Plotkin LI, **Bellido T**. Osteocytes mediate the anabolic actions of canonical Wnt/ β catenin signaling in bone. *Proceedings of National Academy of Sciences*, 112 (5) E478-E486, 2015. [Epub ahead of print] (Highlighted in *Nature Reviews Endocrinology*; and in *Nature Reviews Rheumatology*) *Both first authors
77. Wright L, Buijs J, Kim H-S, Coats L, Scheidler A, John S, She Y, Murthy S, Ma N, Chin-Sinex H, **Bellido T**, Bateman T, Mendonca M, Mohammad K, Guise T. Single-limb irradiation induces local and systemic bone loss in a murine model. *Journal of Bone and Mineral Research*, 30 (7): 1268-1279, 2015, doi: 10.1002/jbmr.2458.
78. Niziolek PJ, MacDonald BT, Kedlaya R, Zhang M, **Bellido T**, He X, Warman ML, Robling AG. High-bone-mass causing mutant LRP5 receptors are resistant to endogenous inhibitors in vivo. *J Bone Miner Res*. 2015 Mar 24. doi: 10.1002/jbmr.2514.
79. Plotkin LI, Gortazar AR, Davis HM, Condon KW, Gabilondo H, Maycas M, Allen MR, **Bellido T**. Inhibition of osteocyte apoptosis prevents the increase in osteocytic RANKL but it does not stop bone resorption or the loss of bone induced by unloading. *J Biol Chem*. Jun 17. pii: jbc.M115.642090, 2015.

80. Pacheco-Costa R, Davis HM, Sorenson C, Hon MC, Hassan I, Reginato RD, Allen MR, **Bellido T**, Plotkin LI. Defective cancellous bone structure and abnormal response to PTH in cortical bone of mice lacking Cx43 cytoplasmic C-terminus domain. *Bone* 2015, 10.1016/j.bone.2015.09.011
81. Delgado-Calle J, Anderson J, Cregor MD, Hiasa M, Chirgwin JM, Carlesso N, Yoneda T, Mohammad KS, Plotkin LI, Roodman GD, **Bellido T**. Bidirectional Notch signaling and osteocyte-derived factors drive tumor cell proliferation and bone destruction in multiple myeloma. *Cancer Research*, 2016, DOI: 10.1158/0008-5472.CAN-15-1703.
82. Clinkenbeard EL, Cass TA, Ni P, Hum JM, **Bellido T**, Allen MR, White KE. Conditional Deletion of Murine Fgf23: Interruption of the Normal Skeletal Responses to Phosphate Challenge and Rescue of Genetic Hypophosphatemia. *J Bone Miner Res*, 31(6): 1247-1257, 2016.
83. Plotkin LI, Gortazar AR, **Bellido T**. β -arrestin/connexin 43 complex anchors ERKs outside the nucleus: a pre-requisite for bisphosphonate anti-apoptotic effect mediated by Cx43/ERK in osteocytes. *Actualizaciones en Osteología* 12:11-20, 2016.
84. Sato AY, Cregor M, Delgado-Calle J, Condon KW, Allen MR, Peacock M, Plotkin LI, **Bellido T**. Protection from Glucocorticoid-Induced Osteoporosis by Anti-Catabolic Signaling in the Absence of Sost/Sclerostin. *Journal of Bone and Mineral Research*, 31(10): 1791-1802, 2016
85. Pellegrini GG, Morales CC, Wallace TC, Plotkin LI, **Bellido T**. Avenanthramides prevent osteoblast and osteocyte apoptosis and induce osteoclast apoptosis in an Nrf2-independent manner. *Nutrients*, 2016 8, 423-427; doi:10.3390/nu8070423
86. Maycas M, McAndrews KA, Sato AY, Pellegrini GG, Brown DM, Allen MR, Plotkin LI, Gortazar AR, Esbrit P, **Bellido T**. PTHrP-Derived Peptides Restore Bone Mass and Strength in Diabetic Mice: Additive Effect of Mechanical Loading. *Journal of Bone and Mineral Research* 2017 Mar;32(3):486-497. doi: 10.1002/jbmr.3007. Epub 2016 Oct 24.
87. Delgado-Calle J, Tu X, Pacheco-Costa R, McAndrews K, Edwards R, Pellegrini G, Kuhlenschmidt K, Olivos N, Robling A, Peacock M, Plotkin LI, **Bellido T**. Control of Bone Anabolism in Response to Mechanical Loading and PTH by Distinct Mechanisms Downstream of the PTH Receptor. *Journal of Bone and Mineral Research*, 2017 Mar;32(3):522-535. doi: 10.1002/jbmr.3011. Epub 2016 Oct 27.
88. Sato AY, Richardson D, Cregor M, Davis HM, Au ED, McAndrews K, Zimmers TA, Organ JM, Peacock M, Plotkin LI, **Bellido T**. Glucocorticoids induce bone and muscle atrophy by tissue-specific mechanisms upstream of E3 ubiquitin ligases. *Endocrinology*, 2017 Mar 1;158(3):664-677. doi: 10.1210/en.2016-1779.
89. Pellegrini GG, Cregor M, McAndrews K, Morales CC, Doyle McCabe L, McCabe GP, Peacock M, Burr D, Weaver C, **Bellido T**. Nrf2 regulates mass accrual and the

- antioxidant endogenous response in bone differently depending on the sex and age. *PLoS ONE*, 2017 Feb 2;12(2):e0171161. doi: 10.1371/journal.pone.0171161. eCollection 2017.
90. Davis HM, Pacheco-Costa R, Atkinson EG, Brun LR, Gortazar AR, Harris J, Hiasa M, Bolarinwa SA, Yoneda T, Ivan M, Bruzzaniti A, **Bellido T**, Plotkin LI. Disruption of the Cx43/miR21 pathway leads to osteocyte apoptosis and increased osteoclastogenesis with aging. *Aging Cell* (2017). doi: 10.1111/acer.12586
 91. Komaba H, Kaludjerovic J, Hu DJ, Nagano K, K Amano, Ide N, Sato T, Densmore MJ, Hanai J, Olauson H, **Bellido T**, Larsson TE, Baron R, Lanske B. Klotho in osteocytes regulates bone formation: the role in bone physiology and renal osteodystrophy. *Kidney International* 2017 Apr 8. pii: S0085-2538(17)30120-5. doi: 10.1016/j.kint.2017.02.014.
 92. Long F, He G, Shi Y, Lim J, **Bellido T**, Ni J. Differential involvement of Wnt signaling in Bmp regulation of cancellous versus periosteal bone growth. *Bone Research* 2017 Jun 6;5:17016. doi: 10.1038/boneres. 2017.16.
 93. Delgado-Calle J, Anderson J, Cregor M, Condon K, Kuhstoss S, Plotkin LI, **Bellido T**,* and Roodman GD*. Genetic Deletion of Sost or Pharmacological Inhibition of Sclerostin Prevent Multiple Myeloma-induced Bone Disease without Affecting Tumor Growth. *Leukemia* doi: 10.1038/leu.2017.152, 2017. * Corresponding authors
 94. Kegelman CD, Mason DE, Dawahare JH, Horan D, Vigil GD, Howard SS, Robling AR, **Bellido T**, Boerckel JD. Skeletal cell YAP and TAZ combinatorially promote bone development. *FASEB J*. 2018 May;32(5):2706-2721. doi: 10.1096/fj.201700872R. Epub 2018 Jan 10.
 95. Delgado-Calle J, Hancock B, Likine EF, Sato AY, McAndrews K, Sanudo C, Bruzzaniti A, Riancho JA, Tonra JR, **Bellido T**. MMP14 is a novel target of PTH signaling in osteocytes that controls resorption by regulating soluble RANKL production. *FASEB J*. 2018 32(5):2878-2890. doi: 10.1096/fj.201700919RRR. Epub 2018 Jan 17.
 96. Davis HM, Aref MW, Aguilar-Perez A, Pacheco-Costa R, Allen K, Valdez S, Herrera C, Atkinson EG, Mohammad A, Lopez D, Harris MA, Harris SE, Allen MR, **Bellido T**, Plotkin LI. Cx43 overexpression in osteocytes prevents osteocyte apoptosis and preserves cortical bone quality in aging mice. *Journal of Bone and Mineral Research-Plus* 2018 2(4):206-216. doi: 10.1002/jbm4.10035. Epub 2018 Jan 18.
 97. Pacheco-Costa R, Davis HM, Atkinson EG, Dilley JE, Byiringiro I, Aref MW, Allen MR, **Bellido T**, Plotkin LI. Reversal of loss of bone mass in old mice treated with mefloquine. *Bone*. 2018 114:22-31. doi: 10.1016/j.bone.2018.06.002. Epub 2018 Jun 5.
 98. Alam I, Oakes D, Reilly A, Billingsley C, Sbeta S, Gerard-O'Riley R, Acton D, Sato AY, **Bellido T**, Econs M. Overexpression of WNT16 does not rescue cortical bone loss due to glucocorticoid treatment in mice. *Journal of Bone and Mineral Research-Plus* DOI: 10.1002/jbm4.10084; JBMRIPlus, 3 (2), 2019, pp 1–14
 99. Li J-Y, Yu M, Tyagi AM, Vaccaro C, Hsu E, Adams J, **Bellido T**, Weitzmann MN, Pacifici R. IL-17 receptor signaling in osteoblastic/osteocytes mediates PTH-induced

- bone loss and enhances osteocytic RANKL production. *Journal of Bone and Mineral Research*. 2019 34(2):349-360 DOI: 10.1002/jbmr.3600 (in press). 30399207
100. Rauner M, Baschant U, Roetto A, Pellegrino RM, Salbach-Hirsch J, Weidner H, Rother S, Hintze V, Campbel G, Petzold A, Lemaitre R, Henry I, **Bellido T**, Theurl I, Altamura S, Muckenthaler MU, Schett G, Komla Ebri D, Bassett DJH, Williams GR, Platzbecker U, Hofbauer LC. Transferrin receptor 2 is a novel BMP receptor that regulates bone formation and ossification. *Nature Metabolism*, (in press).
 101. Wu Y, Yuan X, Perez KC, Hyman S, Wang L, Pellegrini G, Salmon B, **Bellido T**, Helms JA. Aberrantly elevated Wnt signaling is responsible for cementum overgrowth and dental ankylosis. *Bone*, 2018 Oct 25. pii: S8756-3282(18)30403-4. doi: 10.1016/j.bone.2018.10.023. [Epub ahead of print]
 102. Saito H, Gasser A, Bolamperti S, Maeda M, Matthies L, Jähn K, Long C, Schlüter H, Kwiatkowski M, Saini V, Divieti Pajevic P, **Bellido T**, van Wijnen A, Mohammad K, Guise T, Taipaleenmäki H, and Hesse E. TG-interacting factor 1 (Tgif1)-deficiency attenuates bone remodeling and blunts the anabolic response to parathyroid hormone. *Nature Communications*, 2019, in press [#NCOMMS-17-17338C].
 103. Sato AY, Cregor M, McAndrews K, Li T, Condon KW, Plotkin LI, **Bellido T**. Glucocorticoid-induced bone fragility is prevented in female mice by blocking Pyk2/anoikis signaling. *Endocrinology*, 2019, in press
 104. Davis HM, Deosthale PJ, Pacheco-Costa R, Essex AL, Atkinson EG, Aref MW, Dilley JE, **Bellido T**, Ivan M, Allen M, Plotkin LI. Osteocytic miR21 deficiency improves bone strength independent of sex despite having sex divergent effects on osteocyte viability and bone turnover. *The FEBS Journal*, in press. DOI: 10.1111/FEBS.15066
 105. Kegelman CD, Coulombe JC, Jordan KM, Horan DJ, Qin L, Robling AG, Ferguson VL, **Bellido TM**, Boerckel JD. YAP and TAZ mediate osteocyte perilacunar/canalicular remodeling. *Journal of Bone and Mineral Research*, in press
 106. Bullock WA, Hoggatt AM, Horan DJ, Elmendorf AJ, Sato AY, Bellido T, Loots GG, Pavalko FM, Robling A. 2019. Lrp4 mediates bone homeostasis and mechanotransduction through interaction with sclerostin in vivo. *iScience* 20 (205-215). <https://doi.org/10.1016/j.isci.2019.09.023>. Epub 2019 Sept 18.

Invited Reviews, Commentaries, Perspectives

1. Manolagas S.C., Jilka R., Girasole G., Passeri G., **Bellido T**. Estrogen, cytokines, and the control of osteoclast formation and bone resorption in-vitro and in-vivo. *Osteoporosis International*, 3(Suppl. 1):S114-116 (1991)
2. Manolagas S.C., Yu X.P., Girasole G., **Bellido T**. Vitamin D and the hematolymphopoietic tissue: A 1994 update. *Seminars in Nephrology*, 14:129-143, 1994.

3. Manolagas S.C., **Bellido T.**, Jilka R.L. New insights into the cellular, biochemical, and molecular basis of postmenopausal and senile osteoporosis: roles of IL-6 and gp130. *International Journal of Immunopharmacology*, 17:109-116, 1995.
4. Manolagas S.C., **Bellido T.**, Jilka R.L. Sex steroids, cytokines and the bone marrow: new concepts on the pathogenesis of osteoporosis. *Ciba Foundation Symposium*, 191: 187-196, 1995.
5. Manolagas S.C., Kousteni S., Chen J.R., Schuller M., Plotkin L.I., **Bellido T.** Kinase-mediated transcription, activators of non-genotropic estrogen like signaling (ANGELS), and osteoporosis: a different perspective on the HRT dilemma. *Kidney International*, 91:S41-49, 2004.
6. **Bellido T.** Osteocyte control of bone formation via Sost/sclerostin. *J. Musculoskelet. Neuronal Interact.*, 6:360-3, 2006.
7. **Bellido T.** Downregulation of Sost/Sclerostin by PTH: A novel mechanism of hormonal control of bone formation mediated by osteocytes. *J. Musculoskelet. Neuronal Interact.*, 6:358-9, 2006.
8. Robling AG, **Bellido T.**, Turner CH. Mechanical stimulation in vivo reduces osteocyte expression of sclerostin. *J. Musculoskelet. Neuronal Interact.*, 6:354, 2006.
9. **Bellido T.** The osteocyte: The “third” cell of bone gets to center stage (Report from the 28th annual meeting of the American Society for Bone and Mineral Research). *BoneKEY-Osteovision*, November 3, 2006 (11) 14-50.
10. **Bellido T.** Osteocyte apoptosis induces bone resorption and impairs the skeletal response to weightlessness. Commentary. *BoneKEY-Osteovision*, September 2007, 4 (9):252-256.
11. Bilezikian JP, Matsumoto T, **Bellido T.**, Khosla S, Martin J, Recker RR, Heaney R, Seeman E, Papapoulos S, Goldring S. Targeting bone remodeling for the treatment of osteoporosis: Summary of the Proceedings of an ASBMR workshop. *Journal of Bone and Mineral Research*, 24:373-385, 2009
12. **Bellido T.** Osteocyte death: A beacon for targeted remodeling. *Actualizaciones en Osteologia (Spanish)*, 5(1):21-24, 2009.
13. Turner CH, Warden SJ, **Bellido T.**, Plotkin LI, Kumar N, Jasiuk I, Danzig J, Robling AG. Mechanobiology of the skeleton. *Science Signaling*, 2(68):pt3, 2009
14. **Bellido T.** Antagonistic interplay between mechanical forces and glucocorticoids: a tale of kinases. *Journal of Cell Biochemistry*, 111:1-6, 2010.
15. **Bellido T.**, Plotkin LI. Novel actions of bisphosphonates in bone: Preservation of osteoblast and osteocyte viability, *Bone*, 49:50-55, 2011

16. Khosla S, **Bellido T**, Drezner MK, Gordon CM, Harris TB, Kiel DP, Kream BE, Leboff MS, Lian JB, Peterson CA, Rosen CJ, Williams JP, Winer KK, Sherman SS. Forum on aging and skeletal health: summary of the proceedings of an ASBMR workshop. *Journal of Bone and Mineral Research*, 26: 2565-2578, 2011
17. **Bellido T**, Saini V, Divieti Pajevic P. Effects of PTH on osteocyte function. Invited review, *Bone*, 54: 250-257, 2013
18. Plotkin LI, **Bellido T**. Beyond gap junctions: Connexin43 and bone cell signaling. Invited review, *Bone*, 52: 157-166, 2013
19. **Bellido T**. Osteocytes and their role in bone remodeling. *Actualizaciones en Osteologia* (Spanish), 9: 56-64, 2013
20. **Bellido T**. Osteocyte-driven bone remodeling. *Calcified Tissue International*, 94:25-34, 2014. (One of the 11th most cited papers in CTI 2014-2015)
21. Plotkin LI, **Bellido T**. Comment on Osteocytes: Masters Orchestrators of Bone. *Calcified Tissue International*, 95:382-383, 2014
22. Delgado Calle J, **Bellido T**, Roodman GD. Role of osteocytes in multiple myeloma. *Current opinion in supportive and palliative care. Bone and hematological problems*. Lippincott, Williams & Wilkins, 8:407-413, 2014.
23. Delgado Calle J, **Bellido T**. Osteocytes and skeletal pathophysiology. *Current Molecular Biology Reports*, 1(4): 157-167, 2015
24. Plotkin LI, **Bellido T**. From inside your bones: Osteocytic signalling pathways as therapeutic targets for bone fragility. *Nature Reviews Endocrinology*, 12 (10):593-605, 2016
25. Delgado Calle J, Sato AY, **Bellido T**. Role and mechanism of action of sclerostin in bone. *Bone*, 96: 29-37, 2017
26. Ayus JC, **Bellido T**, Negri AL. Hyponatremia and fractures: should hyponatremia be further studies as a potential biochemical risk factor to be included in FRAX algorithms? *Osteoporosis International*, 28 (5): 1543-1548, 2017
27. Delgado Calle J, **Bellido T**. New insights into the local and systemic functions of sclerostin: regulation of quiescent bone lining cells and beige adipogenesis in peripheral fat depots. *Journal of Bone and Mineral Research*, 32 (5): 889-891, 2017
28. Sato AY, Peacock M, **Bellido T**. Glucocorticoid excess in bone and muscle. *Clinical Reviews in Bone and Mineral Metabolism* 16 (1):33-47, 2018.
29. Ward LM, Kinnett K, Bonewald L; Parent Project Muscular Dystrophy Bone Health Workshop Collaborators (**Bellido T**). Proceedings of a Parent Project Muscular Dystrophy Bone Health Workshop: Morbidity due to osteoporosis in DMD: The Path

Forward May 12-13, 2016, Bethesda, Maryland, USA. Neuromuscul Disord. 2018 Jan;28(1):64-76. doi: 10.1016/j.nmd.2017.05.012. Epub 2017 May 15.

Book Chapters

1. Manolagas SC, Jilka RL, **Bellido T**, O'Brien CA, Parfitt AM. Interleukin-6 type cytokines and their receptors. *Principles of Bone Biology* (J.P. Bilezikian, L.G. Raisz and G.A. Rodan, Editors), 701-713. 1996.
2. Boyce BF, Xing L, Jilka RL, **Bellido T**, Weinstein RS, Parfitt AM, Manolagas SC. Apoptosis in bone cells. *Principles of Bone Biology, second edition* (J.P. Bilezikian, L.G. Raisz and G.A. Rodan, Editors), Chapter 10, 151-168, 2002.
3. **Bellido T** and Plotkin LI. Detection of apoptosis of bone cells in vitro (Chapter 4). *Methods in Molecular Biology, Osteoporosis Methods and Protocols*. (J. Westendorf, Editor), Humana Press, USA, 51-75, 2008.
4. Jilka RL, **Bellido T**, Almeida A, Plotkin LI, O'Brien CA, Weinstein RS, Manolagas SC. Apoptosis of bone cells. *Principles of Bone Biology, third edition* (J.P. Bilezikian, L.G. Raisz and G.A. Rodan, Editors), Academic Press, 237-261, 2008
5. Burr DB, **Bellido T**, White K. Bone structure and function (Chapter 9). *Rheumatology, fifth edition* (M.C. Hochberg, A.J. Silman, J.S. Smolen, M.E. Weinblatt, M.H. Weisman, Editors) Elsevier, 67-81, 2011.
6. **Bellido T**, Plotkin LI, Bruzzaniti A. Bone cells (Chapter 2). *Basic and Applied Bone Biology*. First edition (D Burr and M Allen, Editors) Elsevier, 2014.
7. **Bellido T**, Hill K. Hormonal effects on bone cells (Chapter 15). *Basic and Applied Bone Biology*. First edition (D Burr and M Allen, Editors) Elsevier, 2014.
8. Burr DB, **Bellido T**, White K. Bone structure and function (Chapter 6). *Rheumatology, sixth edition* (M.C. Hochberg, A.J. Silman, J.S. Smolen, M.E. Weinblatt, M.H. Weisman, Editors) Elsevier, 2014.
9. Burr DB, **Bellido T**, White K. Bone structure and function (Chapter 6). *Rheumatology, seventh edition* (M.C. Hochberg, A.J. Silman, J.S. Smolen, M.E. Weinblatt, M.H. Weisman, Editors) Elsevier, 2016.
10. **Bellido T**, Divieti Pajevic, Bonewald. Osteocyte biology (Chapter 2). *Genetics of Bone Biology and Skeletal Disease*, 2nd Edition, 2017
11. **Bellido T** and Delgado-Calle J. Basic Aspects of Osteocyte Function (Chapter). *Osteoporosis: Pathophysiology and Clinical Management* (in press), 2018

INVITED SEMINARS AND LECTURES

At Indiana University and the Veteran Administration Medical Center, Indianapolis, IN

1. 2007 Department of Anatomy and Cell Biology, Indiana University, Indianapolis. *Regulation of skeletal homeostasis by PTH receptor signaling in osteocytes*. 6/18/07
2. 2007 The Bone Club of Indiana University, Indianapolis. *Hormonal and mechanical effects on osteocytes*. 6/18/07
3. 2009 Department of Medical Genetics and Pharmacology, Division of Clinical Pharmacology, Indiana University School of Medicine, Indianapolis. *Survival pathways activated by bisphosphonates in bone cells*. 4/14/09
4. 2009 The Bone Club of Indiana University, Indianapolis. *Role of Osteocytes in the effects of PTH on cortical bone*. 8/18/09
5. 2009 Department of Medical and Molecular Genetics, Indiana University School of Medicine, Indianapolis. *PTH and osteocytes*. 11/14/09
6. 2012 Department of Medical and Molecular Genetics, Indiana University School of Medicine, Indianapolis. *Update on PTH and osteocytes*. 1/23/12
7. 2013 Roudebush Veteran Administration Medical Center, Indianapolis, USA. *Osteocytes as orchestrators of the skeletal actions of parathyroid hormone*. 11/20/2013
8. 2017 Indiana University, Department of Medicine, Division of Rheumatology, Grand Rounds, Indianapolis, USA. *Osteocytes and bone pathophysiology*. 3/21/2017
9. 2017 Indiana University School of Medicine, Center for Diabetes and Metabolic Diseases, Indianapolis, USA. *Osteocytes, PTH receptor signaling, and diabetic bone*. 3/20/2017

At the University of Arkansas for Medical Sciences

1. 1995 Hematology/Oncology, UAMS/ACRC. 1/1995.
2. 1995 Physiology and Biophysics Department, UAMS. 3/1995.
3. 1995 Biochemistry and Molecular Biology Department, UAMS. 11/1995.
4. 1997 Endocrinology Grand Rounds, UAMS. *Role of IL-6 type cytokines and p21 in osteoblast differentiation and cell cycle*. 2/1997.
5. 1997 Internal Medicine Research Conference, UAMS. *Role of gp130 signaling and the cdk inhibitor p21 in osteoblast differentiation*. 3/1997.
6. 1998 Endocrinology Grand Rounds, UAMS. *Signaling pathways controlling osteoblast and osteocyte apoptosis*. 12/1998.
7. 1999 ACRC Forum, UAMS. *Signaling pathways controlling the fate of osteoblastic cells*. 6/1999.
8. 2000 Pharmacology Department, UAMS. *Signals controlling osteocyte apoptotic cell death*. 2/2000
9. 2000 Endocrinology Grand Rounds, UAMS. *Connexins and ERKs: Partners in osteocyte survival by bisphosphonates*. 10/2000
10. 2004 Department of Medicine, UAMS. *Exercise prolongs life: linking mechanical strains to osteocyte survival*. 10/5/2004
11. 2004 Physiology Department, UAMS. *Osteocyte anoikis and glucocorticoids*. 11/2/2004
12. 2005 Dean's Research Forum, UAMS. *Healthy bones: Why keep osteocytes alive and how?* 3/22/2005
13. 2005 Department of Internal Medicine, UAMS. *Osteocyte apoptosis and bone loss due to weightlessness*. 10/5/2005
14. 2007 UAMS Department of Internal Medicine, Grand Rounds. *The parathyroid hormone paradox: a cause of bone loss and a treatment for osteoporosis*. 7/7/2007
15. 2018 UAMS Department of Physiology and Biophysics. *My scientific journey and an osteocyte story*. 12/2018

In the US

1. 2000 30th International Sun Valley Hard Tissue Workshop, Sun Valley, Idaho, USA. *Inhibition of osteoblast and osteocyte apoptosis by PTH*. 8/14-18, 2000
2. 2002 Advances in Mineral Metabolism AIMM/ASBMR Haddad Young Investigators' Meeting. *Connexin43 and ERKs: Partners in survival of osteocytes/osteoblasts induced by bisphosphonates*. Snowmass, Colorado, USA. 4/2002
3. 2005 Advances in Skeletal Anabolic Agents for the Treatment of Osteoporosis Meeting, sponsored by American Society for Bone and Mineral Research, National Institutes of Health, International Society for Clinical Densitometry, The National Osteoporosis Foundation, and the Osteogenesis Imperfecta Foundation. *PTH, apoptosis and bone anabolism*. Bethesda, MD, US. 5/24-25/2004
4. 2005 Center for Craniofacial Regeneration, University of Michigan, Ann Arbor, Michigan. *Signals controlling osteocyte viability*. 3/30/2005
5. 2006 The Bone Disease Program of Texas, Baylor College of Medicine, MD Anderson Cancer Center. *Regulation of osteoblast number by PTH: survival versus genesis*. 1/20/2006
6. 2006 Experimental Biology 2006 – Bone and Cartilage Platform. *Mechanical forces, osteocyte viability and bone strength*. 4/2/2006
7. 2006 Sun Valley Workshop on Skeletal Biology, Idaho. *Downregulation of Sost/sclerostin expression by PTH: a novel mechanism of hormonal control of bone formation mediated by osteocytes*. 8/2/2006
8. 2007 Bone Biology Group, Department of Oral Biology, Dental School, University of Missouri at Kansas City. *Control of skeletal homeostasis by PTH through actions on osteocytes*. 5/14/2007
9. 2007 American College of Rheumatology, Boston. *Control of bone remodeling by osteocytes and sclerostin*. 11/12/2007
10. 2007 Targeting bone remodeling for the treatment of Osteoporosis. ASBMR/NIH meeting. Washington DC. *Sclerostin*. 12/5/2007
11. 2008 Endocrinology Grand Rounds. Endocrine Unit Massachusetts General Hospital. Boston, Massachusetts. *Control of bone mass and remodeling by PTH receptor signaling in osteocytes*. 3/17/2008
12. 2008 Wyeth Research, Philadelphia. *Osteocyte regulation of skeletal homeostasis through the PTH receptor*. 8/7/2008
13. 2008 Eli Lilly Pharmaceuticals, Indianapolis. *The osteocyte: The “third” cell of bone gets to center stage*. 12/14/2008
14. 2010 University of Chicago, Department of Surgery, Chicago. *Osteocytes: orchestrators of osteoclast and osteoblast function*. 3/9/2010
15. 2010 Osteogenesis Imperfecta Foundation – Cell Biology Meeting. Chicago. *Osteocytes as regulators of osteoclast and osteoblast function* 4/6-7/2010
16. 2010 Endocrine Fellows Foundation/ASBMR Fellows Forum, Toronto, Canada. *The Osteocyte: What is it? Where did it come from? What does it do?* 10/14/2010
17. 2010 ASBMR Symposium – Can We Talk? Cell Communication in the Skeleton, Toronto, Canada. *Connexin 43: Gap-junction-independent Functions as Regulator of Osteoblast and Osteocyte Signaling* 10/16/2010
18. 2011 Genzyme Corporation. Framingham, MA. *Regulation of osteoblast and osteoclast function by osteocytes*. 5/2011.

19. 2011 Endocrine Fellows Foundation/ASBMR Fellows Forum, San Diego, USA. *Osteocytes* 9/14/2011
20. 2011 Medical University of South Carolina, SC. *Osteocytes: crucial target cells in the skeletal actions of PTH*. 11/2011.
21. 2012 Amgen pharmaceuticals, Thousand Oaks, California, US. *Osteocytes as regulators of bone remodeling*. 3/23/2012
22. 2012 Sun Valley Workshop on Skeletal Biology, Idaho. *PTH: the master regulator of osteocyte function*. 8/8/2012
23. 2012 Endocrine Fellows Foundation/ASBMR Fellows Forum, Minneapolis, USA. *Osteocytes* 10/11/2012
24. 2013 Northwestern University, Chicago, USA. *Osteocytes and the actions of PTH on bone*. 6/3/2013
25. 2013 Endocrine Fellows Foundation/ASBMR Fellows Forum, Baltimore, USA. *Osteocytes* 10/3/2013
26. 2013 ASBMR Meet-the-Professor session. *Effects of osteoporosis drugs on osteocytes*, Baltimore, USA, 10/4/2013
27. 2013 American College of Rheumatology Meeting, San Diego, USA. *Osteocyte function and bone biology*. 10/28/2013
28. 2014 Hospital of Special Surgery, New York, USA. *Can osteocytes be doing it all in bone?* 4/25/2014
29. 2014 ASBMR Meet-the-Professor session (with Professor Pierre Marie). *Connexins, Cadherins, and cell-to-cell signaling in bone*. Houston, USA, 9/12/2014
30. 2014 Endocrine Fellows Foundation/ASBMR Fellows Forum, Houston, USA. *Bone cells: osteoblasts, osteoclasts and osteocytes* 9/11/2014
31. 2015 Endocrine Fellows Foundation/ASBMR Fellows Forum, Seattle, USA. *Bone cells: osteoblasts, osteoclasts and osteocytes* 12/10/2015
32. 2015 Women's Global Health Institute, Purdue University, West Lafayette, USA. *Symposium: Bioactives and Health: Nrf2 and sex differences in bone accrual and maintenance*. 8/28/2015
33. 2015 Hospital of Special Surgery, New York, USA. *Osteocytes and bone anabolism by canonical Wnt/ β catenin signaling*. 12/4/2015
34. 2016 Harvard School of Dental Medicine, Boston, USA. *Mechanisms underlying the control of bone remodeling by osteocytes*. 4/12/2016
35. 2017 Radius Boot Camp, Philadelphia, PA. *Bone basics and Bone signaling pathways*. 9/21-21-2017
36. 2018 McKay Orthopaedic Res. Lab., Penn Center for Musculoskeletal Disorders, University of Pennsylvania, Philadelphia, USA. *Osteocyte-regulated pathways in bone: from biology to pathophysiology*. 1/25/2018
37. 2018 University of Toledo, USA. *Osteocytes and sclerostin: from bone biology to bone pathology*. 3/21/2018
38. 2018 Endocrine Society Meeting, Chicago, IL, USA. *Sclerostin as a modulator of osteoblast and osteoclast Function*. 3/19/2018
39. 2018 Gordon Research Conference on Musculoskeletal Biology and Bioengineering. Andover, NH, US. *Interfering with the damaging effects of glucocorticoids in the musculoskeletal system*. 8/5-10/2018
40. 2018 Women's Global Health Institute, Purdue University, USA. *Purdue Symposium; Bone protective actions of blueberry diets: mechanistic distinctions between female and male skeletons*. 9/21/2018

41. 2018 Indiana Center for Musculoskeletal Research, Indianapolis, IN, USA. *Interfering with the damaging effects of glucocorticoids in the musculoskeletal system*. 8/25/2018
42. 2018 Rush University, Chicago. Rush Initiative to Maximize Student Development (Rush IMSD) highlighting diversity in the careers of scientific leaders. *Osteocytes in bone: from biology to pathophysiology*. 11/2/2018

Outside the US

1. 1992 IXth International Congress of Endocrinology. *Vitamin D₃ and the immune system*. Nice, France. 9/1992.
2. 1993 IVth Meeting of the Endocrinology and Metabolism Societies of South America and the VIIIth Meeting of the Endocrinology Society of Argentina. *Sex steroids, cytokines, and the pathophysiology of osteoporosis*. Buenos Aires, Argentina 10/1993.
3. 1993 IVth Meeting of the Endocrinology and Metabolism Societies of South America and the VIIIth Meeting of the Endocrinology Society of Argentina. *Role of vitamin D₃ in the immune system and osteoclastogenesis*. Buenos Aires, Argentina 10/1993.
4. 1998 III Meeting of the Argentinean Society of Osteoporosis. *IL-6 type cytokines and their receptors*. Buenos Aires, Argentina. 10/1998.
5. 1999 XVI Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. *Signaling pathways controlling bone cell death. New opportunities for the treatment of osteoporosis*. Buenos Aires, Argentina. 10/1999
6. 1999 XVI Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. *How anti-resorptive agents prevent bone fractures?* Buenos Aires, Argentina. 10/1999
7. 2000 V Congress of the Ibero-American Society of Bone and Mineral and XVII Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. *Osteobiology Research in Ibero-America*. Buenos Aires, Argentina. 11/2000
8. 2001 CEOM Forum on Osteobiology. National University of Cordoba. *Connexins, kinases, and apoptosis of bone cells*. Cordoba, Argentina. 10/2001
9. 2002 Transplantation Bone Disease Meeting. Satellite meeting of the American Society of Transplantation. *Glucocorticoid-induced osteoporosis and osteonecrosis: the osteoblast/osteocyte hypothesis*. Buenos Aires, Argentina. 8/15-16/2002
10. 2002 Argentinian Society of Osteoporosis. *Regulation of bone homeostasis by bisphosphonates: Focus on apoptosis*. Buenos Aires, Argentina. 8/24-25/2002
11. 2003 VI Congress of the Ibero-American Society of Bone and Mineral. *Apoptosis and osteoporosis*. Quito, Ecuador. 3/2003
12. 2003 VI Congress of the Ibero-American Society of Bone and Mineral. *Molecular and biological actions of estrogens in bone*. Quito, Ecuador. 3/2003
13. 2004 VII Meeting of the Spanish Society of Bone and Mineral Metabolism (SEIOMM), Caceres, Spain. *Osteoblast apoptosis and osteoporosis*. 10/21-23/2004
14. 2004 VII Meeting of the Spanish Society of Bone and Mineral Metabolism (SEIOMM), Caceres, Spain. *Bone fragility induced by glucocorticoids and osteocyte anoikis*. 10/21-23/2004
15. 2004 Advances in osteoporosis treatment: Anabolic agents and antiresorptives. Department of Medicine, University of Buenos Aires. Buenos Aires, Argentina. *Apoptosis and bone anabolism*. 11/19/2004
16. 2006 Meeting of the Endocrinology Societies of Argentina (FASEN), Tucuman, Argentina. *Bone fragility induced by glucocorticoids: an osteocyte story*. 9/5-7/2006

17. 2007 Advances in the Molecular Pharmacology and Therapeutics of Bone Disease and International Symposium on Paget's Disease, Oxford, England. *Alternative pathways of action of bisphosphonates on bone cells*. 7/10-13/2007
18. 2008 IV International Conference on Bone Involvement in Arthritis, Santa Margherita Ligure, Italy, *Role of sclerostin in the regulation of osteoblastogenesis*. 10/1-2/2008
19. 2008 XXV Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. Buenos Aires, Argentina. 11/2008. *Osteocytes, Sclerostin, and bone remodeling*.
20. 2008 XXV Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. Buenos Aires, Argentina. 11/2008. *Bone anti-catabolic and anabolic agent: Cellular and molecular mechanisms of action*.
21. 2008 XXV Meeting of the Argentinean Society of Osteobiology and Mineral Metabolism. Buenos Aires, Argentina. 11/2008 *Meet the professor breakfast – How to quantify bone cell progenitors?*
22. 2009 3rd Meeting of the Italian Skeletal Endocrinology Society, Brescia, Italy. 3/2009. *Antagonists of the Wnt pathway: Sclerostin*
23. 2009 Meeting of the Korean Endocrine Society. Seoul, Korea. 3/2009 Plenary lecture: *Regulation of skeletal homeostasis by PTH receptor signaling in osteocytes*
24. 2009 Meeting of the Korean Endocrine Society. Seoul, Korea. 3/2009 Satellite Symposium on Bone: *Osteocyte apoptosis: Why keep osteocytes alive and how?*
25. 2010 Meeting of the Brazilian Society of Biochemistry and Molecular Biology; 1st Latin American Symposium of the Molecular Mechanisms of Skeletal Mineralization. Foz do Iguacu, Brazil. 5/2010. *Osteocytes: the third cell of bone gets to center stage*.
26. 2011 Facultad de Medicina (Universidad San Pablo-CEU), Madrid, Spain. 3/2011. *Regulation of skeletal homeostasis by osteocytes*.
27. 2011 Meeting of the Spanish Society of Rheumatology (SER), Symposium on Osteoporosis and Metabolic Bone Diseases, Logronio, Spain. 3/2011. *Role of osteocytes in bone remodeling*.
28. 2011 The 5th Bone and Cartilage Frontier Meeting, Tokyo, Japan. *PTH and osteocytes*. 11/2011
29. 2012 Meeting of the Endocrinology Societies of Argentina (FASEN), Salta, Argentina. *The osteocyte and the actions of parathyroid hormone in bone*. 10/3-5/2012
30. 2014 Meeting of the Spanish Society of Bone and Mineral Metabolism (SEIOMM), Santiago de Compostella, Spain. *Osteocytes and bone remodeling: messengers and mechanisms*. 11/6/2014
31. 2014 Meeting of the Spanish Society of Bone and Mineral Metabolism (SEIOMM), Santiago de Compostella, Spain. Symposium. *Update on RANKL and the osteocyte: clinical implications*. 11/7/2014
32. 2015 Chinese Society of Bone and Mineral Research, Changsha, China. *Osteocytes and bone remodeling*. 4/11/2015
33. 2015 Meeting of the Argentinean Society of Osteoporosis (SAO), Mar del Plata, Argentina. *Bone atrophy and glucocorticoids: Cause and therapy*. 3/9/2015
34. 2015 Meeting of the Argentinean Society of Bone and Mineral Metabolism (AAOMM), Sierra de la Ventana, Argentina. *Osteocytes and bone homeostasis: Messengers and mechanisms*. 10/30/2015
35. 2016 Bone Academy: New directions in osteoporosis management: opportunities and challenges. Barcelona, Spain. *Mechanisms underlying osteocyte functions in bone*. 3/11/2016

36. 2017 Meeting of the Argentinean Society of Biochemists. Bahia Blanca, Argentina. *Education, science and health and Bone: More than a storage of minerals*. 6/7-8/2017
37. 2017 Joint Scientific Meeting of Australia New Zealand Bone Mineral Society/International Federation of Mineral Research Societies (ANZBMS/IFMRS) in conjunction with the Japanese Society of Bone and Mineral Research (JSBMR). Brisbane, Australia. *Osteocytes and mechanosensory pathways* 6/17-21/ 2017
38. 2017 Meeting of the Argentinean Society of Bone and Mineral Metabolism (AAOMM), Buenos Aires, Argentina. *Osteocytes and sclerostin: from bone biology to bone pathology*. 9/14/2017
39. 2018 Meeting of the Argentinean Society of Bone and Mineral Metabolism (AAOMM) and the Argentinean Society of Osteoporosis (SAO), Buenos Aires, Argentina. *Glucocorticoid effects on bone and muscle*. 10/10/2018

Abstracts (* selected for oral presentation)

1. Boland R., de Boland A., **Bellido T.** Vitamin D₃ stimulation of calcium and phosphate transport by skeletal muscle plasma membranes. *VIIIth International Conference on Calcium Regulating Hormones*, Kobe, Japan. October 1983.
2. **Bellido T.**, Boland R. Characteristics of phosphate transport by skeletal muscle. *Congress on Applications of Nuclear Energy*, Bahia Blanca, Argentina. June 1984.
3. **Bellido T.**, de Boland Ana, Boland R. Characterization of Vitamin D₃ metabolite-dependent calcium and phosphate transport in cultured myoblasts. *IVth Panamerican Congress of Biochemistry*, Buenos Aires, Argentina. November 1984.
4. **Bellido T.**, Boland R. In vitro muscle phosphate uptake. Characteristics and action of Vitamin D₃ metabolites. *VIth Workshop on Vitamin D*. Merano, Italy. March 1985.
5. **Bellido T.**, Boland R. Stimulation by 25-hydroxy-Vitamin D₃ on sodium dependent-phosphate uptake and protein synthesis in myoblasts. *XXIth National Congress of Research Biochemistry Societies*, Huerta Grande, Argentina. October 1985.
6. **Bellido T.**, Drittanti L., Boland R., de Boland A. Effects of Vitamin D₃ metabolites on phospholipid composition of cultured myoblasts. *IVth Panamerican Congress of Biochemistry*, Pucon, Chile. November 1986.
7. **Bellido T.**, Boland R. Stimulation of synthesis of myoblast membrane proteins by 25-hydroxy-Vitamin D₃. *VIIIth Workshop on Vitamin D*, USA. April 1988. *
8. **Bellido T.**, Boland R. Evidence on a nuclear mechanism of action of 25-hydroxy-Vitamin D₃ in cultured myoblasts. *XXIVth National Congress of Research Biochemistry*, Villa Giardino, Argentina. November 1988.
9. Boland R., Drittanti L., de Boland A., **Bellido T.**, Fernandez L. Evidences on Calbindin-D9K induction by 1,25-dihydroxy-Vitamin D₃ in differentiating myoblasts. *XXVth National Congress of Research Biochemistry Societies*, Buenos Aires, Argentina. October 1989.

10. **Bellido T.**, Boland R. Stimulation of muscle cell proliferation by 1,25-dihydroxy-Vitamin D₃. Role of second messengers. *XXVIth National Congress of Research Biochemistry Societies*, Mar del Plata, Argentina. October 1990.
11. **Bellido T.**, Boland R. Role of second messengers in the stimulation of muscle cell proliferation by 1,25-dihydroxy-Vitamin D₃. *VIIIth Workshop on Vitamin D*, Paris, France. July 1991.
12. **Bellido T.**, Girasole G., Passeri G., Yu X.P., Jilka R., Boder G., Williams D., Boswell S., Notides A., Manolagas S.C. Demonstration of estrogen receptors by Western blot analysis in bone marrow stromal cells and osteoblasts: correlation with interleukin-6 regulation by estrogens and antiestrogens. *Journal of Bone and Mineral Research* 7 (Supl.1) 1991.
13. Yu X.P., **Bellido T.**, Mocharla H., Nonnecke B., Albers M., Crabb D., Manolagas S.C. Novel vitamin D-responsive protein in lymphocytes: further characterization and cloning from an expression library. *Journal of Bone and Mineral Research* 7 (Supl.1) 1991. *
14. **Bellido T.**, Girasole G., Passeri G., Jilka R., Manolagas S.C. Demonstration of estrogen and vitamin D receptors in marrow derived stromal cells: Upregulation of the estrogen receptor and inhibition of stromal cell proliferation by 1,25-dihydroxy-Vitamin D₃. *Journal of Bone and Mineral Research* 8 (Supl.1) 1992.
15. Mocharla H., **Bellido T.**, Yu X.P., Jilka R., Lee C., Crabb D., Manolagas S.C. Absolute quantification of human vitamin D receptor (hVDR) mRNA by competitive polymerase chain reaction (PCR). *Journal of Bone and Mineral Research* 8 (Supl.1) 1992.
16. Pottratz S., **Bellido T.**, Mocharla H., Girasole G., Jilka R., Manolagas S.C., Crabb D. 17 - estradiol inhibits stimulated transcription from the human IL-6 promoter in transfected HeLa and murine bone marrow stroma cells. *Journal of Bone and Mineral Research* 8 (Supl.1) 1992. *
17. Passeri G., **Bellido T.**, Girasole G., Tkaczyk A., Manolagas S.C., Jilka R.L. Transforming growth factor- β (TGF β) and interleukin-1 (IL—1) induce the interleukin—11 (IL—11) mRNA in both bone marrow-derived stromal cells and osteoblasts from humans. *Journal of Bone and Mineral Research* 9 (Supl.1) 1993.
18. Yu X.P., **Bellido T.**, Rice N., Manolagas S.C. The molecular basis of the regulation of the transcription factor NF—B by 1,25(OH)₂D₃ in lymphocytes: Demonstration of inhibition at the mRNA level. *Journal of Bone and Mineral Research* 9 (Supl.1) 1993. *
19. Pottratz S., Yu X.P., **Bellido T.**, Crabb D., Manolagas S.C. The estrogen receptor inhibits transcriptional activation from the human IL—6 gene promoter indirectly: Evidence against protein-DNA interaction. *Journal of Bone and Mineral Research* 9 (Supl.1) 1993. (Young investigator award)
20. **Bellido T.**, Girasole G., Jilka R.L., Crabb D., Manolagas S.C. Demonstration of androgen receptors in bone marrow stromal cells and their role in the regulation of transcription

- from the human interleukin-6 (IL-6) gene promoter. *Journal of Bone and Mineral Research* 9 (Supl.1) 1993. * (Young investigator award)
21. **Bellido T.**, Girasole G., Passeri G., Jilka R.L., Manolagas S.C. Sex steroids regulate expression of gp130 transduction pathway by bone marrow and bone cells. *Fifth Workshop on Cells and Cytokines in Bone and Cartilage*, Davos, Switzerland. April 1994. *
 22. **Bellido T.**, Girasole G., Passeri G., Jilka R.L., Manolagas S.C. gp130 mRNA is increased by PTH and cytokines and decreased by sex steroids in stromal/osteoblastic cells. *Journal of Bone and Mineral Research* 10 (Supl.1) 1994. *
 23. **Bellido T.**, Jilka R.L., Stahl N., Clark D., Borba V.Z.C., Yancopoulos G., Manolagas S.C. Phosphorylation of gp130 complexes in stromal/osteoblastic cells following stimulation with IL-6 or LIF: Evidence for distinct responsiveness along the differentiation pathway and perhaps alternate forms of the protein. *Journal of Bone and Mineral Research* 10 (Supl.1) 1994. *
 24. Yu X.P., **Bellido T.**, Hermann T., Jilka R.L., Pike W.J., Manolagas S.C. Androgen and estrogen exert identical modulating effects on the binding activity of the NF- κ B in the IL-6 gene promoter. *Journal of Bone and Mineral Research* 10 (Supl.1) 1994.
 25. Epstein J., **Bellido T.**, Jilka R.L., Clark D., Grigorieva I., Barlogie B., Manolagas S.C. Abnormal IL-6 receptor transcript in murine myeloma cells: Association with low gp130 expression. *Journal of Bone and Mineral Research* 10 (Supl.1) 1994.
 26. MacLeod S.L., **Bellido T.**, Grigorieva I., Wang A., Epstein J., Barlogie B., Jilka, R.L., Manolagas S.C., Hardin J.W. Constitutive expression of NF- κ B in human multiple myeloma cell lines: Correlation with interleukin-6 production. *Journal of Bone and Mineral Research* 10 (Supl.1) 1994.
 27. Yao A., MacLeod S.L., **Bellido T.**, Epstein J., Barlogie B., Manolagas S.C., Hardin J.W. Regulation of gp130 expression in a multiple myeloma cell line by steroid hormones. *36th Annual Meeting of the American Society of Hematology*, Nashville, USA. December 1994.
 28. **Bellido T.**, Stahl N., Borba V.Z., Epstein J., Barlogie B., Yancopoulos G., Manolagas S.C. Expression of the entire gp130 receptor family in bone marrow stromal/osteoblastic cells: evidence for the regulation of gp130 by systemic hormones. *36th Annual Meeting of the American Society of Hematology*, Nashville, USA. December 1994.
 29. **Bellido T.**, Jilka RL, Lin S-C, Grigorieva I, Barlogie B, Manolagas SC, Epstein J Truncated functional IL-6 receptor expression in murine myeloma cells associated with low gp130 expression. *36th Annual Meeting of the American Society of Hematology*, Nashville, USA. December 1994.

30. **Bellido T.**, Stahl N., Jilka R.L., Epsetin J., Yancopoulos G., Manolagas S.C. Bone-active hormones regulate the gp130 signal transduction pathway. *XIIIth International Conference on Calcium Regulating Hormones*, Melbourne, Australia. February 1995.
31. **Bellido T.**, Stahl N., Borba V.Z., Clark D., Yancopoulos G., Manolagas S.C. Expression of functional receptors for IL-6, IL-11, LIF, Oncostatin-M, and ciliary neurotrophic factor in stromal/osteoblastic cells. *XIIIth International Conference on Calcium Regulating Hormones*, Melbourne, Australia. February 1995.
32. Borba V.Z., **Bellido T.**, Stahl N., Yancopoulos G., Manolagas S.C. The ciliary neurotrophic factor stimulates osteoblastic cell proliferation. *XIIIth International Conference on Calcium Regulating Hormones*, Melbourne, Australia. February 1995.
33. MacLeod S.L., **Bellido T.M.**, Epstein J., Manolagas S.C., Barlogie B., Hardin J.W. Transcription factor binding to IL-6 promoter correlates with IL-6 production by 6 multiple myeloma cell lines. *Eighty-sixth Annual Meeting of the American Association for Cancer Research*. Toronto, Ontario, Canada. March 1995.
34. Borba V.Z.C., **Bellido T.**, Grigorieva I., Epstein J., Stahl N., Yancopoulos G., Manolagas S.C. Demonstration of functional type II receptors for oncostatin M (OSM) in human osteosarcoma cells (MG-63). *Journal of Bone and Mineral Research* 11 (Supl.1) 1995.
35. Lin S.-C., **Bellido T.**, Borba V.Z.C., O'Brien C.A., Manolagas S.C. Estrogen and androgen downregulate the expression of both the ligand-binding subunit and the gp130 signal transducing subunit of the IL-6 receptor by a sex steroid receptor-mediated mechanism independent of new protein synthesis. *Journal of Bone and Mineral Research* 11 (Supl.1) 1995. (Young investigator award)
36. **Bellido T.**, Borba V.Z.C., Stahl N., Yancopoulos G., Jilka R.L., Manolagas S.C. Ciliary neurotrophic factor (CNTF) and leukemia inhibitory factor (LIF) stimulate cell proliferation and increase alkaline phosphatase and interleukin-6 production by osteoblastic cells. *Journal of Bone and Mineral Research* 11 (Supl.1) 1995.
37. **Bellido T.**, Borba V.Z.C., Manolagas S.C. Activation of the gp130 signal transduction pathway in osteoblastic cells promotes differentiation to a more mature phenotype. *Journal of Bone and Mineral Research* 12 (Supl.1) 1996.
38. Parfitt A.M., Jilka R.L., Weinstein R.S., **Bellido T.**, Manolagas S.C. The spatial and temporal relationships between osteoclasts and osteoblasts during bone remodelling require parallel as well as serial signal pathways. *Journal of Bone and Mineral Research* 12 (Supl.1) 1996.
39. Jilka R.L., Weinstein R.S., **Bellido T.**, Miller F.L., Smith C., Parfitt A.M., Manolagas S.C. Demonstration of programmed cell death (apoptosis) in osteoblasts: evidence for modulation of this process by growth factors and cytokines. *Journal of Bone and Mineral Research* 12 (Supl.1) 1996.

40. **Bellido T.**, Han L., Jilka R.L., Manolagas S.C. gp130/STAT3 activation stimulates the transcription of the cyclin dependent kinase inhibitor p21^{WAF1,CIP1} gene in osteoblasts: a prerequisite for the biologic effects of IL-6 type cytokines. *Journal of Bone and Mineral Research* 13 (Supl.1) 1997.
41. Carter C.A., Davidson A.D., Havens J. Han L., **Bellido T.** Retinoic acid induced-differentiation of human endometrial adenocarcinoma (RL95-2) cells is associated with decreases in tyrosine phosphorylation. *American Association for Cancer Research 1998 Annual Meeting*, New Orleans, USA. March 1998. # 1317, pp.193.
42. **Bellido T.**, Han L., Huening M., Barger S.W. , Manolagas S.C., Christakos S. Calbindin-D_{28k} is expressed in osteoblastic cells and suppresses their apoptosis by inhibiting caspase-3 activity. *Journal of Bone and Mineral Research* 14 (Supl.1) 1998.*
43. **Bellido T.**, Plotkin L., Han L., Manolagas S.C., Jilka R.L. PTH prevents glucocorticoid-induced apoptosis of osteoblasts and osteocytes in vitro: direct interference with a private death pathway upstream from caspase-3. *Journal of Bone and Mineral Research* 14 (Supl.1) 1998.
44. **Bellido T.**, Han L., Mocharla H., Said S., O'Brien C., Jilka R.L., Manolagas S.C. Overexpression of bcl-2 renders osteoblastic cells refractory to glucocorticoid-induced apoptosis. *Journal of Bone and Mineral Research* 14 (Supl.1) 1998.
45. Plotkin L.I., **Bellido T.**, Bonewald L., Papapoulos S.E., Jilka R.L., Manolagas S.C. Bisphosphonates prevent glucocorticoid-induced apoptosis of osteocytes in vitro: a putative mechanism influencing mechanosensing. *Journal of Bone and Mineral Research* 14 (Supl.1) 1998. *
46. Plotkin, L.I., Han, L., Manolagas, S.C., **Bellido, T.** An ERK-mediated Anti-apoptotic Effect of Bisphosphonates, but not Estrogen, on Osteocytes In Vitro, Depends on the Integrity of Gap Junctions: Evidence for Distinct Signaling Pathways Upstream ERKs. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999. *
47. **Bellido, T.**, Plotkin, L.I., Han, L., Manolagas, S.C. Estrogen Inhibit Apoptosis of Osteoblasts and Osteocytes Through Rapid (Non-genomic) Activation of Extracellular Signal-Regulated Kinases (ERKs). *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
48. Ahuja, S., Zhao, S., **Bellido, T.**, Plotkin, L.I., Sato, N., Bonewald, L.F. CD40ligand (CD40L) is an Anti-Apoptotic Factor for Bone Cells. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
49. Mathov, I., Sgarlata, C.L., Plotkin, L.I., Leoni, J., **Bellido, T.** ERKs and Calcium Channels are Involved in the Proliferative Effect of Bisphosphonates in Osteoblastic Cells in vitro. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
50. Manolagas, S.C., Weinstein, R.S., **Bellido, T.**, Bodenner, D.L. Opposite effects of estrogen on the life span of osteoblasts/osteocytes versus osteoclasts in vivo and in vitro:

- an explanation of the imbalance between formation and resorption in estrogen deficiency. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999. *
51. Manolagas, S.C., Weinstein, R.S., **Bellido, T.**, Bodenner, D.L., Jilka, R.L., Parfitt, A.M. Activators of Non-Genomic Estrogen-Like Signalling (ANGELS): a novel class of small molecules with bone anabolic properties. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999. *
 52. Weinstein, R.S., **Bellido, T.**, Chambers, T.M., Crawford, J.A., Swain, F.L., Han, L., Manolagas, S.C. Like estrogen, androgen exert potent and direct anti-apoptotic effects on osteoblasts and osteocytes in vivo and in vitro. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
 53. **Bellido, T.**, Han, L., Manolagas, S.C. Both membrane permeable and impermeable estrogenic compounds directly stimulate murine osteoclast apoptosis in vitro. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
 54. Jilka, R.L., Parfitt, A.M., Manolagas, S.C., **Bellido, T.**, Smith, C. Cleavage of collagen by osteoblasts in vitro generates anti-apoptotic signals: a mechanism for the regulation of their functional lifespan and fate during bone formation. *Journal of Bone and Mineral Research* 15 (Supl.1) 1999.
 55. **Bellido, T.**, Plotkin, L.I., Manolagas, S.C. Convergence of mechanical, hormonal and pharmacotherapeutic signals of osteocyte survival on the extracellular signal regulated kinases (ERKs) pathway. *Journal of Bone and Mineral Research* 15 (Supl.1) S375. 2000.
 56. Plotkin, L.I., Manolagas, S.C., **Bellido, T.** Connexin-43 hemichannel opening: a requirement for bisphosphonate-mediated prevention of osteocyte apoptosis. *Journal of Bone and Mineral Research* 15 (Supl.1) S172. 2000. *
 57. Kousteni, S., Plotkin, L.I., Han, L., Han, K., Bodenner, D. L., **Bellido, T.**, Manolagas, S.C. The estrogen receptor α or β or the androgen receptor transmit anti-apoptotic signals with similar efficiency irrespective of whether the ligand is an estrogen or an androgen: Novel evidence for “unisex” receptor activity. *Journal of Bone and Mineral Research* 15 (Supl.1). S195. 2000. *
 58. Plotkin L.I., Davis J., Civitelli R., Manolagas S.C., **Bellido T.** Connexin43/Src Interaction and Src Activity Link Connexin43 Hemichannels with the ERK Pathway: Mechanism of Anti-apoptosis by Bisphosphonates in Osteocytes. *Journal of Bone and Mineral Research* 16 (Supl.1) S169. 2001 *
 59. Mathov I., Davis J., Plotkin L.I., Manolagas S.C., **Bellido T.** Integrins and Src kinases clustered in caveolae are essential components of the signalsome that mediates mechanically induced ERK activation in osteocytes. *Journal of Bone and Mineral Research* 16 (Supl.1) S201. 2001
 60. **Bellido T.**, Plotkin LI, Davis J, Manolagas SC, Jilka RL. Protein kinase A-dependent phosphorylation and inactivation of the pro-apoptotic protein Bad mediates the anti-

- apoptotic effect of PTH on osteoblastic cells. *Journal of Bone and Mineral Research* 16 (Supl.1) S203. 2001
61. Chen JR, Kousteni S, **Bellido T**, Han L, Di Gregorio GB, Jilka RL, Manolagas SC. Gender-Independent Induction of Murine Osteoclast Apoptosis In Vitro by Either Estrogens or Non-Aromatizable Androgens. *Journal of Bone and Mineral Research* 16 (Supl.1) S159. 2001 *
 62. Kousteni S, **Bellido T**, Plotkin LI, Han L, Weinstein RS, Jilka RL, Manolagas SC. Nongenotropic Activation of MAP Kinases and Prevention of Apoptosis by SERMs in Osteoblasts/Osteocytes: a Property Shared by Hydroxytamoxifen and Idoxifene, but not Raloxifene. *Journal of Bone and Mineral Research* 16 (Supl.1) S415. 2001 *
 63. Kousteni S, Han L, McIntire ME, **Bellido T**, Jilka RL, Manolagas SC. Rapid Activation of MAP Kinases by Estrogens or Androgens Leads to Potent Downstream Regulation of the Transcription of the Serum Response Element and AP-1: A Link Between Nongenotropic and Genotropic Functions of their Classical Receptors. *Journal of Bone and Mineral Research* 16 (Supl.1) S159. 2001 *
 64. Vertino AM, Kousteni S, **Bellido T**, Han L, Norman AW, Manolagas SC. VDR-Dependent Inhibition of Osteoblast Apoptosis by Vitamin D Analogs: Evidence for a Novel Model of Receptor Action. *Journal of Bone and Mineral Research* 16 (Supl.1) S554. 2001
 65. Kousteni S, Han L, McIntire ME, **Bellido T**, Jilka RL, Manolagas SC. ERKs as well as PI3K/Akt, but not p38, mediate the anti-apoptotic effect of sex steroids in osteoblasts and osteocytes, in part by phosphorylating Bad. *Journal of Bone and Mineral Research* 16 (Supl.1) S169. 2001 *
 66. Mancino AT, Wen Y, Han L, **Bellido T**, Kousteni S, Manolagas SC. Activators of nongenotropic estrogen-like signaling (ANGELS) are devoid of the mitogenic effects of estrogen on MCF-7 breast cancer cells. *Journal of Bone and Mineral Research* 16 (Supl.1) S333. 2001
 67. Plotkin LI, Laska B, Manolagas SC, **Bellido T**. CRM1/Exportin1-Mediated Nuclear Export is Required for the Pro-Survival Effect of Bisphosphonates on Osteocytes: Evidence for Cytoplasmic-Restricted Signaling by ERKs. *Journal of Bone and Mineral Research* 17 (Supl. 1), S163. 2002 * (Young investigator award)
 68. **Bellido T**, Plotkin LI, O'Brien CA, Manolagas SC, Jilka RL. PTH-mediated Control of Proteasome-Mediated Degradation of Runx2/Cbfa1: a Pivotal Determinant of the Longevity of PTH-Initiated Anti-Apoptosis Signaling in Osteoblastic Cells. *Journal of Bone and Mineral Research* 17 (Supl. 1), S128. 2002 *
 69. Plotkin LI, **Bellido T**, Ali AA, Fu Q, Gubrij I, McCauley LK, O'Brien CA, Manolagas SC, Jilka RL. Runx2/Cbfa1 is Essential for the Anti-apoptotic Effect of PTH on Osteoblasts. *Journal of Bone and Mineral Research* 17 (Supl. 1), S166. 2002 *

70. Kousteni S, Chen JR, Han L, Vertino AM, Ali AA, **Bellido T**, Weinstein RS, O'Brien C A, Jilka RL, Manolagas SC. Equivalence of the Skeletal, but not the Reproductive, Actions of Estrogens and Androgens in Female and Male Mice. *Journal of Bone and Mineral Research* 17 (Supl. 1), S480. 2002
71. Kousteni S, Han L, Plotkin L, **Bellido T**, O'Brien CA, Jilka RL, Manolagas SC. Nongenotropic Regulation of CREB-, C/EBP β -, as well as Elk-1- and AP-1 - Mediated Transcription by Estrogens: Downstream Effects of ERK and JNK Kinase Modulation Required for Anti-apoptosis. *Journal of Bone and Mineral Research* 17 (Supl. 1), S169. 2002 *
72. Kousteni S, Han L, **Bellido T**, O'Brien CA, Jilka RL, Manolagas SC. Estrogens Induce Bad Phosphorylation via both ERK and PI3K Activation: a Two Pronged Signal Requirement for their Anti-apoptotic Effects. *Journal of Bone and Mineral Research* 17 (Supl. 1), S192. 2002
73. Manolagas SC, Han L, Vertino AM, Chen JR, Ali AA, **Bellido T**, Weinstein RS, O'Brien CA, Jilka RL, Kousteni S. Dissociation of the Skeletal from the Reproductive Effects of Sex Steroids with an Activator of Nongenotropic Estrogen-Like Signaling (ANGELS), in Both Females and Males: A Lead to a Bone Anabolic, Sex Neutral Hormone Replacement Therapy. *Journal of Bone and Mineral Research* 17 (Supl. 1), S139. 2002 *
74. Chen JR, Kousteni S, Han L, Vertino AM, McCauley LK, Ali AA, **Bellido T**, Weinstein RS, O'Brien CA, Jilka RL, Manolagas SC. Interchangeable Ligand/Receptor Interactions Mediate ERK Activation and the Pro- and Anti- Apoptotic Effects of Estrogens and Androgens on Murine Osteoclasts and Osteoblasts From Females and Males: A Molecular Explanation of the In Vivo Equivalence of their Skeletal Actions in either Sex. *Journal of Bone and Mineral Research* 17 (Supl. 1), S133. 2002 * (Young investigator award)
75. Chen JR, Kousteni S, Han L, **Bellido T**, Weinstein RS, O'Brien CA, Jilka RL, Manolagas SC. Transient Versus Sustained Activation of Extracellular Signal Regulated Kinases (ERKs): A Potential Explanation for the Opposite Effects of Sex Steroids on Osteoblast and Osteoclast Apoptosis. *Journal of Bone and Mineral Research* 17 (Supl. 1), S334. 2002
76. Liu Y, Porta A, Donnelly R, **Bellido T**, Christakos S. Prevention of glucocorticoid-induced apoptosis in osteocytes and osteoblasts by calbindin-D28k. *Journal of Bone and Mineral Research* 17 (Supl. 1), S334. 2002
77. Plotkin LI, Aguirre JI, Manolagas SC, **Bellido T**. Transcription-Independent Inhibition of Caspases by C/EBP β in Osteocytes: An Anti-Apoptotic Signaling Cascade Uniquely Activated by Bisphosphonates. *Journal of Bone and Mineral Research* 18 (Supl. 2), S5. 2003. *
78. Chen JR, Plotkin LI, Aguirre JI, Han L, Peng H, Kousteni S, **Bellido T**, Manolagas SC. Transient Versus Sustained Activation and Nuclear Accumulation of ERKs Underlie the Anti- Versus the Pro-Apoptotic Effects of Estrogens on Osteoblasts/Osteocytes and Osteoclasts. *Journal of Bone and Mineral Research* 18 (Supl. 2), S19. 2003. *

79. Bellido T, Plotkin LI, Ali AA, O'Brien CA, Manolagas SC, Jilka RL. Proteasomal Degradation of Runx2 Shortens the Anti-apoptotic Signal of PTH in Osteoblasts: Why Intermittent Administration is Needed for Bone Anabolism. *Journal of Bone and Mineral Research* 18 (Supl. 2), S40. 2003. *
80. Plotkin LI, Aguirre JI, Strotman B, Manolagas SC, **Bellido T**. Mechanical Stimulation Promotes Osteocyte Survival: Requirement of Nuclear Targets of the Src/ERK Pathway. *Journal of Bone and Mineral Research* 18 (Supl. 2), S44. 2003.*
81. Aguirre JI, Plotkin LI, Strotman B, McCauley LK, Gubrig I, Kousteni S, Manolagas SC, **Bellido T**. The Anti-apoptotic Effects of Mechanical Stimulation in Osteoblasts/Osteocytes are transduced by the Estrogen Receptor (ER): a Novel Ligand-Independent Function of the ER. *Journal of Bone and Mineral Research* 18 (Supl. 2), S71. 2003.
82. Ali AA, Plotkin LI, Foote IP, Wynne RA, **Bellido T**, O'Brien CA, Manolagas SC, Jilka RL. Bcl-2 is a Pivotal Mediator of the Anti-apoptotic Effect of PTH on Osteoblasts: Evidence from RNA Silencing and Bcl-2-deficient Mice. *Journal of Bone and Mineral Research* 18 (Supl. 2), S73. 2003.
83. Vertino AM, Chen JR, Kousteni S, Han L, Peng H, **Bellido T**, Bula C, Norman AW, Manolagas SC. Nongenotropic, Anti-Apoptotic Signaling of Vitamin D Analogs Through the Ligand Binding Domain (LBD) of the Vitamin D Receptor (VDR) in Osteoblasts and Osteocytes: Mediation by Src, PI3 and JNK Kinases. *Journal of Bone and Mineral Research* 18 (Supl. 2), S96. 2003.
84. Plotkin LI, Laska B, Manolagas SC, **Bellido T**. Dissociation of the Anti-apoptotic Effects of Bisphosphonates on Osteocytes/Osteoblasts from their Pro-apoptotic Effects on Osteoclasts with Novel Analogs. *Journal of Bone and Mineral Research* 18 (Supl. 2), S370. 2003.
85. Aguirre JI, Plotkin LI, Berryhill SB, Shelton RS, Stewart SA, Weinstein RS, Parfitt AM, Manolagas SC, **Bellido T**. Mechanical Stimulation prevents osteocyte apoptosis through an integrin/Src/ERK signalsome localized in caveolae: Involvement of a ligand-independent function of the estrogen receptor. *Advances in Skeletal Anabolic Agents for the treatment of osteoporosis*. May 24-25, 2004, Bethesda, Maryland. Abstract # M33.
86. Plotkin LI, Dominguez L, Vyas K, Aguirre JI, Manolagas SC, **Bellido T**. Glucocorticoids Induce Osteocyte Death by Blocking Focal Adhesion Kinase Survival: Evidence for Inside-Out Signaling Leading to Cell Detachment-Induced Apoptosis (Anoikis). *Journal of Bone and Mineral Research* 19 (Supl.1), S20, 2004. *
87. Aguirre JI, Plotkin LI, Berryhill SB, Shelton RS, Stewart SA, Vyas K, Weinstein RS, Parfitt AM, Manolagas SC, **Bellido T**. Increased Prevalence of Osteocyte Apoptosis Precedes Osteoclastic Bone Resorption and the Loss of Bone Mineral and Strength Induced by Lack of Mechanical Forces in a Murine Model of Unloading. *Journal of Bone and Mineral Research* 19 (Supl. 1), S137. 2004.

88. **Bellido T**, Ali AA, Plotkin LI, Fu Q, Gubrij I, Liu X, Wynne RA, O'Brien CA, Manolagas SC, Jilka RL. Sustained, but not Transient, Elevation of PTH Reduces SOST Gene Expression: Evidence That Osteocytes Participate in the Increase in Osteoblast Number that Occurs in Hyperparathyroidism. *Journal of Bone and Mineral Research* 19 (Supl. 1), S43. 2004. *
89. Kousteni S, Han L, Almeida M, Warren AD, Lowe VG, **Bellido T**, Manolagas SC. Estren, but not estradiol, DHT or 19-Nortestosterone, induces osteoblast commitment and differentiation by stimulating Smad1/5/8 phosphorylation and transcription. *Journal of Bone and Mineral Research* 19 (Supl. 1), S31. 2004. *
90. Ali AA, Gubrij I, Liu X, Fu Q, Chen XD, O'Brien CA, Manolagas SC, **Bellido T**, Jilka RL. Suppression of Runx2-regulated genes, but not Runx2 mRNA, following continuous but not intermittent PTH administration to mice: in vivo evidence for PTH-stimulated proteasomal degradation of Runx2 and a mechanistic explanation for why continuous PTH does not attenuate osteoblast apoptosis. *Journal of Bone and Mineral Research* 19 (Supl. 1), S18. 2004. *
91. Chen JR, Han L, Zimniak P, O'Brien CA, **Bellido T**, Jilka RL, Kousteni S, Manolagas SC. Estrogen regulate glutathion reduction in bone by a non genotropic mechanism of action: a requirement for their effects on osteoclastogenesis and on the apoptosis of osteoblasts and osteoclasts. *Journal of Bone and Mineral Research* 19 (Supl. 1), S284. 2004.
92. Plotkin LI, Aguirre JI, Vyas K, Stewart SA, Weinstein RS, Manolagas SC, **Bellido T**. Cx43-/floxOCN^{Cre} mice lacking Cx43 in osteoblasts and osteocytes exhibit normal bone accrual and adult peak bone mass. *Journal of Bone and Mineral Research* 20 (Supl. 1), S84. 2005.
93. Aguirre JI, Plotkin LI, Vyas K, Stewart SA, O'Brien CA, Parfitt AM, Weinstein RS, Manolagas SC, **Bellido T**. Osteocyte apoptosis and the loss of bone mineral and strength induced by tail suspension in mice is entirely caused by reduced mechanical strains, whereas osteoblast apoptosis is due to endogenous glucocorticoid actions. *Journal of Bone and Mineral Research* 20 (Supl. 1), S24. 2005. * (Young investigator award)
94. Aguirre JI, Plotkin LI, Vyas K, Kousteni S, O'Brien CA, Manolagas SC, **Bellido T**. The estrogen receptors (ER α and ER β) play an essential role in osteocyte mechanotransduction: Requirement of membrane localization and caveolin-1, but not DNA binding. *Journal of Bone and Mineral Research* 20 (Supl. 1), S30. 2005. *
95. O'Brien CA, Fu Q, Plotkin LI, **Bellido T**, Goellner JJ, Jilka RL, Weinstein RS, Manolagas C. Transgenic expression of the diphtheria toxin receptor, otherwise known as heparin-binding EGF-like growth factor, in osteoblasts and osteocytes reduces bone mass and strength. *Journal of Bone and Mineral Research* 20 (Supl. 1), S85. 2005.
96. Manolagas SC, Almeida M, Han L, Weinstein RS, Jilka RL, **Bellido T**, O'Brien CA, Kousteni S. Decreased defense against reactive oxygen species: a common pathogenetic

- mechanism of the effects of aging and estrogen deficiency. *Journal of Bone and Mineral Research* 20 (Supl. 1), S94. 2005.
97. Parfitt A, Weinstein RS, **Bellido T**, Jilka RL, O'Brien CA, Goellner JJ, Kousteni S, Stewart S, Roberson P, Manolagas SC. Age-related loss of bone strength in the spine and hindlimb of mice independently of BMD. *Journal of Bone and Mineral Research* 20 (Supl. 1), S194. 2005.
 98. Almeida M, Han L, Warren A, **Bellido T**, Manolagas SC. Wnt suppress osteoclast survival and formation and prevent apoptosis of uncommitted osteoblast progenitors and osteoblasts by b-catenin-dependent as well as independent signaling cascades involving Src/ERK and PI3K/Akt. *Journal of Bone and Mineral Research* 20 (Supl. 1), S250. 2005.
 99. O'Brien CA, Plotkin LI, Vyas K, Cazer P, Gortazar AR, Goellner JJ, Chen J, Shelton RS, Weinstein RS, Schipani E, Jilka RL, Manolagas SC, **Bellido T**. Activation of PTH Receptor 1 Specifically in Osteocytes Suppresses Sost Expression and Increases Bone Mass in Transgenic Mice. *Journal of Bone and Mineral Research* 21 (Supl. 1), S4. 2006 *
 100. Robling AG, **Bellido T**, Turner CH. Mechanical loading reduces osteocyte expression of sclerostin protein. *Journal of Bone and Mineral Research* 21 (Supl. 1), S72. 2006 *
 101. Plotkin LI, Vyas K, Gortazar AR, Manolagas SC, **Bellido T**. □ Arrestin Complexes with Connexin (Cx) 43 and Anchors ERKs Outside the Nucleus: A Requirement for the Cx43/ERK-Mediated Anti-Apoptotic Effect of Bisphosphonates in Osteocytes. *Journal of Bone and Mineral Research* 21 (Supl. 1), S65. 2006 *
 102. Plotkin LI, K. Vyas K, Aguirre JI, Stewart SA, Shelton RS, Wynne RA, Crawford JA, Warren AD, Webb W, Wiggins C, Weinstein RS, Manolagas SC, **Bellido T**. Deletion of Connexin 43 from Osteoblasts and Osteocytes Makes them Refractory to the Protective Effect of Bisphosphonates against Glucocorticoid-Induced Apoptosis in Mice. *Journal of Bone and Mineral Research* 21 (Supl. 1), S291. 2006
 103. Boland RL, Morelli S, Santillán G, Scodelaro P, Colicheo A, de Boland AR, Vyas K, Plotkin LI, **Bellido T**. Connexin 43 is Required for Bisphosphonate-Induced Survival of Osteoblastic Cells but not for Bisphosphonate Binding. *Journal of Bone and Mineral Research* 21 (Supl. 1), S292. 2006
 104. Almeida M, Han L, Lowe V, Warren A, Shelton RS, Vyas K, Stewart SA, Weinstein RS, **Bellido T**, O'Brien CA, Jilka RL, Manolagas SC. Aging or Gonadectomy Decrease Defense Against Reactive Oxygen Species in C57BL/6 Mice: A Mechanistic Explanation of the Exaggeration of the Effects of Organismal Aging on Bone by Loss of Sex Steroids. *Journal of Bone and Mineral Research* 21 (Supl. 1). 2006 *
 105. Almeida M, Chen X-D, Han L, Martin Millan M, Lowe V, Warren A, Stewart SA, Kousteni S, Weinstein RS, O'Brien CA, **Bellido T**, Jilka RL, Manolagas SC. The Liganded versus Unliganded Estrogen Receptor has Opposite Effects on Osteoblast Differentiation. *Journal of Bone and Mineral Research* 21 (Supl. 1), S95. 2006 *

106. Kousteni S, Almeida M, Han L, **Bellido T**, Jilka RL, Manolagas SC. Opposing Effects of Kinase-Initiated Versus Classical Genotropic Actions of the Estrogen Receptor on Osteoblast Commitment and Differentiation In Vitro and In Vivo. *Journal of Bone and Mineral Research* 21 (Supl. 1), S5. 2006 *
107. Lescano V., Santillan G, Colicheo A, de Boland AR, Plotkin LI, **Bellido T**, Boland RL, Morelli S. Protein phosphatase required in Cx43-mediated anti-apoptotic effect of alendronate in osteoblasts. *42nd Annual Meeting of the Argentinean Society for Biochemistry and Molecular Biology Research. Rosario, Santa Fe, Argentina. 2006*
108. O'Brien CA, Plotkin LI, Vyas K, Galli C, Cazer P, Gortazar AR, Goellner JJ, Chen J, Shelton RS, Weinstein RS, Schipani E, Glatt V, Bouxsein M, Jilka RL, Manolagas SC, **Bellido T**. Activation of PTH Receptor 1 Specifically in Osteocytes Suppresses Sost Expression and Increases Bone Mass in Transgenic Mice. *89th Annual Meeting of the Endocrine Society, Toronto, Canada, 2007 **
109. Plotkin LI, Vyas K, Manolagas SC, **Bellido T**. Glucocorticoids Counteract Focal Adhesion Kinase-Mediated Osteocyte Survival by Activating Pyk2: Evidence for Inside-Out Signaling Leading to Cell Detachment-Induced Apoptosis or Anoikis. *89th Annual Meeting of the Endocrine Society, Toronto, Canada, 2007*
110. Plotkin LI, Vyas V, Aguirre JI, Weinstein RS, Manolagas SC, **Bellido T**. *In vivo* Requirement of Cx43 for the Prevention of Glucocorticoid-induced Osteocyte and Osteoblast Apoptosis by Bisphosphonates. *International Gap Junction Conference, Helsingør, Denmark, 2007 **
111. Plotkin LI, Vyas V, Gortazar AR, Manolagas SC, **Bellido T**. α -Arrestin Interacts with Cx43 and Anchors ERKs in the Cytoplasm: A Requirement for Cx43/ERK-Mediated Anti-Apoptosis by Bisphosphonates in Osteocytes. *International Gap Junction Conference, Helsingør, Denmark, 2007*
112. Plotkin LP, Goellner J, Vyas K, Shelton RS, Wynne RA, Weinstein RS, Manolagas SC, **Bellido T**. A Bisphosphonate Analog that Lacks Anti-Remodeling Activity Prevents Osteocyte and Osteoblast Apoptosis In Vivo. *Journal of Bone and Mineral Research* 22 (Supl. 1), S4. 2007 *
113. Plotkin LI, Vyas K, Manolagas SC, **Bellido T**. The Small GTPase RhoA and its Effector Kinase ROCK Mediate Actin Cytoskeleton Reorganization Leading to Osteocyte Anoikis by Glucocorticoids. *Journal of Bone and Mineral Research* 22 (Supl. 1), S107. 2007
114. Pavel I, Mahmood M, Vyas V, Whitlow M, Plotkin LI, Manolagas SC, Biris AS, **Bellido T**. Nanoprobng Osteocytic Sub-cellular Compartments by Surface-Enhanced Raman Spectroscopy. *Journal of Bone and Mineral Research* 22 (Supl. 1), S376. 2007
115. Almeida M, Martin-Millan M, Han L, Warren A, Lowe V, Shelton RS, DeLoose A, Weinstein RS, **Bellido T**, O'Brien CA, Jilka RL, Manolagas SC. Regulation of Oxidative Stress and Osteoblast Apoptosis by Estrogens is Preserved in Mice in which the ER

- Cannot Directly Interact with DNA. *Journal of Bone and Mineral Research* 22 (Supl. 1), S276. 2007
116. Almeida M, Martin-Millan M, Han L, Warren A, Lowe V, **Bellido T**, Jilka RL, O'Brien CA, Manolagas SC. Estrogens or Androgens Attenuate p66shc Phosphorylation via an ERK and PKC β Signaling Cascade: a Critical Mechanism of their Protective Effects Against Oxidative Stress and Bone Loss. *Journal of Bone and Mineral Research* 22 (Supl. 1), S276. 2007
 117. Gortazar AR, Aguirre JI, Plotkin LI, O'Brien CA, Manolagas SC, **Bellido T**. A New Function of the Estrogen Receptor Independent of its Ligand is Essential for the Transduction of Mechanical Signals in Osteocytes and Osteoblasts. *XII Meeting of the Spanish Society for Bone and Mineral Metabolism Research (SEIOMM), Valencia, Spain, 2007 **
 118. O'Brien CA, Galli C, Plotkin LI, Vyas K, Cazer P, Goellner JJ, Berryhill S, Webb W, Robling A, Bouxsein M, Schipani E, Turner CH, Weinstein RS, Jilka RL, Manolagas SC, **Bellido T**. PTH Receptor Signaling in Osteocytes Increases Bone Mass and the Rate of Bone Remodeling Through Wnt/LRP5-dependent and -independent Mechanisms, Respectively. *Journal of Bone and Mineral Research* 23 (Supl. 1) S12, 2008 *
 119. Plotkin LI, Frera G, Vyas K, Manolagas SC, **Bellido T**. Association between Cx43 and β -Arrestin is Required for cAMP-Dependent Osteoblast Survival Induced by PTH. *Journal of Bone and Mineral Research* 23 (Supl. 1), S64, 2008 *
 120. Martin-Millan M, Plotkin LI, Vyas K, Frera G, Gortazar AR, Almeida M, Manolagas SC, **Bellido T**. Kinase activation and osteocyte survival promoted by mechanical stimulation require LRP5/6 signaling and beta-catenin accumulation, but not beta-catenin/TCF-dependent transcription. *Journal of Bone and Mineral Research* 23 (Supl. 1), S400, 2008
 121. Almeida M, Ambrogini E, Martin-Millan M, Han L, Warren A, Shelton RS, Plotkin L, **Bellido T**, O'Brien CA, Jilka RL, Weinstein RS, Manolagas SC. Induction of oxidative stress and diversion of b-catenin from TCR- to FOXO-mediated transcription by glucocorticoids or TNF α in osteoblastic cells. *Journal of Bone and Mineral Research* 23 (Supl. 1), S170, 2008
 122. Martin-Millan M, Almeida M, Ambrogini E, Qui X, Warren A, Shelton RS, Weinstein RS, Jilka RL, **Bellido T**, O'Brien CA, Manolagas SC. ER α deletion in cells of the monocyte/macrophage lineage increases osteoclastogenesis and abrogates the pro-apoptotic effect of E2 on osteoclasts. *Journal of Bone and Mineral Research* 23 (Supl. 1), S28, 2008 *
 123. Plotkin LI, Bivi N, **Bellido T**. Increased osteocyte apoptosis and decreased strength in cortical, but not trabecular, bone of mice lacking Cx43 in osteocytes and osteoblasts. International Gap Junction Conference, Sedona, AZ, U.S.A. 2009. *

124. Bivi N, Lezcano V, **Bellido T**, Plotkin LI. Cx43 is required for the survival effect of PTH on osteoblasts: role of the interaction of Cx43 with β -arrestin. International Gap Junction Conference, Sedona, AZ, U.S.A. 2009. *
125. Lezcano V, Bivi N, **Bellido T**, Plotkin LI. Connexin 43 modulates the anti-apoptotic signal induced by PTH in osteoblastic cells through its interaction with β -arrestin. XXVI Annual Meeting of the Argentinean Society for Osteology and Mineral Metabolism (AAOMM). Buenos Aires, Argentina. *Actualizaciones en Osteología* 5:127, 2009. *
126. Bivi N, Aguirre JI, Vyas K, Allen MR, **Bellido T**, Plotkin LI. Increased Osteocyte apoptosis and bone resorption, and decreased strength of cortical but not trabecular bone in mice lacking Connexin43 in osteoblasts and osteocytes. Denver, CO, U.S.A. *Journal of Bone and Mineral Research* 24 (Supl. 1):S13, 2009. (Young investigator award). *
127. Bivi N, Lezcano V, **Bellido T**, Plotkin LI. Phosphorylation of Connexin43 is required for its interaction with β -arrestin and promotion of parathyroid hormone survival signaling: a scaffolding function of the cytoplasmic domain of Connexin43 that does not involve channel activity. Denver, CO, U.S.A. *Journal of Bone and Mineral Research* 24 (Supl. 1):S56, 2009. *
128. Rhee Y, Farrow E, Lee R, Bivi N, Lezcano V, Plotkin LI, White KE, **Bellido T**. FGF23 gene expression is upregulated by PTH receptor activation in osteocytes in vitro and in vivo: a parathyroid-bone link influencing the endocrine function of osteocytes. Denver, CO, U.S.A. *Journal of Bone and Mineral Research* 24 (Supl. 1):S13, 2009. *
129. Rhee Y, Allen MR, Condon K, Plotkin LI, Lezcano V, Vyas K, O'Brien CA, Burr D, **Bellido T**. PTH receptor signaling in osteocytes governs periosteal bone formation and intra-cortical remodeling: divergent role of sost and the Wnt pathway. Denver, CO, U.S.A. *Journal of Bone and Mineral Research* 24 (Supl. 1):S78, 2009. (Young investigator award). *
130. Gortazar AR, Martín Millán M, Plotkin LI, **Bellido T**. ERK activation and osteocyte survival induced by mechanical stimulation requires LRP5/6 expression and β -catenin accumulation, but not TCF-mediated transcription. XIV Meeting of the Spanish Society for Bone and Mineral Metabolism Research (SEIOMM), Santander, Spain, 2009. *
131. Bivi N, Farlow N, Nelson M, Condon K, Li J, Allen MR, **Bellido T**, Plotkin LI. Cx43 deletion in osteocytes results in cortical osteocyte apoptosis, periosteal expansion and reduced bone material stiffness. 40th IBMS Sun Valley Workshop: Musculoskeletal Biology. Sun Valley, ID, USA, 2010. (Harold M. Frost Award). *
132. Rhee Y, Allen MR, Plotkin LI, Bivi N, Lee R, Benson JD, Lezcano V, Ronda AC, **Bellido T**. Resorption is an essential component of bone anabolism induced by active PTH receptor signaling in osteocytes. *Journal of Bone and Mineral Research* 25, 2010. *
133. Tu X, Rhee Y, Lee R, Benson JD, Condon K, Bivi N, Plotkin LI, Turner CH, Robling AG, **Bellido T**. Downregulation of Sost/sclerostin expression is required for the

- osteogenic response to mechanical loading. *Journal of Bone and Mineral Research* 25, 2010. (plenary poster and oral abstract) *
134. Bivi N, Nelson M, Lee R, Benson JD, Condon K, Li J, Allen MR, **Bellido T**, Plotkin LI. Cx43 in osteocytes, but not in osteoblasts, is required to preserve osteocyte viability, bone geometry and material stiffness. *Journal of Bone and Mineral Research* 25, 2010. (plenary poster)
 135. Calvi LM, Bromberg O, Rhee Y, Weber JM, Smith JN, Basil M, Frisch BJ, **Bellido T**. Osteocytes do not mediate the stimulatory effect of Parathyroid hormone (PTH) on the bone marrow hematopoietic stem cell niche. *Journal of Bone and Mineral Research* 25, 2010.
 136. Farrow EG, Rhee Y, Summers LJ, Park S, Lee R, **Bellido T**, White KE. FGFR1-mediated expression of FGF23 and DMP1 in bone bridges the local and systemic regulation of mineralization. *Journal of Bone and Mineral Research* 25, 2010.
 137. Tu X, Pellegrini G, Galli C, Benson B, Condon K, Bivi N, Plotkin LI, Robling AG, **Bellido T**. PTH receptor 1 expression in osteocytes is indispensable for the anabolic effect of mechanical loading in mice. *Journal of Bone and Mineral Research* 26, 2011.*
 138. Bivi N, Farlow N, Brun L, Benson J, Condon K, Robling AG, **Bellido T**, Plotkin LI. Unexpected enhanced response to mechanical loading of mice lacking Cx43 exclusively in osteocytes. *Journal of Bone and Mineral Research* 26, 2011.*
 139. Tu X, Edwards R, Olivos N, Benson J, Galli C, Pellegrini G, Bivi N, Plotkin LI, **Bellido T**. Conditional deletion of the parathyroid hormone (PTH) receptor 1 from osteocytes results in decreased bone resorption and a progressive increase in cancellous bone mass. *Journal of Bone and Mineral Research* 26, 2011.*
 140. Bivi N, Olivos N, Sato A, Southern D, **Bellido T**. Glucocorticoids induce atrophy of bone and muscle by FoxO- and ATF4-dependent mechanisms. *Journal of Bone and Mineral Research* 27, 2012.
 141. Ben-Awadh A, Olivos N, Bivi N, Allen MR, Plotkin LI, Tu X, **Bellido T**. Direct regulation of the RANKL gene by PTH in osteocytes is required to stimulate bone resorption in the adult skeleton. *Journal of Bone and Mineral Research* 27, 2012. (Young Investigator Award) *
 142. Brun LR, Bivi N, Farlow N, Condon K, Robling A, **Bellido T**, Plotkin LI. Inesperada respuesta positiva a la carga mecánica en ratones deficientes de Cx43 exclusivamente en osteocitos. XXVIII Annual Meeting of the Argentinean Society for Osteology and Mineral Metabolism. Buenos Aires, Argentina. Actualizaciones en Osteología 7:131, 2011. Selected as finalist for the 2011 Argentinean Society for Osteology and Mineral Metabolism Basic Science Award.*
 143. Pacheco-Costa R, Bivi N, Fang, J, Condon KW, Burt JM, Allen MR, **Bellido T**, Reginato RD, Plotkin LI. Deletion of connexin37, a connexin preferentially expressed in

- osteocytes versus osteoblasts, increases bone mass and reduces osteoclasts by regulating osteocytic expression of RANKL and OPG. 34th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 27 (Supl. 1):S167, 2012.
144. Pacheco-Costa R, Brun L, Southern D, Reginato RD, Bivi N, **Bellido T**, Plotkin LI. Altered expression of apoptosis-associated miRNAs that regulate IGF-1 survival signaling underlies the cell autonomous requirement of Cx43 for osteocyte survival. 34th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 27 (Supl. 1):S289, 2012.
 145. Zhou H, Li L, Bivi N, Himes ER, Mihuti LC, **Bellido T**, Li J. Stat3 in Osteocytes Is Required for Skeletal Mechanotransduction. *Journal of Bone and Mineral Research* 27, 2012.
 146. Frisch BJ, Tu X, Bromberg O, Goodman A, **Bellido T**, Calvi LM. Mouse model of secondary hyperparathyroidism results in osteocyte-mediated reduction of long-term hematopoietic stem cells. *Endocrine Society meeting*, 2013
 147. Pacheco Da Costa R, Brown DM, Hassan I, Bolarinwa S, Cregor M, Reginato R, Bruzzaniti A, **Bellido T**, Allen M, Plotkin LI. High Bone Mass in Mice Lacking Cx37 Due to a Cell-autonomous Defect in Osteoclast Differentiation and Fusion. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S57 2013. Plenary Poster.
 148. Pacheco Da Costa R, Hassan I, Tu X, Reginato RD, Katchburian E, **Bellido T**, Plotkin LI. Cx43 Scaffolding Cytoplasmic Domain Restrains Bone Resorption but is Dispensable for the Anabolic Action of Intermittent PTH Administration. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S57 2013. Plenary Poster.
 149. Hasan I, Pacheco Da Costa R, Kim W, Reginato RD, **Bellido T**, Plotkin LI. Deletion of Cx43 in osteocytic cells increases autophagy: a potential mechanism for accumulation of empty lacunae in mice lacking Cx43 in osteoblastic cells. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S412 2013.
 150. Delgado-Calle J, Tu X, Sato A, Cregor M, McAndrews K, Plotkin LI, **Bellido T**. PTH upregulates RANKL and MMP13 expression through direct actions on osteocytes, but MMP13 is derived from non-osteocytic cells. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S61 2013. Plenary Poster.
 151. Tu X, McAndrews K, Cregor M, Peacock M, Taketo MM, Plotkin LI, **Bellido T**. Bone gain with unexpected elevated bone resorption by activating canonical Wnt/bcatenin signaling in osteocytes. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S20 2013.*

152. Tu X, McAndrews K, Delgado-Calle J, Olivos N, Ben-Awadh A, Kim W, Pacheco Da Costa R, Richardson D, Peacock M, Plotkin LI, **Bellido T**. Osteocytic PTH Receptor is Required for Bone Anabolism Induced by Intermittent PTH Administration, but is Dispensable for Bone Resorption and the Loss of Bone Induced by Chronic PTH Elevation. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S233 2013. Oral Poster.*
153. Sato A, Plotkin LI, **Bellido T**. Prevention of Glucocorticoid Induced-apoptosis of Osteoblasts and Osteocytes by Protecting against Endoplasmic Reticulum (ER) Stress. 35th Annual Meeting of the American Society for Bone and Mineral Research. Minneapolis, MN, USA. *Journal of Bone and Mineral Research* 28 (Supl. 1):S403 2013.
154. Delgado-Calle, **Bellido T**, Roodman GD. Direct cell-to-cell interactions between osteocytes and multiple myeloma cells upregulate Sost and downregulate OPG expression in osteocytes: evidence for osteocytic contributions to multiple myeloma-induced bone disease. *Blood*, 122 (21):3140. Meeting of the American Society of Hematology. New Orleans, October 2013.
155. Pacheco-Costa R, Hassan I, Sorenson C, Davis HM, Hammond MM, Reginato RD, Katchburian E, Wallace JA, **Bellido T**, Plotkin LI. Cx43 scaffolding c-terminus intracellular domain is required for achieving proper bone architecture and strength, but it does not mediate the effect of osteocytic Cx43 on cortical bone. 36th Annual Meeting of the American Society for Bone and Mineral Research. Houston, TX, USA. *Journal of Bone and Mineral Research* 29 (Supl. 1):S221 2014.
156. Delgado-Calle J, Anderson J, Plotkin LI, Roodman GD, **Bellido T**. Cell-to-cell crosstalk between multiple myeloma cells and osteocytes activates notch signaling and triggers osteocyte apoptosis. 36th Annual Meeting of the American Society for Bone and Mineral Research. Houston, TX, USA. *Journal of Bone and Mineral Research* 29 (Supl. 1):S230 2014.
157. Plotkin LI, Gortazar A, Condon K, Gabilondo H, Maycas M, **Bellido T**. Prevention of osteocyte apoptosis and the increase in osteocytic RANKL are not sufficient to restrain osteoclastic bone resorption and stop bone loss induced by reduced mechanical forces. 36th Annual Meeting of the American Society for Bone and Mineral Research. Houston, TX, USA. *Journal of Bone and Mineral Research* 29 (Supl. 1):S289 2014.
158. Delgado-Calle J, Plotkin LI, **Bellido T**, Roodman GD. Interactions between multiple myeloma cells and osteocytes alter osteocytic gene expression: evidence for osteocyte-driven dysregulation of bone remodeling in multiple myeloma. 36th Annual Meeting of the American Society for Bone and Mineral Research. Houston, TX, USA. *Journal of Bone and Mineral Research* 29 (Supl. 1):S374 2014.
159. Pacheco-Costa R, Sorenson C, Hon MC, Davis HM, Hassan I, Reginato RD, Katchburian E, Allen MR, **Bellido T**, Plotkin LI. Cx43 scaffolding CT intracellular domain is required for achieving proper bone architecture and for some, but not all, anabolic actions of

intermittent PTH administration. 2015 International Gap Junction Meeting. Valparaiso, Chile.*

160. Davis HM, Atkinson E, Harris J, Pacheco-Costa R, Gortazar AR, Ivan M, Bruzzaniti A, **Bellido T**, Plotkin LI. Reduction in microRNA21 promotes apoptosis and increases RANKL in osteocytes: a mechanism for enhanced resorption in the absence of Cx43 in osteoblastic cells and with aging. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S101, 2015.
161. Sato AY, Au E, Richardson D, Bivi N, Cregor M, McAndrews K, Davis HM, Zimmers T, Plotkin LI, **Bellido T**. Glucocorticoids induce bone and muscle atrophy by distinct mechanisms upstream of atrogin1 and MuRF1. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S1, 2015.*
162. Sato AY, Cregor M, Tzeggai J, McAndrews K, Delgado-Calle J, Robling AG, Plotkin LI, **Bellido T**. Sost/sclerostin deficiency protects the murine skeleton from glucocorticoid-induced bone loss by inhibiting bone resorption. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S107, 2015.
163. Delgado-Calle J, Anderson J, Cregor MD, Mohammad KS, Plotkin LI, **Bellido T**, and Roodman GD. Bidirectional Notch signaling activated by interactions between multiple myeloma cells and osteocytes drives tumor cell proliferation and osteoclast recruitment. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S269, 2015.
164. Pellegrini GG, Cregor M, McAndrews K, Delgado-Calle J, Sato AY, Davis HM, Plotkin LI, Burr D, Weaver C, **Bellido T**. Nrf2 mediates gender specific mechanisms on bone accrual and maintenance. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S298, 2015.
165. Maycas M, McAndrews KA, Sato AY, Pellegrini GG, Brown DM, Allen MR, Plotkin LI, Esbrit P, Gortazar A, **Bellido T**. PTHrP-derived Peptides Restore Bone Mass and Strength in Diabetic Mice: Additive Effect of Mechanical Loading. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S67, 2015.
166. Hiasa M, Okui T, Nagata Y, Allette YM, Ripsch MS, Delgado-Calle J, **Bellido T**, Roodman GD, Plotkin LI, White F, Yoneda T. Osteocytes are an Important Mediator of Bone Pain in Myeloma. 37th Annual Meeting of the American Society for Bone and Mineral Research. Seattle, WA, USA. *Journal of Bone and Mineral Research* 30 (Supl. 1):S354, 2015.
167. Pacheco-Costa R, Atkinson E, Davis H, Byiringiro I, Thompson R, **Bellido T**, Plotkin LI. Pharmacological Inhibition of ATP Release Through Pannexin-1 Channels Increases

- Bone Mass and Reduces Bone Resorption in Aging Mice. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S375, 2016.
168. Atkinson E, Sanchez Z, Porter C, **Bellido T**, Plotkin LI. MLO-Y4 Osteocytic Cell Sub-clones Express Distinct Gene Expression Patterns Characteristic of Different Stages of Osteocyte Differentiation. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S349, 2016.
 169. Davis H, Atkinson E, Pacheco-Costa R, Lopez D, Aref M, Brown D, Harris M, Harris S, Allen MR, **Bellido T**, Plotkin LI. Osteocyte Specific Cx43 Overexpression Improves Cortical Bone Mass and Strength, but Reduces Cancellous Bone in old Mice. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S318, 2016.
 170. Davis H, Pacheco-Costa R, Atkinson E, Ivan M, Bruzzaniti A, **Bellido T**, Plotkin LI. Reduced microRNA21 and Enhanced HMGB1 Release: a Mechanistic Explanation for Increased Osteocyte Apoptosis and Resorption in the Absence of Cx43 and with Aging. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S270, 2016.
 171. Pellegrini GG, Morales CC, Wallace TC, Plotkin LI, **Bellido T**. Antioxidant Avenanthramides Prevent Osteoblast and Osteocyte Apoptosis and Induce Osteoclast Apoptosis by Nrf2-Independent Mechanisms. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S271, 2016.
 172. Pellegrini GG, Cregor M, Morales CC, McAndrews K, Plotkin LI, Burr D, Weaver CM, **Bellido T**. The Antioxidant Endogenous Response in Bone is Regulated by Nrf2 in a Gender Specific Manner. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S37, 2016.* and Young Investigator Award
 173. Delgado-Calle J, Hancock B, McAndrews K, Plotkin LI, **Bellido T**. Blockade of the Activity of the Osteocytic PTH Receptor Target Gene MMP14: a Therapeutic Tool to Prevent Bone Loss and Potentiate Bone Gain Induced by PTH. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S46, 2016.*
 174. Delgado-Calle J, Anderson J, Cregor MD, Zhou D, Plotkin LI, **Bellido T**, Roodman GD. Genetic Sost Deletion or Pharmacological Inhibition of Sclerostin Prevents Bone Loss and Decreases Osteolytic Lesions in Immunodeficient and Immunocompetent. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S30, 2016.* and Most Outstanding Translational Abstract

175. Delgado-Calle J, Pacheco-Costa R, Tu X, McAndrews K, Plotkin LI, **Bellido T**. The Bone Anabolic Effects of Intermittent Administration of PTH are Independent of Sost/Sclerostin Downregulation. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S6, 2016.*
176. Sato A, Cregor M, Condon KW, Plotkin LI, **Bellido T**. Pyk2 Deficiency Protects from Glucocorticoid-Induced Bone Resorption and Osteoblast and Osteocyte Apoptosis, but not from the Decrease in Bone Formation. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S37, 2016.*
177. Hiasa M, Okui T, Delgado-Calle J, **Bellido T**, Roodman GD, White F, Plotkin LI, Yoneda T. Osteocytes Mediate Bone Pain Through Cell-Cell Communication with Sensory Neurons via Connexin 43. 38th Annual Meeting of the American Society for Bone and Mineral Research. Atlanta, GA, USA. *Journal of Bone and Mineral Research* 31 (Supl. 1):S40, 2016.*
178. Golz B, Harbin S, Nauman E, **Bellido T**, Pavalko F, Main R. A 3D collagen-hydroxyapatite tissue culture model for studying bone formation and osteocyte differentiation. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; MO0571, 2017
179. Pacheco-Costa R, Atkinson E, Dilley J, Davis H, Herrera C, Thompson R, **Bellido T**, Plotkin LI. Absence of pannexin-1 in osteocytes leads to high bone mass due to distinct cellular mechanisms in cancellous versus cortical bone, and in young versus old mice. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; 1011, 2017*
180. Delgado-Calle J, Nelson JH, Olson ME, McAndrews K, Atkinson EG, Tu X, **Bellido T**. Anabolic PTH Signaling Activates the Canonical Notch Pathway in Osteocytes to Restrain Bone Resorption and Facilitate Bone Gain. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; 1137, 2017*
181. Delgado-Calle J, Olson ME, Nelson JH, Atkinson EG, McAndrews K, Xiao L, Ebetino FH, Boeckman Jr RK, Roodman GD, **Bellido T**. Bone-Targeted Pharmacological Inhibition of Notch Signaling Decreases Resorption and Induces Bone Gain in Skeletally Mature Mice. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; 1030, 2017*
182. Kegelman C, Mason D, **Bellido T**, Robling A, Boerckel J. DMP1-conditional YAP/TAZ ablation impairs bone matrix organization and reduces bone accrual differentially in load-bearing compared to non-bearing bones. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; MO0568, 2017
183. Sato AY, Cregor M, McAndrews K, Condon KW, Plotkin LI, **Bellido T**. Life-long genetic Pyk2 deletion or short-term pharmacologic inhibition of Pyk2 prevents the increase in resorption by glucocorticoids and preserves bone mass and strength by

- promoting osteoclast apoptosis. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; 1029, 2017*
184. Atkinson EG, **Bellido T**, Roodman GD, Kelley MR, Delgado-Calle J. Selective Pharmacological Inhibition of Notch Receptor 3 Signaling Induces Myeloma Cell Death and Preserves Osteocyte Viability. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; MO0427, 2017
 185. Taipaleenmäki H, Saito H, Gasser A, Bolamperti S, Maeda M, Shi Y, Matthies L, Johnsen SA, Jähn K, Long CL, Haasper C, Gehrke T, Saini V, Divieti Pajevic P, **Bellido T**, van Wijnen A, Mohammad KS, Guise T, Hesse E. Tgfr Controls Bone Remodeling and Anabolic Response to Parathyroid Hormone. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; FR0168, 2017
 186. Pacheco-Costa R, Atkinson EG, Dilley J, Herrera C, Condon K, Ivan M, **Bellido T**, Plotkin LI. Unexpected decrease in osteoclast number and bone resorption with increased osteocyte apoptosis in the absence of osteocytic miR21. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; FR0205, 2017
 187. Yuan X, Wu Y, Zhao Y, Perez K, Pellegrini G, Condon K, McAndrews K, Cregor M, **Bellido T**, Helms J. Wnt signals control development of the periodontium. 39th Annual Meeting of the American Society for Bone and Mineral Research. Denver, CO, USA; SA0086, 2017
 188. Delgado-Calle J, Atkinson EG, Nelson J, Kurihara N, Galmarini C, Roodman GC, **Bellido T**. Aplidin (Plitidepsin) decreases the viability of MM and osteoblastic cells and suppresses osteoclast differentiation and function. American Society of Hematology annual meeting. Atlanta, USA, 2017.
 189. Delgado-Calle J, Olson ME, Nelson JH, Atkinson EG, McAndrews K, Xiao L, Ebetino FH, Boeckman Jr RK, Roodman GD, and **Bellido T**. Bone-Targeted Pharmacological Inhibition of Notch Signaling as a novel approach to inhibit myeloma growth and bone destruction. American Society of Hematology annual meeting. Atlanta, USA, 2017.
 190. Delgado-Calle J, Nelson JH, Olson ME, McAndrews K, Atkinson EG, Tu X, **Bellido T**. Anabolic PTH Signaling Activates the Canonical Notch Pathway in Osteocytes to Restrain Bone Resorption and Facilitate Bone Gain. ORS Musculoskeletal Biology Workshop at Sun Valley, Sun Valley, USA, 2017.*
 191. Atkinson EG, **Bellido T**, Roodman GD, Kelley MR, and Delgado-Calle J. Selective Pharmacological Inhibition of Notch Receptor 3 Signaling Induces Myeloma Cell Death and Preserves Osteocyte Viability. Indiana University Melvin and Bren Simon Cancer Center Research day. Indianapolis, USA, 2017.
 192. Delgado-Calle J, Kurihara N, Atkinson EG, Nelson J, Galmarini C, Roodman GD, **Bellido T**. Aplidin (Plitidepsin) is a novel anti-myeloma drug with potent anti-resorptive activity mediated by direct effects on osteoclasts. Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; MON0838, 2018.

193. Delgado-Calle J, Wu G, Olson ME, McAndrews K, Nelson J, Daniel A, Kurihara N, Atkinson EG, Xiao L, Ebetino FH, Roodman GD, Boeckman RK Jr, **Bellido T**. Bone-Targeted Pharmacological Inhibition of Notch Signaling Potentiates PTH-induced Bone Gain. Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; FRI0120, SA120, 2018.
194. Nelson JH, Davis HM, McAndrews K, Cregor MD, Thompson WR, Plotkin LI, Robling AG, **Bellido T**, Delgado-Calle J. Sclerostin regulates adipocyte fate and mediates paracrine and endocrine signaling between osteocytes and fat. Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; SUN0613, 2018.
195. Sato AY, Li T, McAndrews K, Robling AG, **Bellido T**. FAK expression in osteocytes is dispensable for bone accrual and for the anabolic response of cortical and cancellous bone to mechanical loading in female mice. 40th Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; FRI-0137/SAT-0137, 2018.
196. Sato AY, Pellegrini GG, Cregor M, McAndrews K, Atkinson E, Choi RB, Maiz M, Plotkin LI, McCabe LD, McCabe GP, Peacock M, Weaver CM, Burr D, **Bellido T**. 2018. Distinct mechanisms regulate the response of female and male skeletons to sex steroid deficiency and to the bone protective effects of blueberry containing diets. 40th Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; SUN-0728, 2018.
197. Sato AY, Plotkin LI, **Bellido T**. Interference with atrophy signaling prevents GC actions on bone and muscle in vitro and ex vivo. 40th Annual Meeting of the American Society for Bone and Mineral Research. Montreal, Canada; MON-0900, 2018
198. Ferrari A, McAndrews K, Nelson JH, Bell J, Srinivasan V, Ebetino FH, Boeckman Jr RK, Roodman GD, **Bellido T**, Delgado-Calle J. Bone-Targeted Inhibition of Notch Signaling Blocks Tumor Growth and Prevents Bone Loss Without Inducing Gut Toxicity In Immunodeficient and Immunocompetent Murine Models of Established Multiple Myeloma. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA. #1091* Young Investigator Award.
199. Daniel AL, Ferrari A, Nelson JH, McAndrews K, Cregor M, Ghazzawi Z, Thompson W, Evans-Molina C, **Bellido T**, Delgado-Calle J. Bone-derived Sclerostin has endocrine actions in adipocyte precursors and pancreatic beta-cells. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA. [MON-113]
200. Ferrari A, McAndrews K, Nelson JH, Bell J, Srinivasan V, Ebetino FH, Boeckman FK Jr, Roodman GD, **Bellido T**, Delgado-Calle J. Disruption of Notch Signaling targeted to the myeloma bone marrow microenvironment simultaneously inhibits tumor growth and prevents bone loss without inducing gut toxicity. ORS Musculoskeletal Biology Workshop at Sun Valley, Sun Valley, USA, 2019.* Charles Turner Travel Award.
201. Daniel A, Ferrari A, Nelson JH, McAndrews K, Cregor C, Ghazzawi Z, Thompson W, Evans-Molina C, **Bellido T**, Delgado-Calle J. Bone-derived Sclerostin has endocrine

- actions in adipocyte precursors and pancreatic beta-cells. ORS Musculoskeletal Biology Workshop at Sun Valley, Sun Valley, USA, 2019.
202. Ferrari A, McAndrews K, Nelson JH, Bell J, Srinivasan V, Ebetino FH, Boeckman FK Jr, Roodman GD, **Bellido T**, Delgado-Calle J. Disruption of Notch Signaling targeted to the myeloma bone marrow microenvironment simultaneously inhibits tumor growth and prevents bone loss without inducing gut toxicity. American Association for Cancer Research annual meeting. Atlanta, USA, 2019.
 203. Sato AY, Cregor M, Halladay DL, Esser KA, Peacock M, Willis MS, **Bellido T**. 2019. Vitamin D receptor signaling prevents the adverse actions of glucocorticoid excess in bone, skeletal muscle, and the heart, by interfering with the atrogene pathway. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, Florida, USA; 1030, 2019.*
 204. Sato AY, Nakatsu CH, Pellegrini GG, Cregor M, McAndrews K, Bosco S, McCabe LD, McCabe GP, Ferruzzi M, Lila MA, Peacock M, Burr D, Weaver CM, **Bellido T**. 2019. A blueberry-enriched diet counteracts the effects of estrogen deficiency in mice on bone, skeletal muscle, and peripheral fat, and alters the gut microbiome. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, Florida, USA; FRI873, SAT873, 2019.
 205. Sato AY, Cregor M, Halladay DL, Esser KA, Peacock M, Willis MS, **Bellido T**. 2019. Vitamin D receptor signaling prevents the adverse actions of glucocorticoid excess in bone, skeletal muscle, and the heart, by interfering with the atrogene pathway. Orthopaedic Research Society 48th Workshop. Sun Valley, Idaho, USA; SUN p.94, 2019.*
 206. Ucer Ozgurel S, McAndrews K, Halladay D, Sato A, Neslon J, Cregor M, **Bellido T**. Abaloparatide is more effective than PTH in promoting bone gain under physiological conditions and in established Type 1 Diabetes in male mice. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA; LB-1159, 2019.*
 207. Ucer Ozgurel S, McAndrews K, Cregor M, Halladay D, **Bellido T**. Female mice exhibit a reduced diabetic response to streptozotocin compared to male mice and do not lose bone. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA; MON867, 2019.
 208. Bullock W, Hoggatt A, Horan D, Elmendorf A, Sato A, **Bellido T**, Loots G, Pavalko F, Robling A. Lrp4 mediates bone mass and mechanotransduction through interaction with sclerostin in vivo. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA; #1035, 2019.
 209. Xu X, Yang H, Bullock W, **Bellido T**, Main R. Osteocyte estrogen receptor-beta affects bone turnover and skeletal mechanotransduction differently in young and adult male mice. Annual Meeting of the American Society for Bone and Mineral Research. Orlando, USA; SAT-567, 2019.

Ricky Yuet-Kin Leung B.Sc., M.Phil., Ph.D.

Office address: Kettering Complex, Room 331, University of Cincinnati, 160 Panzeca Way, PO Box 670056, Cincinnati, OH 45267-0056.

e-mail: ricky.leung@uc.edu

Other IDs:

Scopus Author ID: 7201463870

Publons ID: 1038691

ORCID: 0000-0003-2063-277X



[Scopus](#)



[ORCID](#)



[myNCBI](#)



[ResearchGate](#)



[Publons](#)

Education:

2002-2005 Postdoctoral Fellow, Department of Surgery, Division of Urology, University of Massachusetts Medical School,
Major study area: Estrogen receptor beta in prostate cancer.

1998-2001 Ph.D. (Biochemistry), The Chinese University of Hong Kong,
Major study area: Hepatoprotective effects of licorice via enhancement of xenobiotics metabolism.

1996-1998 MPhil (Biochemistry), The Chinese University of Hong Kong,
Major study area: *In vitro* study of metabolic activation of tobacco-specific nitrosamine NNK.

1993-1996 BSc (Biochemistry) 2nd upper honor, The Chinese University of Hong Kong,
Final year project: Purification of ferrochelatase from Chironomid larvae

Honors and Distinctions:

- | | |
|-----------|--|
| 2017 | Top 1% of reviewers in Biochemistry, Genetics and Molecular Biology from Publons.com |
| 2016,2017 | Faculty Development Award |
| 2009-2010 | Next Generation Biomedical Investigator,
Center for Environmental Genetics, University of Cincinnati/NIEHS. |
| 2008-2009 | Next Generation Biomedical Investigator,
Center for Environmental Genetics, University of Cincinnati/NIEHS. |

- 2001 Finn Wold Travel Award,
The Protein Society (USA).
- 2000 Graduate Travel Award,
American Society of Biochemistry and Molecular Biology.
- 1997,1999-2001 Overseas Conference Grant,
The Chinese University of Hong Kong.

Professional Membership:

- 2017-present Associate Member, Cancer Epigenetics Society (International)
- 2013-present Member, Cincinnati Cancer Center
- 2011-present Member, Center for Clinical and Translational Science and Training, University of Cincinnati
- 2013-present Member, Center for Environmental Genetics, University of Cincinnati
- 2008-2013 Associate member, Center for Environmental Genetics, University of Cincinnati
- 2006-2016 Active member, Endocrine Society
- 2007-present Active member, American Association for Cancer Research
- 2005-present Associate member, Cancer Center, University of Cincinnati
- 2003-2005 Associate member, American Association for Cancer Research
- 2003-2005 Trainee member, Society for Basic Urologic Research
- 1999-2001 Student member, The Protein Society (USA)
- 1997-2000 Student member, American Society of Biochemistry & Molecular Biology

Academic appointments:

- 2018-present Associate Professor (Tenure-track),
Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati College of Medicine
- 2015-2018 Assistant Professor (Tenure-track),
Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati College of Medicine
- 2016-present Leader,
Integrative Technologies Support Core, Center for Environmental Genetics, University of Cincinnati
- 2013-2016 Co-leader,
Integrative Technologies Support Core, Center for Environmental Genetics, University of Cincinnati
- 2005-2015 Research Assistant Professor,
Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati College of Medicine
- 2002-2005 Postdoctoral Fellow,

Division of Urology, Department of Surgery,
University of Massachusetts Medical School

- 2001-2002 Research Assistant,
 Department of Biochemistry,
 The Chinese University of Hong Kong
- 1996-2001 Graduate Assistant,
 Department of Biochemistry,
 The Chinese University of Hong Kong

Administrative services:

University/Department Services:

- Division Graduate Admission Committee 2016-present
- Tumor Bank Committee 2014-present
- Department IT technician search committee 2016-present
- Member, Departmental Appointment, Re-appointment, and Tenure (ARPT) Committee (09/2014-present)
- Technical consultant for a University-wide Genomic Sequencing Core in Department of Environmental Health at University of Cincinnati (2006-present)
- Host for guest speakers in Departmental Seminar Series
- Faculty Recruitment Interviewer
- University Pilot grant reviewer
- Ad hoc reviewer for University Tumor Board (2011-2014)
- Host for Promega and Life Technologies Freezer Program (2006-present)

Community Services:

- Member of Community Advisory Board and Liaison faculty for the community partner, NCI-NIEHS-funded Breast Cancer and Environment Research Program, Windows of susceptibility group, University of Cincinnati (2011-2015)
- Committee member, Community Engagement Core, Center for Environmental Genetics, University of Cincinnati (2016-present)

Thesis Committee:

- Ms. Kelly Brunst, 2012 Ph.D. candidate,
Title: Epigenetic Biomarkers of Diesel Exhaust Exposure and Pediatric Respiratory Health
Division of Epidemiology and Biostatistics,
Department of Environmental Health, University of Cincinnati
- Mr. Liam Lee, 2013 Ph.D. candidate,
Title: Biology and Clinical applications of Estrogen Receptor Beta Isoforms in Endocrine-Related Cancers
Division of Environmental Genetics and Molecular Toxicology,
Department of Environmental Health, University of Cincinnati
- Ms. Apurva Badkas, 2014 MS candidate,
Title: Antibody Modification and Immunogenicity: A Quantitative study of Herceptin Modifications

Department of Biomedical, Chemical and Environmental Engineering, University of Cincinnati

- Dr. Alan Martinez, 2014 OBGYN fellow,
Title: High-Fat Content in the Western Diet Ameliorated the Adverse Effect of Bisphenol-A during Embryo Implantation
Department of Obstetrics and Gynecology, University of Cincinnati
- Dr. April Batcheller, 2015 OBGYN fellow,
Title: Maternal dietary exposure to bisphenol-A (BPA) increases embryo size and alters key epigenetic regulators in the rat blastocyst
Department of Obstetrics and Gynecology, University of Cincinnati
- Mr. Zilan Zhou, 2017 Ph.D. candidate,
Title: Novel nanoparticles for cancer therapeutics
Department of Biomedical, Chemical and Environmental Engineering, University of Cincinnati
- Ms. Carly Kennell, 2016 MS candidate,
Title: Novel strategies for nanoparticles co-delivery
Department of Biomedical, Chemical and Environmental Engineering, University of Cincinnati
- Mr. Austin McDermott, 2017 Ph.D. candidate,
Title: Non-coding RNA in prostate cancer
Department of Environmental Health, University of Cincinnati

Ph.D. student qualifying exam committee:

- Mr. Paul Deford, Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati, 2018
- Ms. Ali Pecquet, Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati, 2018

Ongoing research support:

NIEHS P30 ES006096-18 Ho (PI)/Leung (core leader) 4/1/2018-3/31/2023

Center for Environmental Genetics (CEG) at University of Cincinnati.

The goals were to build an Environmental Genetics Center and to conduct programs of multidisciplinary research for understanding gene-environment interaction.

Role: Co-Investigator/Integrative Technology Core co-director

Effort: 15%

Total direct cost: \$8,031,291

VA Merit Award I01BC000675	Ho (PI)	10/1/2015-9/30/2019
----------------------------	---------	---------------------

Estrogen-based combinatorial therapies for castration-resistant prostate cancer

Goal: To determine combinatorial treatment of G-1 and Abiraterone in castration-resistant prostate cancer

Role: Co-Investigator

Effort: 10%

Total direct cost: \$1,029,225

Center for Environmental Genetics, UC Leung (PI) 9/1/2018-8/31/2019

Bisphenol AF induces benign prostatic hyperplasia

The goals were to demonstrate that in utero exposure to estrogenic bisphenol AF may manifest benign prostatic hyperplasia later in life using a mouse model.

Role: Principal Investigator

Effort: 10%

Total direct cost: \$20,000

Center for Environmental Genetics, UC Chen/Ho/Leung (PI) 9/1/2018-8/31/2019

Maternal exposure to emerging endocrine disrupting chemicals (EDCs) in relation to pregnancy outcomes and epigenetic changes in placenta and cord blood mononuclear cells

The goals were to investigate the correlation between EDCs exposure and DNA methylation in cord blood and fetal placenta

Role: co-Principal Investigator

Effort: 10%

Total direct cost: \$30,000

Center for Environmental Genetics, UC Kim (PI) 9/1/2018-8/31/2019

A role of nuclear receptor NR2E3 in chemical carcinogen-induced mammary tumorigenesis

The goals were to investigate the role of a novel nuclear receptor NR2E3 in breast cancer development using chemical-induced carcinogenesis rat model.

Role: co-Investigator

Effort: 5%

Total direct cost: \$20,000

NIEHS R24ES028527 Pinney (PI) 9/1/2018-8/31/2023

Fernald Community Cohort: Research Resource for Environmental Epidemiology

Goal: To maintain and enrich research resources for Fernald Community Cohort

Role: Co-Investigator

Effort: 10%

Total direct cost: \$1,248,955.48

EHS Core Centers supplement Pinney/Ho (PI) 9/1/2018-8/31/2019

Gestational exposure to PFOA and the development of non-alcoholic fatty liver disease in the offspring

Goal: To investigate the role of DNA methylation in PFOA-related non-alcoholic fatty liver disease.

Role: Co-Investigator

Effort: 7%

Total direct cost: \$100,000

Pending research support:

NIEHS R01 ES029582 Ho/Leung (PI) 4/1/2019-3/31/2024

Metal exposure, stem cell, and prostate carcinogenesis

Goal: To investigate the metal effects on prostate stem-like cells

Role: Co-PI

Effort: 20%

Total direct cost: \$ 1,893,987

Score: 40

Percentile: 30

DOD PC180672	Leung (PI)	7/1/2019-6/30/2022
Novel CXCL17-GPR35 signaling for prostate cancer progression		
Goal: To understand the role of CXCL17 in prostate cancer progression using PDX and allograft models		
Role: PI		
Effort: 20%		
Total direct cost: \$600,000		

DOD PC180679	Ho (PI)	7/1/2019-6/30/2022
G-1 as an Immunotherapeutic For Castration-Resistant Prostate Cancer		
Goal: To investigate the role of cytotoxic neutrophil in G-1 treated castration-resistant prostate cancer		
Role: co-Investigator		
Effort: 6%		
Total direct cost: \$600,000		

R01	Brunst (PI)	7/1/2019-6/30/2024
Prenatal stress and neurobehavioral programming: Assessing the role of mitochondrial function through gene expression profiling		
Goal: To investigate the association of mitochondrial gene expression with prenatal stress and neurobehavioral		
Role: co-Investigator		
Effort: 10%		
Total direct cost: \$ 2,113,679.33		

Complete research support:

NIEHS R01 ES021477	Grandjean (PI)	2/1/2013-10/31/2018
Glucose metabolism in adults prenatally exposed to diabetogenic pollutants		
The goals were to study the diabetogenic pollutants associated DNA methylation marks in a Farose Island cohort.		
Role: Co-Investigator		
Effort: 5%		
Total direct cost: \$429,349		

DOD PC140742	Tarapore (PI)	7/1/2015-6/31/2018
Idea Development Award		
MicroRNA Biomarkers to Generate Sensitivity to Abiraterone-Resistant Prostate Cancer		
Goal: To investigate the role of miRNA in abiraterone-sensitive and resistant patient-derived xenograft		
Role: Co-Investigator		
Effort: 10%		
Total direct cost: \$375,000		

NIEHS R01 ES022071 Prins/Ho (multi-PI) 7/1/2012-4/30/2018
Effects of Arsenic on Human Prostate Stem Cells and Prostate Cancer Risk
The goals were to elucidate the reprogramming effect of arsenic in prostate progenitor cells.
Role: Co-Investigator
Effort: 15%
Total direct cost: \$1,935,185

NHLBI R56 HL128493-01A1 Deka (PI) 9/19/2016-8/31/2017
Integrated GWAS and EWAS of cardiometabolic traits in an island population
Goal: To determine the interaction between genetics and epigenetics associated to cardiometabolic traits
Role: Co-Investigator
Effort: 5%
Total direct cost: \$522,396

NHLBI R56 HL130042-01A1 Wang (PI) 9/15/2016-8/31/2017
Autologous cardiomyocytes from masseter muscles to repair myocardial infarction
Goal: To investigate the potential of reprogramming masseter muscles to generate cardiogenic lineages by coaxing their differentiation into functional cardiomyocytes
Role: Co-Investigator
Effort: 5%
Total direct cost: \$299,345

NIEHS U01-ES019453 supplement Biro(PI)/Leung(subcontract PI) 7/13/2015-4/30/2017
Environmental epigenetics on puberty
Goal: To study environmental exposure-associated blood DNA methylome during puberty
Role: UC subcontract Principal Investigator
Effort: 25%
Total direct cost: \$253,346

Center for Environmental Genetics, UC Leung (PI) 9/1/2015-8/31/2016
Dietary exposure to environmental agents modulates cell fate specification of the implanting mouse embryos and determines their implantation success
The goals were to investigate the epigenetic reprogramming effects of endocrine disruptors in implantation loss.
Role: Principal Investigator
Effort: 10%
Total direct cost: \$30,000

Center for Environmental Genetics, UC Ouyang (PI) 9/1/2015-8/31/2016
Exosomal miRNA as biomarkers for exposure and reproductive health in female firefighters
The goals were to investigate novel serum biomarkers that indicating health and exposure in female firefighters
Role: Co-Investigator
Effort: 5%
Total direct cost: \$30,000

1R21 ES023942-01A1 Wang (PI) 2/1/2015-1/31/2017
NIH/NIEHS
Title: Early exposure to phthalate & obesity: the role of PCNA tyrosine phosphorylation
Goal: To test the novel function of PCNA tyrosine phosphorylation in diet-induced obesity after perinatal exposure to phthalates.
Role: Co-Investigator
Effort: 5%

Total direct cost: \$434,862

Marlene Harris Ride Lee/Leung/Tarapore (PI) 4/4/2015-4/3/2016
Cincinnati Breast Cancer Pilot Grant
Title: Targeted and Controlled Co-delivery of miRNA Inhibitor and Chemotherapeutic Drug for HER2 Positive Breast Cancer
Goal: To develop a novel nanoparticle encapsulating miRNA inhibitors for HER2 positive breast cancer
Role: Co- Principal Investigator
Effort: 10%
Total direct cost: \$40,000

Cincinnati Cancer Center Leung/Lee/Tarapore (PI) 4/1/2015-3/31/2016
Pilot Grant
Title: Novel Targeted and Controlled Gene and Drug Co-delivery System for Metastatic and Drug-Resistant Breast Cancer
Goal: To investigate the efficacy of a novel nanoparticle co-delivering miRNA inhibitors and chemotherapeutic drug in vivo
Role: Co-Principal Investigator
Effort: 10%
Total direct cost: \$36,000

Teaching and Supervisory Activities:

Supervisory Activities:

Trainee	Pre	Training Period	Prior Academic Degree	Title of Research Project	Award	Current Position
Tsui, Nancy Bo-Yin	Pre	1997-1998	Undergraduate, 1998, The Chinese University of Hong Kong	Isolation and purification of glutathione s-transferase isoforms from Chironomid larvae.		Scientific Director at Avalon Genomics (HK) Ltd
Wong, Tony Kwong-Fai	Pre	2000-2002	Undergraduate, 2002, The Chinese University of Hong Kong	Molecular cloning and biochemical characterization of ferroxidase		Senior Scientist at Janssen, Pharmaceutical Companies of Johnson and Johnson
Brodka, Marlene	Pre	2002-2003	BA, 2002, University of Massachusetts	Role of cytochrome P450 1A1 in ovarian cancer		Physician Assistant, Yale New Haven Hospital
Akbar, Farah	Pre	2002-2003	BA, Unknown, Unknown	Overexpression of cytochrome P450 1A1 isoforms in ovarian cancer cells		Technician at University of Massachusetts Medical School

Singh, Leena	Post	2003-2005	MD, Ph.D., 1998, Tufts University	Estrogen receptor beta in breast		Private practice in Chico California
Chung, Irving	Pre	2003-2005; 2007-2008	BSc, 2010, Duke University	Dissecting Estrogen Receptor beta Interacting Proteins by yeast-2-hybrid	• Siemens-Westinghouse in Science and Technology 2005 regional award • Intel Science Talent Search Semifinalist 2006: Estrogen Mimics in Licorice Extracts: Characterization with an Engineered Yeast Assay	Residency at Albert Einstein Medical Center specialized in emergency medicine
Harwood/Moriarty Charlotte	Pre	2004-2005	BS, 2004, Skidmore College	Phytoestrogens as Chemopreventive Agent for Breast Cancer		Primary Care Sports Medicine Fellow, Western Michigan University
Wollin, Daniel	Pre	2005	BSc, 2007	Cloning of estrogen receptor beta isoform 3		Urologist at NYU School of medicine
Tsang, Michael	Pre	2005	BSc, 2007, George Washington University	Methylation studies of estrogen receptor beta promoters in breast and prostate.		Graduate student, Boston University
Woodward, Sarah	Pre	2006	BA, Unknown, Unknown	Construction of estrogen receptor beta knockout mice		Teacher, Woodward High School
Elston, Joshua B	Pre	2006	BSc, 2006, Transylvania University	Methylation of estrogen receptor-beta promoter		Plastic surgeon at Tampa FL
Angiah Srikanthan, Prashant	Pre	2005-2007	BS and MS, 2007, University of Cincinnati	Expression of estrogen receptor beta isoforms and cytochrome P450 1A1		Manager at Protivea in India
Lee, Olivia	Post	2006-2007	MD, 2007, University of Cincinnati	Expression of Estrogen Receptor Beta Isoforms in Human Prostate Cancer.		Urologist, San Francisco Medical Center
Lam, Hung-Ming	Post	2007-2010	Ph.D., 2006, The Chinese University of Hong Kong	The Role of Estrogen Receptor-beta in Breast and Prostate Cancers		Assistant Professor at University of Washington
Wang, Vinson	Pre	2007-2008	BSc, 2010, Columbia University	AMACR and estrogen receptor beta in prostate cancer		Physician, General Surgery, New York

Wilson, Andy	Pre	2007-2009	Undergraduate, University of Cincinnati	Effects of SERMS on prostate cancer cells		Research Assistant at Cincinnati Children Hospital
Iris Gutmark-Little	Post	2009-2010	MD, 2004, Johns Hopkins University, School of Medicine	Bisphenol A effects on the growth plate.		Assistant Professor in Department of Pediatrics at University of Cincinnati
Wu, Diana	Post	2010-2011	MD, 2004, Wayne State University, School of Medicine	Bisphenol A effects on sperm quality.		Fertility expert in Oregon Health and Science University
Khan, Nadia	Pre	2011	Undergraduate, University of Cincinnati	Epigenetic regulation of gene expression in childhood asthma		Honor student, NIH REU-SURP student, University of Cincinnati
Sebastian/Brunst, Kelly	Pre	2010-2012	BS, 2008, University of Cincinnati	Diesel exposure and epigenetic marks in asthma		Assistant Professor at UC
Lee, Mingsung (Liam)	Pre	2007-2013	M.Phil., 2007, The Chinese University of Hong Kong	Estrogen receptor beta isoform protein partner	DOD breast cancer pre-doctoral award 2010	Research Associate at AtheneX Inc
Martinez, Alan	Post	2013-2014	MD, 2011, Reproductive Endocrinology & Infertility Fellow, University of Cincinnati	Effect of BPA in high-fat diet on embryo implantation and uterus receptivity		Reproductive Endocrinology and Infertility Specialist in Reproductive Science Center of New Jersey
Stevenson, Max	Pre	2010-2015	Undergraduate, 2011 University of Cincinnati	Estrogen receptor beta2 in prostate cancer.		Undergraduate, Colorado State University
Janakiram, Vinothini	Post	2011-2015	Ph.D., 2011, Annamalai University	Susceptibility of in utero exposure to bisphenol A and high-fat diet on rat mammary tumorigenesis		Postdoc Fellow, Cincinnati Children's Hospital
Batcheller, April	Post	2014-2015	MD 2014, Reproductive Endocrinology & Infertility Fellow, University of Cincinnati	Epigenetics in BPA-exposed rat embryo		Founding physician in Colorado Center for Reproductive Medicine and Fertility Laboratory Sciences

Zhou, Zilan	Pre	2014-2016	BSc in East China University of Science and Technology: Shanghai	Targeting breast cancer with novel pH-sensitive nanoparticles		Researcher at Shenzhen Neptunus Pharmaceutical Company in China
Xuemei, Lian	Post	2015-2016	Ph.D. in Xiangya School of Medicine, Central South University	Investigation of estrogen-regulated long non-coding RNAs in cancer		Professor at Chongqing Medical University
Gray, Alexis	Pre	2015-2016	Undergraduate, University of Cincinnati	Nutrition and epigenetics in breast cancer		STAR fellow
Holtz, Trevor	Pre	2016 summer	Undergraduate, University of Cincinnati	Expression of long non-coding RNA in cancer		SURF 2016
Cheong, wanyee (Ana)	Post	2013-2016	Ph.D., 2013, University of Hong Kong	Investigation of non-coding RNAs in prostate and breast cancer	DOD prostate cancer postdoctoral award 2014	Research Associate, University of Cincinnati
McDermott, Austin	Pre	2015-present	Undergraduate, University of Cincinnati	Investigation the role of a novel long non-coding RNA in prostate cancer		SURF 2015, Ph.D. student at UC
Alex, Ying	Pre	2017	Walnut Hill High School	miRNAs in lung cancer		Undergraduate, Columbia University
Zana, Percy	Pre	2017	BA, University of Cincinnati	Effects of smoking on placenta DNA methylation		MD/ Ph.D. candidate, UC
Anqi (Angel) Chen	Pre	2018 summer	B.S. in Biology/Biochemistry, Miami University	Characterization of enhancer region regulating GPER1		SURF 2018

Class teaching:

- 1996-1998 Laboratory Instructor for Environmental Science students,
The Chinese University of Hong Kong
Topics: Biochemical Toxicology and Methods in Toxicological Research
- 1998-2001 Laboratory Instructor for Medical students,
The Chinese University of Hong Kong
Topic: Biochemistry for Medical students
- 2011,2013 Guest Lecturer, Estrogen receptors and prostate cancer,
Introduction to Toxicology (26TOX8051, 26TOX8052),
Division of Environmental Genetics and Molecular Toxicology,
Department of Environmental Health,
University of Cincinnati

- 2015,2017, 2019 Guest Lecturer, Molecular approaches for epigenetic research, Genetics of Complex Disease (BE-8068), Division of Epidemiology, Department of Environmental Health, University of Cincinnati
- 2015-2017 Guest Lecturer, Molecular aspects of endocrine disruption, Introduction to Toxicology (TOX-8051, TOX-8052), Division of Environmental Genetics and Molecular Toxicology, Department of Environmental Health, University of Cincinnati
- 2017 Guest Lecturer, Molecular techniques for studying epigenetics in epidemiology Preinatal and pediatric epidemiology course (BE-7085), Division of Epidemiology, Department of Environmental Health, University of Cincinnati
- 2017- Course director, PH-7020 Environmental Public Health Core course, Master of Public Health Program, Department of Environmental Health University of Cincinnati
- 2018 Guest Lecturer, Endocrine disruption, Department of Biology, Hong Kong Baptist University
- 2018 Guest Lecturer, Endocrine Disruption, PH-7020 Environmental Public Health Core course, Master of Public Health Program, Department of Environmental Health University of Cincinnati
- 2018 Guest Lecturer,
 - Gene expression and regulation,
 - Next Generation Sequencing,
Genetics of Complex Disease (BE-8068), Division of Epidemiology, Department of Environmental Health, University of Cincinnati

Peer-reviewed publications:

Journal articles:

1. Xie, C., **Leung, Y.K.**, Chen, A., Long, D.X., Hoyo, C., and Ho, S.M. (2018) Differential Methylation Values in Differential Methylation Analysis, *Bioinformatics*, in press. PMID: 30184051
2. Dworatzek, E., Mahmoodzadeh, S., Schriever, C., Kusumoto, K., Kramer, L., Fliegner, D., **Leung, Y.K.**, Ho, S.M., Zimmermann, W.H., Lutz, S., and Regitz-Zagrosek, V. (2018) Sex-specific regulation of collagen I and III expression by 17 β -Estradiol in cardiac fibroblasts: role of estrogen receptors, *Cardiovascular Research*, in press. PMID:30016401
3. **Leung, Y.K.**, Ouyang, B., Niu, L., Xie, C., Ying, J., Medvedovic, M., Chen, A., Pal, W., Damaskini, V., Grandjean, P. and Ho, S.M. (2018) Identification of sex-specific DNA methylation changes driven by specific chemicals in cord blood in a Faroese birth cohort, *Epigenetics*, **13**:290-300. PMID: 29560787
4. Alexander, J., Teague, A., Chen, J., Aston, C.E., **Leung, Y.K.**, Chernausek, S., Simmions, R. and Pinney, S.E. (2018) Offspring sex impacts DNA methylation and gene expression in placentae from women with diabetes during pregnancy, *PLoS One*, **13**(2):e0190698. PMID: 29470513
5. Kim, K., Khanal, T., Choi, K., **Leung, Y.K.**, Wang, J., Kim, D., Janakiram, V., Cho, S.G., Puga, A., and Ho, S.M. (2017) Loss of NR2E3 represses AHR by LSD1 reprogramming, is associated with poor prognosis in liver cancer, *Scientific Report*, **7**:10662 PMID:28878246
6. Chen, T., Lu, L., Xu, C., Lin, X., **Leung, Y.K.**, Ho, S.M., Xiong, Z.R., Lian, X. (2017) Inhibition Role of Atherogenic Diet on Ethyl Carbamate Induced Lung Tumorigenesis in C57BL/6J Mice, *Scientific Report*, **7**:4723. PMID:28680122
7. **Leung, Y.K.**, Govindarajah, V., Cheong, A., Veevers, J., Song, D., Gear, R., Zhu, X., Ying, J., Kendler, A., Medvedovic, M., Belcher, S., and Ho, S.M. (2017) Gestational high-fat diet & bisphenol A exposure heightens mammary cancer risk, *Endocrine-Related Cancer*, **24**:365-378 PMID: 28487351

Research Highlights in *Nature Reviews Endocrinology*

Holmes, D. (2017) Breast cancer: Increased risk with concurrent dietary and EDC exposures. *Nature Reviews Endocrinology*, **13**(7):378 PMID: 28549060

8. Tarapore, P., Ying, J., Ouyang, B., Song, D., **Leung, Y.K.**, Ho, S.M. (2016) High butter-fat diet and bisphenol A additively impair male rat spermatogenesis, *Reproductive Toxicology*, **68**:191-199. PMID: 27658648
9. Tarapore, P., Hennessy, M., Song, D., Ying, J., Ouyang, B., Govindarajah, V., **Leung, Y.K.**, Ho, S.M. (2016) Data on spermatogenesis in rat males gestationally exposed to bisphenol A and high-fat diets. *Data Brief* **9**:812-817. PMID: 27872877
10. Xu, Z., Taylor, J.A., **Leung, Y. K.**, Ho, S.M., Niu, L. (2016) oxBS-MLE: An efficient method to estimate 5-methylcytosine and 5-hydroxymethylcytosine in paired bisulfite and oxidative bisulfite treated DNA, *Bioinformatics*, **32**:3667-3669, PMID: 27522082
11. Zhou, Z., Kennell, C., Lee, J.Y., **Leung, Y.K.**, Tarapore, P. (2016) Calcium Phosphate-Polymer Hybrid Nanoparticles for Enhanced Triple Negative Breast Cancer Treatment via Co-Delivery of Paclitaxel and miR-221/222 Inhibitors, *Nanomedicine*, **13**:403-410, PMID:27520723
12. Rizzardi, A.E., Zhang, X., Vogel, R.L., Kolb, S., Geybel, M.S., **Leung, Y.K.**, Henriksen, J.C., Ho, S.M., Kwak, J., Stanford, J.L., Schmechel, S.C. (2016) Quantitative comparison and

reproducibility of pathologist scoring and digital image analysis of estrogen receptor $\beta 2$ immunohistochemistry in prostate cancer, *Diagnostic Pathology*, **11**:63. PMID: 27401406

13. Ho, S.M., Cheong, A., Adgent, M.A., Veevers, J., Suen, A.A., Tam, N.N.C., **Leung, Y.K.**, Jefferson, W.N., Williams, C.J. (2016) Environmental Factors, Epigenetics, and Developmental Origin of Reproductive Disorders, *Reproductive Toxicology*, **68**:82-104. review, PMID: 27421580
 14. Cheong, A., Zhang, X., Cheung, Y.Y., Tang, W.Y., Chen, J., Ye, S.H., Medvedovic, M., **Leung, Y.K.**, Prins, G.S., Ho, S.M (2016) DNA methylome changes by estradiol benzoate and bisphenol A links early-life environmental exposures to prostate cancer risk, *Epigenetics*, **14**:1-16. PMID: 27415467
 15. Miller, M., Bailey, B., Janakiram, V., Levin, L., Metzger, T., Pinney, S.M., **Leung, Y.K.** and Ho, S.M. (2016) A community survey on knowledge of the impact of environmental and epigenetic factors on health and disease, *Perspectives in Public Health*, **136**(6):345-352. PMID: 26941233
 16. Schade, G. R., Holt, S., Zhang, X., Song, D., Wright, J.L., Zhao, S., Kolb, S., Lam, H.M., Levin, L., **Leung, Y.K.**, Ho, S.M., Stanford, J.L. (2016) Prostate cancer expression profiles of cytoplasmic ER $\beta 1$ and nuclear ER $\beta 2$ are associated with poor outcomes following radical prostatectomy, *The Journal of Urology*, **195**(6):1760-6. PMID:26804755
 17. *Govindarajah, V., ***Leung, Y.K.**, Ying, J., Gear, R., Bornschein, R., Medvedovic, M., Ho, S.M. (2016) In utero exposure of rats to high-fat diets perturbs gene-expression profiles and cancer susceptibility of prepubertal mammary glands, *Journal of Nutritional Biochemistry*, **29**:73-82. PMID: 26895667
- *co-first author
18. Martinez, A., Cheong, A., Ying, J., Xue, J., Kannan, K., **Leung, Y.K.**, Thomas, M.A., Ho, S.M. (2015) Effects of high-butterfat diet on embryo implantation in female rats exposed to bisphenol A, *Biology of Reproduction*, **93**:147. PMID: 26510865
 19. Stevenson, M., Alexander, B., Baxter, S.C., **Leung, Y.K.** (2015) Evaluating Endocrine Disruption Activity of Deposits on Firefighting Gear Using a Sensitive & High Throughput Screening Method, *Journal of Occupational and Environmental Medicine*, **57**:e153-157. PMID: 26641839
 20. Panchanathan, R., Liu, H., **Leung, Y.K.**, Ho, S.M., and Choubey, D. (2015) Bisphenol A (BPA) stimulates the interferon signaling and activates the inflammasome activity in myeloid cells, *Molecular and Cellular Endocrinology*, **415**:45-55. PMID: 26277401
 21. Ho, S.M., Cheong, A., Lam, H.M., Hu, W.Y., Shi, G.B., Zhu, X., Chen, J., Zhang, X., Medvedovic, M., **Leung, Y.K.**, Prins, G. (2015) Exposure of human prostaspheres to Bisphenol A epigenetically regulates SNORD family non-coding RNAs via histone modification, *Endocrinology*, **156**:3984-95. PMID:26248216
 22. Zhou, Z., Apurva, B., Stevenson, M., Lee, J.Y., **Leung, Y.K.** (2015) Herceptin conjugated PLGA-PHis-PEG pH-sensitive nanoparticles for targeted and controlled drug delivery, *International Journal of Pharmaceutics*, **487**:81-90. PMID:25865568
 23. Langevin, S.M., Pinney, S.M., **Leung, Y.K.**, and Ho, S.M. (2014) Does epigenetic drift contribute to age-related increases in breast cancer risk? *Epigenomics*, Editorial, **6**:367-369. PMID:25333845

24. Yang, W.S., Chadalapaka, G., Cho, S-G., Lee S-O., Jin U-H., Jutooru, I., Choi, K., **Leung, Y.K.**, Ho, S.M., Safe, S., and Kim, K. (2014) The transcriptional repressor ZBTB4 regulates EZH2 through a microRNA-ZBTB4-Specificity protein signaling axis. *Neoplasia*, **16**:1059-69. PMID:25499219
25. **Leung, Y.K.**, Chan, Q.K.Y., Ng, C.F., Ma, F.M.T., Tse, H.M., To, K.F., Maranchie, J., Ho, S.M. and Lau, K.M. (2014) Hsa-miRNA-765 as a key mediator for inhibiting growth, migration and invasion in fulvestrant-treated prostate cancer. *PLOS one*, **16**:e98037 PMID:24837491
26. Knowler, K.C., To, S.Q., **Leung, Y.K.**, Ho, S.M., Clyne, C.D. (2014) Endocrine disruption of the epigenome: a breast cancer link, *Endocrine-Related Cancer*, **21**:T33-35, Invited Review. PMID:24532474

One of the best articles (top five) published in Endocrine-Related Cancer 2014 selected by the editorial board.
27. Lee, M.T., Ho, S.M., Tarapore, P., Chung, I., **Leung, Y.K.** (2013) Estrogen-receptor Beta Isoform 5 (ER β 5) confers sensitivity of breast cancer cell lines to chemotherapeutic agent-induced apoptosis through interaction with Bcl2L12, *Neoplasia*, **15**:1262-71. PMID:24339738
28. Lee, M.T., **Leung, Y.K.**, Chung, I., Tarapore, P., Ho, S.M. (2013) Estrogen Receptor β (ER β 1) transactivation is differentially modulated by the Transcriptional Coregulator Tip60 in a cis-acting element-dependent manner, *Journal of Biological Chemistry*, **288**:25038-25052. PMID:23857583
29. Lee, M.T., Ouyang, B., Ho, S.M.*, and **Leung, Y.K.*** (2013) Differential expression of estrogen receptor beta isoforms in prostate cancer through interplay between transcriptional and translational regulation, *Molecular Cellular Endocrinology*, **376**:125-35. *Corresponding author. PMID: 23806560
30. Brunst, K., **Leung, Y.K.**, Ryan, P., Khurana Hershey, G.K., Levin, L., Ji H., LeMasters, G.K., and Ho, S.M (2013) FOXP3 hypermethylation is associated with diesel exhaust exposure and risk for childhood asthma. *Journal of Allergy and Clinical Immunology*, **131**:592-594. PMID: 23260754
31. Ho, S.M., Johnson, A., Tarapore, P., Janakiram, V., Zhang, X., and **Leung, Y.K.** (2012) Environmental epigenetics: A multidimensional interactome point of view. *Institute for Laboratory Animal Research Journal*, **53**:289-305. Invited Review. PMID: 23744968
32. **Leung, Y.K.***, Lee, M.T, Lam, H.M., Tarapore, P., and Ho, S.M. (2012) Estrogen receptor β and breast cancer: translating basic science into clinical practice. *Steroids*, **77**:727-737. Invited review. PMID:22465878
* Corresponding author. The most downloaded articles in Steroids journal in the last 90 days (from 29th March 2012 to 1st November 2012). Top 20 most downloaded articles in the last 90 days (19th June, 2013)
33. Lam, H.M., Babu, S., Yuen, Y., Lam, Y.W., Ho, S.M.* and **Leung, Y.K.*** (2012) Phosphorylation of human estrogen receptor-beta at serine 105 inhibits breast cancer cell migration and invasion. *Molecular and Cellular Endocrinology*, **358**:27-35. PMID:22370157
* Corresponding author
34. **Leung Y.K.**, and Ho S.M. (2011) Estrogen receptor β : switching to a new partner and escaping from estrogen. *Science Signaling* **4**:pe19. Invited perspective PMID:21487104

35. Ho, S.M., Lee, M.T., Lam, H.M., and **Leung, Y.K.** (2011) Estrogens and prostate cancer: etiology, mediators, prevention, and management. *Endocrinol Metab Clin North Am.*, **40**:591-614. Invited Review. PMID:21889723
36. Ouyang, B., **Leung, Y.K.**, Wang, V., Chung, E., Levin, L., Bracken, B., Cheng, L. and Ho, S.M. (2011) Expression of alpha-methylacyl-CoA racemase spliced variants in normal and malignant prostate tissue. *Urology*, **77**:249.e1-249.e7. PMID:21195844
37. **Leung, Y.K.**, Lam, H.M., Wu, S., Song, D., Levin, L., Cheng, L., Wu, C.L., and Ho, S.M. (2010) Estrogen receptor beta isoforms predict poor prognosis and promote metastasis in prostate cancer. *Endocrine-Related Cancer*, **17**:675-89. PMID: 20501637
38. Zhang, X., Wu, M., Xiao, H., Lee, M.T. **Leung, Y.K.**, and Ho, S.M. (2010) Specific point methylation of an intronic cis-element regulates PMP24 gene in prostate, *Prostate*, **70**:765-76. PMID: 20054818
39. Haynes, E., Heckel, P., Ryan, P., Roda, S., **Leung, Y.K.**, Sebastian, K. and Succop, P. (2010) Environmental manganese exposure in residents living near a ferromanganese refinery in southeast Ohio: A pilot study. *Neurotoxicology*, **31**:468-474. PMID:19879291
40. Hess-Wilson, J.K., Webb, S.L., Daly, H.K., **Leung Y.K.**, Boldison, J., Comstock, C.E.S., Sartor, M.A., Ho, S.M. and Knudsen, K.E. (2007) Unique bisphenol A transcriptome in prostate cancer: novel effects on ER β expression that correspond to AR mutation status, *Environmental Health Perspectives*, **115**:1646-1653. PMID: 18007998
41. Zhang, X., **Leung, Y.K.**, and Ho, S.M. (2007) AP-2 regulates the transcription of estrogen receptor (ER)- β by acting through a methylation hotspot of the 0N promoter in prostate cancer cells, *Oncogene*, **26**:7346-7354. PMID: 17525739
42. Ho, S.M., **Leung, Y.K.**, and Chung, I. (2006) Estrogens and anti-estrogens as etiological factors and therapeutics for prostate cancer, *Annals of the New York Academy of Sciences* **1089**:177-193. Invited Review. PMID:17261766
43. Mak, P., **Leung, Y.K.**, Tang, W.Y., Harwood, C., and Ho, S.M. (2006) Apigenin suppresses cancer cell growth via ER beta, *Neoplasia*, **8**: 896-904. PMID: 17132221
44. **Leung, Y.K.**, Mak, P., Hassan, S., and Ho, S.M. (2006) Estrogen receptor (ER) β isoforms: A key to understanding ER- β signaling, *Proceedings of the National Academy of Sciences* **103**:13162-13167. PMID: 16938840
45. **Leung, Y.K.**, Gao, Y., Lau, K.M., Zhang, X. and Ho, S.M. (2006) ICI 182,780-regulated gene expression in DU145 prostate cancer cells is mediated via estrogen receptor- β /NF κ B crosstalk. *Neoplasia* **8**:242-249. PMID: 16756716
46. **Leung, Y.K.**, and Ho, J.W. (2006) Deciphering signaling control by phosphoproteome using mass spectrometry. *Protein & Peptide Letter* **13**:467-469. Invited Review. PMID:16800799
47. **Leung, Y.K.**, Lau, K.M., Mobley, J., Jiang, Z., and Ho, S.M. (2005) Overexpression of Cytochrome P450 1A1 and its novel spliced variant in ovarian cancer cells; alternative subcellular enzyme compartmentation may contribute to carcinogenesis. *Cancer Research* **65**: 3726-3734. PMID:15867368
48. Ho J.W., Song J.Z., and **Leung Y.K.** (2005) Activation of p53 by specific agents in potential cancer therapy. *Current Medicinal Chemistry Anti-Cancer Agents*. **5**:131-5. Invited Review. PMID:15777220

49. Zhu, X., Leav, I., **Leung, Y.K.**, Wu, M., Liu, Q., Gao, Y., McNeal, J.E., and Ho, S.M. (2004) Dynamic regulation of estrogen receptor- β expression by DNA methylation during prostate cancer development and metastasis. *American Journal of Pathology* **164**:2003-2012. PMID: 15161636
50. **Leung, Y.K.**, Wong, K.F., Lee, H.K., and Ho, J.W. (2004) Cloning and characterization of chironomidae ferrochelatase: copper activation of the purified ferrochelatase. *Molecular Cell Biochemistry* **262**:225-231. PMID:15532727
51. Tam, N.N.C., Gao, Y., **Leung, Y.K.**, and Ho, S.M. (2003) Androgenic regulation of oxidative stress in the rat prostate: involvement of NAD(P)H oxidases and antioxidant defense machinery during prostatic involution and regrowth. *American Journal of Pathology* **163**:2513-2522. PMID:14633623
52. **Leung, Y.K.**, Ng, T.B., and Ho, J.W. (2003) Transcriptional regulation of fosl-1 by licorice in rat Clone 9 cells. *Life Sciences* **73**:3109-3121. PMID:14550851
53. Ho, J.W., **Leung, Y.K.**, and Chan, C.P. (2003) Potential of medicinal herbs in the treatment of liver disorders. *Trends in Comparative Biochemistry & Physiology* **9**:269-272. Review.
54. Lau, K.M., Tam, N.N.C., Thompson, C., Cheng, R.Y.S., **Leung, Y.K.**, and Ho, S.M. (2003) Age-associated changes in histology and gene expression profile in the rat ventral prostate. *Laboratory Investigation* **83**:743-757. PMID:12746483
55. Ho, J.W., **Leung, Y.K.**, and Chan C.P. (2002) Herbal Medicine in the treatment of cancer. *Current Medicinal Chemistry Anticancer Agents* **2**:209-214. Review. PMID:12678744
56. **Leung, Y.K.**, and Ho, J.W. (2002) Induction of UDP-glucuronosyltransferase 1A8 mRNA by 3-methylcholanthrene in rat hepatoma cells. *Biochemical Pharmacology* **63**:771-779. PMID:11992647
57. **Leung, Y.K.**, and Ho, J.W. (2001) Effects of vitamins and common drugs on metabolic activation of 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone. *Archives of Physiology and Biochemistry* **109**:175-179. PMID:11780779
58. **Leung, Y.K.**, and Ho, J.W. (2001) Purification and properties of ferrochelatase from Chironomidae larvae, *Molecular and Cellular Biochemistry* **220**:161-167. PMID:11451377
59. **Leung, Y.K.**, and Ho, J.W. (1999) Modulation of reduction of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone by vitamin C-palmitate. *Comparative Biochemistry and Physiology Part B* **124**:451-456. PMID:10665374
60. **Leung, Y.K.**, and Ho, J.W. (1998) Inhibitory effect of nicotine and its metabolites on tolbutamide hydroxylation in rat liver microsomes. *Journal of Biochemical and Biophysical Methods* **36**:87-94. PMID:9711495

Book Chapter:

1. Ho, S.M., Cheong, A., To, S., Govindarajah, V., Tarapore, P. and **Leung, Y.K.** (2015) Cancer and Developmental Origins of Health and Disease—Epigenetic Reprogramming as a Mediator. In: Rosenfeld, C. (Ed.). *The Epigenome and Developmental Origins of Health and Disease* (pp. 315-336). Boston, USA: Academic Press.

2. Ho, S.M., Tarapore, P., Lee M.T. and **Leung, Y.K.** (2013) Biology and Clinical Relevance of Estrogen Receptors in Prostate Cancer. In: Tindall, D.J. (Ed.). *Prostate Cancer: Biochemistry, Molecular Biology and Genetics* (pp. 383-419). New York, USA: Springer New York.

Publications in GenBank:

1. Lee, M.T., Ho, S.M. and **Leung, Y.K.** (2013) Homo sapiens ESR2 mRNA, exon 0X1 to 8 and 5' UTR, *National Center for Biotechnology information (Genbank)*, Nucleotide Accession Number: KC777381-KC777388.
2. **Leung, Y.K.** and Ho, S.M. (2006) Homo sapiens estrogen receptor beta isoform 4, complete cds. *National Center for Biotechnology information (Genbank)*, Nucleotide Accession Number: DQ838582.
3. **Leung, Y.K.** and Ho, S.M. (2006) Homo sapiens estrogen receptor beta isoform 5, complete cds. *National Center for Biotechnology information (Genbank)*, Nucleotide Accession Number: DQ838583.
4. **Leung, Y.K.**, Lau, K.M. and Ho, S.M. (2004) Homo sapiens cytochrome P450 1A1 alternative spliced variant mRNA, complete cds. *National Center for Biotechnology information (Genbank)*, Nucleotide Accession Number: AY310359.
5. **Leung, Y.K.**, Wong, K.F. and Ho, J.W. (2001) Chironomus sp. YKL-2001 ferrochelatase precursor (FECH) mRNA, complete cds; nuclear gene for mitochondrial product. *National Center for Biotechnology information (Genbank)*, Nucleotide Accession Number: AY033074, Protein Accession Number: AAK52337.

Publication in preparation:

1. Kim, K., Khanal, T., **Leung, Y.K.**, Timchenko, N. and Ho, S.M. NR2E3 regulates p53-mediated apoptosis via epigenetic silencing of DINO in acute liver injuries, submitted to Hepatology
2. Ho, S.M., **Leung, Y.K.**, Herbstman, J., Zhang, X., Xie, C., Tang, D., Chen, J., Miller, R.L., Medvedovic, M., Perera, F. Maternal Exposure to Airborne Polycyclic Aromatic Hydrocarbons and DNA Methylation Changes in Umbilical Cord Blood of Newborns, submitted to Epigenomics.
3. Xie, C., **Leung, Y.K.**, Chen, A., Long, D.X., Hoyo, C., and Ho, S.M. Differential Methylation Values in Differential Methylation Analysis, Under major revision in Bioinformatics.
4. Wu, D., **Leung, Y.K.**, Kannon, K., Thomas, M.A., Maxwell, R., and Ho, S.M. Bisphenol A effects on sperm function, in preparation.

Invited speaker/ oral presentation:

- 2017 Speaker. Immunotox Forum, University of Cincinnati, Cincinnati OH
Title: ALOX5 and prostate cancer

- 2017 Speaker, Wednesday Seminar Series, Department of Environmental Health, College of Medicine, University of Cincinnati. Cincinnati OH
Title: Endocrine disruption and female cancers
- 2016 Speaker, Immunotox Forum, University of Cincinnati, Cincinnati OH
Title: Bisphenol A-associated genes for endometrial cancer prognosis
- 2016 Presenter, Poster Preview Talk, One-hundredth Annual Meeting of Endocrine Society, Boston MA
Title: Bisphenol A-specific genes as predictive markers for endometrial cancer prognosis
- 2015 Speaker, The STARS/McNAIR program, Cincinnati Children's Hospital/University of Cincinnati, Cincinnati OH
Title: Environmental estrogens in hormone-related cancer
- 2015 Young Investigator speaker, 2015 Joint NIEHS Environmental Health Sciences Core Centers and Training Grant Directors Meeting, Tucson AZ
Title: Differential methylation changes associated with exposure to environmental toxicants in cord blood DNA of Faroe Islanders
- 2015 Speaker and Panelist, Academic and Community Perspectives on Genetic Research, Genomics and Ethics in Research and Medical Decision-Making, Genomics and Ethics Conference, Center for Clinical and Translational Science and Training, University of Cincinnati, Cincinnati OH
Title: Environment and Breast Cancer Research: from basic research to outreach
- 2013 Presenter, Extended Environmental Exposures Annual Meeting, Breast Cancer and the Environment Research Program, National Institute of Environmental Health and Sciences/National Cancer Institute.
Wisconsin MI, USA
Title: High-fat effects on prenatal exposure to bisphenol A-associated breast cancer risk
- 2012 Keynote speaker, Cancer and Environmental Factors, Cancer 2012, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China
Title: Estrogens, environmental estrogens and cancer
- 2011 Presenter, Breast Cancer and the Environment Research Program integration meeting, National Institute of Environmental Health and Sciences/National Cancer Institute
Bethesda MD, USA.
Title: Susceptible Window of High Fat Diet/Bisphenol A Programming of Breast Cancer Risk
- 2011 Presenter, Gynecological Urology Research Symposium, Department of Surgery, University of Cincinnati, Cincinnati OH
Title: Role of Estrogen Receptor Beta during Prostate Cancer Progression
- 2006 Presenter, Cold Spring Harbor Laboratory Meeting- Nuclear Receptors: Bench to Bedside, Cold spring harbor NY

Title: The role of estrogen receptor (ER) β isoforms in estrogen signaling

2006 Presenter, NIBR Incubator/GRI/CCHMC Meeting, Genome Research Institute, Cincinnati OH

Title: Novel Estrogen Receptor Beta: ER- β Isoforms as Targets for Cancer Therapeutics and other ER- β related diseases

2004 Speaker, Endocrinology Ground Round Meeting, University of Massachusetts Medical School, Worcester MA

Title: Overexpression of cytochrome P450 1A1 in ovarian cancer

Professional Activities

Invited international scientific Ad hoc journal reviewer:

(<https://publons.com/author/1038691/ricky-yk-leung-phd#profile>)

2018-2019	Environmental Pollution
2018	International Journal of Biological Macromolecules
2018-2019	Molecular Medicine Reports
2018	Environmental Health Perspectives
2017-2019	Experimental Therapeutics and Medicine
2017	Biological Chemistry
2017	International Journal of Molecular Medicine
2017	Pharmaceutics
2017	BMC Medical Genetics
2016	Cell Death and Disease
2016-2018	Frontiers in Pharmacology-anticancer
2016	Current Nanoscience
2016-2017	Nutrients
2016	Current Pharmaceutical Design
2016	International Journal of Toxicology
2016-2018	Oncology Reports
2016-2017	Oncotarget
2015	Phytomedicine
2015,2017	International Journal of Oncology
2015	BMC Cancer
2015-2018	International Journal of Molecular Sciences
2015	The World Journal of Biological Psychiatry
2015-2017	Tumor Biology
2014	British Journal of Cancer
2014	FEBS Letter
2014	Journal of Urology
2014-2015	Theranostics
2013	Journal of Toxicology
2013	Recent Patents on Anti-Cancer Drug Discovery
2013,2015-2016	Journal of Food Science
2013,2016	Cancer Investigation
2013-2014	Journal of Steroid Biochemistry and Molecular Biology

2013-2014, 2019	Epigenetics
2013	Journal of Natural Product
2013,2015	Cancer Epidemiology, Biomarkers and Prevention
2012,2014	Reproductive Toxicology
2012	Cellular and Molecular Life Sciences
2012	Phytotherapy research
2012	Annals of Oncology
2012	Biochimica et Biophysica Acta – Molecular Cell Research
2012	Cell and Tissue Research
2012	Hormones Journal
2012,2014-2015	Journal of Environmental Health
2011-2014,2016-2017	PLOS one
2011,2013	Translational Oncology
2010,2013-2019	Molecular Carcinogenesis
2010-2012	Protein and peptide letters
2007-2015,2017-2019	Journal of Cellular Biochemistry
2007-2012	Cell and Molecular Biology Letter
2007	Clinical Cancer Research
2006,2012	Cancer Research
2006-2012	Neoplasia
2006-2012, 2017	Applied Microbiology and Biotechnology

Editorial Board member:

2018-present	Endocrine-Related Cancer
2017-present	Journal of Biochemistry and Molecular Medicine
2015-present	Tumor and Microenvironment
2015-present	Frontiers in Pharmacology
2015-present	Frontiers in Oncology

Ad hoc grant reviewer:

2017	University of Michigan EHS Core Center- Pilot review
2016	College of Medicine's Research Innovation Seed Grants
2016	The Mischell Family Prostate Cancer Pilot Grant Award
2016-2018	Cincinnati Cancer Center Pilot Grant Program
2016	Ohio Cancer Research, Scientific Review Committee
2016	The START programme of Austrian Science Fund
2016	Wayne State EHS Center Pilot Project
2015	Pilot Project Program, Center for Translational Environmental Health Research, Texas A&M Health Science Center
2015	Susan Komen Foundation, Postdoctoral Fellowship
2015	Cancer Research UK, Clinical Trials Awards
2014	National Institute of Health, Botanical Dietary Supplement Research Centers (BDSRC) (P50), mail-in reviewer.
2014	Education and Research Center, Pilot Research Project Training program, University of Cincinnati
2014-2018	Food and Health Bureau, The Government of the Hong Kong SAR

- 2013 National Institute of Health, National Cancer Institute, Special Emphasis Panel for NCI Omnibus R21 and R03
- 2013 University of Michigan EHS Core Center- Pilot review
- 2011, 2013 Center for Environmental Genetics, Pilot Grant Program, University of Cincinnati
- 2010 Education and Research Center, Pilot Research Project Training program, University of Cincinnati
- 2007-2012 The Research Grants Council (RGC) of Hong Kong

Proceedings of international conferences:

- 2017 110th American Association for Cancer Research Annual Meeting
Washington DC, USA
Poster Presentation:
Maternal high butterfat intake heightens mammary cancer risk in offsprings gestationally exposed to bisphenol A at an environmentally relevant dose.
- 2016 One Hundredth Annual Meeting of Endocrine Society
Boston MA, USA
Poster presentation:
Bisphenol A-specific genes as predictive markers for endometrial cancer prognosis
- 2015 NIEHS CLARITY-BPA grantee meeting
Research Triangle NC, USA
- 2015 Joint EHS Environmental Health Sciences Core Centers and Training Directors meeting
Tucson AZ, USA.
Oral presentation:
Differential methylation changes associated with exposure to environmental toxicants in cord blood DNA of Faroe Islanders
- 2014 Breast Cancer and the Environment Research Program annual meeting, National Institute of Environmental Health and Sciences/National Cancer Institute.
San Francisco CA, USA.
- 2014 PPTOXIV, Environmental Stressors in Disease and Implications for Human Health, Endocrine Society
Boston MA, USA.
Poster Presentation:
DNA methylation in umbilical cord blood as surrogate markers for prenatal exposure of HCB and PCB138
- 2014 Ninety-seventh Annual Meeting of Endocrine Society
Chicago IL, USA.
Poster Presentation:
 - 1) High-Fat Content in the Western Diet Ameliorated the Adverse Effect of Bisphenol-a during Embryo Implantation
 - 2) Estrogen Receptor beta5 Inhibits Bcl2L12 Function and Confers Better Breast Cancer Survival

- 3) In Utero Exposure to Non-Monotonic Dose of Bisphenol A and High Fat Diets: High Fat Butter; High Fat Olive Oil; High Fat Safflower Oil on Breast Cancer Risk
- 2014 NIEHS Environmental Health Sciences Core Centers meeting
Los Angeles CA, USA.
Poster Presentation:
Differential DNA methylation in umbilical cord blood of Infants prenatally exposed to mercury and polychlorinated biphenyls mixture in Faroe Island birth cohort
- 2013 Extended Environmental Exposures Annual Meeting, Breast Cancer and the Environment Research Program, National Institute of Environmental Health and Sciences/National Cancer Institute.
Wisconsin MI, USA
Oral Presentation:
High-fat effects on prenatal exposure to bisphenol A-associated breast cancer risk
- 2013 Breast Cancer and the Environment Research Program integration meeting, National Institute of Environmental Health and Sciences/National Cancer Institute.
NIEHS campus, Rockville MD, USA
- 2012 Breast Cancer and the Environment Research Program annual meeting, National Institute of Environmental Health and Sciences/National Cancer Institute.
San Francisco CA, USA.
Poster Presentation:
In utero exposure of low dose bisphenol A and high fat reprograms breast cancer susceptibility
- 2012 Ninety-fourth Annual Meeting of Endocrine Society
Houston TX, USA.
Poster Presentation:
In utero exposure to high-fat diet and bisphenol A reprograms breast cancer risk
- 2012 Bisphenol A Grantee Research Update and Coordination Meeting, Research Triangle Park, NC, USA.
Poster Presentation:
1) Susceptible Windows of High Fat Diet/Bisphenol A Programming of breast cancer risk
2) Bisphenol A effects on human sperm function.
- 2011 Breast Cancer and the Environment Research Program annual meeting, National Institute of Environmental Health and Sciences/National Cancer Institute.
Cincinnati OH, USA.
Oral Presentation:
Progress on in utero exposure high-fat diet/bisphenol A in breast cancer risk
- 2011 Hormone action in development and cancer, Gordon Research Conference
Smithfield RI, USA.
Poster Presentation:
Fulvestrant-induced Estrogen Receptor-Regulated MicroRNA in Prostate Cancer Cells

- 2011 Breast Cancer and the Environment Research Program integration meeting, National Institute of Environmental Health and Sciences/National Cancer Institute. Bethesda MD, USA.
Oral Presentation: Susceptible Window of High Fat Diet/Bisphenol A Programming of Breast Cancer Risk
- 2011 Estrogen Receptor beta Symposium, KaroBio Stockholm, Sweden.
- 2010 Breast Cancer Environmental Research Program Kick-off meeting, National Institute of Environmental Health and Sciences. New York City, NY, USA.
- 2010 Frontiers in Cancer Prevention, AACR Philadelphia PA, USA.
- 2010 Ninety-second Annual Meeting of Endocrine Society San Diego CA, USA.
Poster Presentation:
1) Post-transcriptional regulation of estrogen receptor beta isoforms in prostate cancer.
2) Regulation of ER β 1 transcriptional activity by acetylation.
3) Phosphorylation of human Estrogen Receptor-beta at serine 105 inhibits cell migration and invasion in prostate and breast cancers.
- 2009 Jensen Symposium on Nuclear Receptors Cincinnati OH, USA
Poster Presentation:
1) Estrogen receptor beta isoforms predict poor prognosis and promote metastasis in prostate cancer.
2) Phosphorylation of estrogen receptor beta at serine 105 inhibits cancer cells migration.
3) Apoptotic role of ER β 5 in breast cancer through the interaction with BCL2L12.
- 2009 Ninety-first Annual Meeting of Endocrine Society Washington DC, USA.
Poster Presentation title: Estrogen receptor beta isoforms predict poor prognosis in prostate cancer.
- 2007 4th Annual Early Environmental Exposures Conference organized by Breast Cancer and the Environment Research Centers Cincinnati OH, USA.
- 2007 NIEHS meeting: Future Research on Endocrine Disruption: Translation of Basic and Animal Research to Understand Human Disease. Durham NC, USA.
- 2007 Eighty-ninth Annual Meeting of Endocrine Society Toronto, Canada.
Poster presentation title:

Molecular functions of estrogen receptor beta isoforms in estrogen signaling

- 2006 Cold Spring Harbor Laboratory Meeting: Nuclear Receptors: Bench to Bedside
Cold spring harbor NY, USA.
Oral presentation title: The role of estrogen receptor (ER) β isoforms in estrogen signaling
Poster presentation title: Characterization of testis-specific estrogen receptor β isoforms
- 2006 Eighty-eighth Annual Meeting of Endocrine Society
Boston MA, USA.
Poster Presentation titles:
Estrogen receptor (ER) β isoforms: A key to understanding ER- β signaling
- 2006 Third Annual Ohio Mass Spectrometry Symposium
Columbus OH, USA.
- 2005 Ninety-sixth Annual Meeting of American Association of Cancer Research
Anaheim CA, USA.
Poster Presentation titles:
Transcriptional regulation of novel and known estrogen receptor- β isoforms during prostate carcinogenesis
- 2005 Keystone Symposia: Hormonal Regulation of Tumorigenesis,
Monterey CA, USA.
- 2004 Ninety-fifth Annual Meeting of American Association of Cancer Research,
Orlando FL, USA.
Poster Presentation titles:
a) Overexpression of a novel "cryptic intron" spliced variant of *Cytochrome P450 1A1* in ovarian cancer
b) Dynamic regulation of estrogen receptor- β expression by DNA methylation during prostate cancer development and metastasis
- 2003 Jensen Symposium: Nuclear Receptors and Endocrine Disorders
Cincinnati OH, USA.
- 2003 Gordon Conference: Hormonal Carcinogenesis
Meriden NH, USA.
Poster Presentation title:
Overexpression of *Cytochrome P450 1A1* in ovarian cancer
- 2002 Ninth Prouts Neck Meeting on Prostate Cancer
Prouts Neck ME, USA.
Poster Presentation title:
Discovery of novel putative estrogen receptor-regulated genes by gene profiling of ICI 182,780-treated DU145 prostate cancer cells
- 2001 Fifteen Symposium of the Protein Society
Philadelphia PA, USA.

Poster Presentation titles:

- a) Sequence analysis of full-length cDNA encoding ferrochelatase in Chironomid larvae, *Chironomus spp*
- b) Induced expression of UDP-glucuronosyltransferase 1A8 in rat liver cells by aqueous licorice root extract

2000 American Society for Biochemistry and Molecular Biology, American Society for Pharmacology and Experimental Therapeutics Joint Meeting with French Pharmacological Society Pharmacological Society of Canada Satellite Meetings
Boston MA, USA.

Poster Presentation titles:

- a) Effects of licorice on the expression of UGT1A isozymes in rat hepatoma cell line
- b) Effects of Vitamins and Common Drugs on Transformation of 4-(Methylnitrosamino) -1-(3-pyridyl) -1-butanone in rat microsomes

1999 Thirteenth Symposium of the Protein Society
Boston MA, USA.

Poster Presentation titles:

- a) Isolation and characterization of ferrochelatase from *Chironomus spp*
- b) *In vitro* study of metabolic activation of tobacco-specific N-nitrosamines in rat microsomes

1999 Society of Chinese Bioscientists in America International meeting
Wan Chai, Hong Kong, China.

Poster Presentation title:

Effects of aqueous licorice extract on the expression of UGT isozymes in rat liver.

1997 Seventeenth International Congress of Biochemistry and Molecular Biology
San Francisco CA, USA.

Poster Presentation title:

Isolation of ferrochelatase in Chironomid larvae

Certified Training completed:

2006 Thermo LTQ ObiTrap Biotech Operation Course, Cincinnati, OH.

College of Medicine

Curriculum Vitae

PERSONAL INFORMATION

Name: Fenghuang Zhan

Citizenship: USA

Website: <https://medicine.uiowa.edu/mcb/faculty/00808234>

EDUCATION

<u>Years</u>	<u>Degree</u>	<u>Institution (Area of Study)</u>
1984 - 1990	M.D./D.D.S	Hunan Medical University (Medicine) Changsha, P.R., China (84 ~87) West China Medical University (Dental) Chengdu, P.R., China (87 ~ 90)
1990 - 1993	Resident	Xiangya Hospital, Hunan Medical University (Oral Maxillofacial Surgery) Changsha, China
1993 - 1996	M.S.	Xiangya hospital, Hunan Medical University (Oral Maxillofacial Surgery and Oral Pathology) Changsha, China
1996 - 1999	Ph.D.	Hunan Medical University (Cancer Molecular Genetics) Changsha, China
Post-Graduate Training		
1999	Post-doc	University of Louisville (Neuroscience) Louisville, KY
2000 - 2002	Post-doc	University of Arkansas for Medical Science (Myeloma molecular genetics) Little Rock, AR

CONTACT INFORMATION

Office Address: Department of Internal Medicine, Division of Hematology/Oncology/BMT,
Carver College of Medicine, University of Iowa,
285 Newton Road, CBRB3269A, Iowa City, IA52242

Office Phone: 319-3840066

E-mail: fenghuang-zhan@uiowa.edu

PROFESSIONAL APPOINTMENT

Position/Rank: Professor of Medicine, Tenure

Institution/Department: University of Iowa/ Internal Medicine (Hematology/BMT)

Dates: 10/18/2012 to present

Second appointment: Adjunct Professor
Institution/Department: University of Iowa/ College of Dentistry and Dental Clinics
Dates: 10/1/2016 to present

ACADEMIC APPOINTMENTS

Position/Rank: Professor of Medicine, Tenure
Institution/Department: University of Iowa/ Internal Medicine (Hematology/BMT)
Dates: 10/18/2012 to present

Position/Rank: Associate Professor of Medicine, Tenure Track
Institution/Department: University of Utah/ Internal Medicine/Hematology
Dates: 7/1/2008-10/17/2012

Position/Rank: Assistant Professor of Medicine, Tenure Track
Institution/Department: University of Arkansas for Medical Sciences/ MIRT
Dates: 7/1/2002-6/30/2008

PROFESSIONAL SERVICES

Grant Reviewer

Health Research Board Ireland
Multiple Myeloma Research Foundation
National Cancer Institute for R01 and R21
The Kay Kendall leukemia Fund(UK KCLF Foundation)
Flemish League Against Cancer(Brussel)

Journal Reviewer

Science
Cancer Cell
Journal of Clinical Investigation
Blood
Cancer Research
Journal of Clinical Oncology
Haematologica
DNA and Cell Biology
Human Pathology
Journal of Cancer Research and Clinical Oncology

Editorial Boards

Journal: International Blood Research & Reviews, Academic Editor
Journal: American Journal of Blood Research, Editor
Journal: Journal of Blood & Lymph, Executive Editor
Journal: BioMed Research International, Lead Guest editor

Advisory Service

Tolero Pharmaceuticals, INC.: Consulting and Scientific Advisory Board Member

SCHOLASTIC HONORS

2011 - Present Guest Professor, Tongji University, Shanghai, China

1997	The third prize of Jiu Yuan Scholarship of Tai Jia Zhan Foundation. Certificate #39800078
1999	Studentship of Hunan Province Education Institution for being one of the best Ph.D. students graduated in 1999. ID#000224
2008 - 2011	Senior Research Award, Multiple Myeloma Research Foundation
2010 - 2012	Senior Research Award, Multiple Myeloma Research Foundation
2010 - 2014	Translational Research Program, Leukemia & Lymphoma Society
2011 - 2015	Translational Research Program, Leukemia & Lymphoma Society
2015 - 2018	Senior Research Award, Multiple Myeloma Research Foundation
2017 - 2021	Translational Research Program, Leukemia & Lymphoma Society

ADMINISTRATIVE EXPERIENCE

Symposium/Meeting Chair/Coordinator

2006	ASH meeting, Co-Chairman, American Society of Hematology, Myeloma Genetic Section at 48 th ASH; Orlando FL
2008	ASH meeting, Co-Chairman, American Society of Hematology, Myeloma Genetic Section at 50 th ASH; New Orleans LA
2010	Korean Myeloma Meeting, Chair: Korean Multiple Myeloma Working Party, The translational Research in Multiple Myeloma, Chonnam National University Hwasun Hospital, Hwasun, Jeollanamdo, Korea.
2010	ASH meeting, Chairman, American Society of Hematology, Myeloma Genetic Section at 52 th ASH; Orlando FL
2012	ASH meeting, Chairman, American Society of Hematology, Myeloma Genetic Section at 54 th ASH; Atlanta, GA
2013	Co-Chairman, and invited guest speaker of the 1st Union Summit Forum on Lymphoid Malignancies, Chinese Academy of Medical Sciences and Peking Union Medical College, Tianjin, China
2014	Invited Speaker, The World Chinese Scientists Peak Forum, Shanghai, Tong-Ji University, China
2015	Invited Speaker, The Fourth Conference on Hematological Malignancies of China, Chinese anti-cancer Association, Wu Han, China
2017	Co-Chairman, and invited guest speaker of the 3rd Union Summit Forum on Lymphoid Malignancies, Chinese Academy of Medical Sciences and Peking Union Medical College, Tianjin, China

INVITED SEMINARS AND LECTURES

- December 9-12, 2012, American Society of Hematology (ASH), Atlanta.
- November 2, 2012, Leukemia Lymphoma Society TRP Progress Review, New York.
- November 1, 2012, Xianya Hospital, Central South University, Changsha, China
- March 1st, 2013, Department of Radiation Oncology, University of Iowa.
- June 5, 2013, the Department of Physiology and Pathology, Shanghai Jiaotong University, Shanghai, China.
- June 8, 2013, the College of Xiangya Stomatology, Central South University, Changsha, China.
- October 20, 2014, the Chinese Blood Association, Wuhan, China.

- October 21, 2013, Institute of Hematology and Blood Disease Hospital, Chinese Academy of Medical Sciences. Tianjin, China.
- October 24, 2013, the 3rd Xiangya Hospital, Central South University, Changsha, China.
- December 7-10, 2013, American Society of Hematology (ASH), New Orleans.
- Feb 26, 2014, Department of Microbiology and Immunology, University of Iowa.
- May 4, 2014, Leukemia Lymphoma Society TRP Progress Review, Washington
- December 6-9, 2014, American Society of Hematology (ASH), San Francisco.
- April 9, 2015, Department of Pharmacology, University of Iowa.
- April 22, 2015, Pharmacyclics, Inc, Sunnyvale, California
- May 8, 2015, Holden Comprehensive Cancer Center, University of Iowa.
- August 20, 2015, the Tenth Shanghai Hospital, Tiongji University, Shanghai, China.
- August 24, 2015, the College of Xiangya Stomatology, Central South University, Changsha, China.
- December 5-8, 2015, American Society of Hematology (ASH), Orlando.
- June 1st, 2016, Retreat, Holden Comprehensive Cancer Center, University of Iowa.
- July 24, 2016, the Guangzhou University of Chinese Medicine, Guangzhou, China.
- November 12, 2016, College of Dentistry & Dental Clinics, University of Iowa.
- December 3-6, 2016, American Society of Hematology (ASH), San Diego.
- March 28, 2017, College of Pharmacy, university of Iowa.
- June 30, 2017, the Society of Chinese Bioscientists in America, Hangzhou, China.
- December 8-12, 2017, American Society of Hematology (ASH), Atlanta

UNIVERSITY COMMUNITY ACTIVITIES

Programs, Centers & Institutes

2012 – Present Active Member, Holden Comprehensive Cancer Center
 2013 University of Iowa, Faculty Senate Candidate

CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Society of Hematology
 American Association of Cancer Research

FUNDING

Active Grants

- | | |
|--|--|
| 1. Leukemia &
Lymphoma Society
(LLS) | 10/1/17 – 9/30/20 (Zhan)
Clinical investigation of CD38+/Light chain+/CD24+ as putative
myeloma myeloma stem cell markers.
<u>Role: Principal Investigator</u> |
| 2. Cancer Center
U of Iowa | 3/1/19 – 2/28/20 (Zhan) Oberley Seed Grant
Combinational Therapy to Target Tumor-Initiating Cells and Bulk-
Tumor Cells in Multiple Myeloma
<u>Role: Principal Investigator</u> |
| 3. NIH/NCI
2R01CA151354-01 | 01/01/2017 – 12/31/2021(Janz)
Biological validation of candidate myeloma genes |

This project relies on unbiased genetic forward screening in transgenic mice to elucidate genetic pathways of malignant plasma-cell transformation.

Role: Co-Investigator

4. NIH/NCI
R21 CA187388-01

07/18/2016 – 06/30/2019 (Janz)

Validation of FOXM1 as a new therapeutic target in high-risk MM. The main goal of this project is to improve the outcome of a subset of patients with high-risk myeloma by virtue of inhibiting the transcription factor FOXM1.

Role: Co-Investigator

5. University of Iowa
Carver School of
Medicine
Institutional start-up
funding

10/18/12- Anytime (Zhan)

Goal: Define the unique multiple myeloma stem cell (MMSC) signature which unfortunately is still unresolved. While the markers for different CSC types differ from one another, there is congruence in their functional properties including ability for self-renewal, tumorigenesis, and drug-resistance. Thus, these stem-ness characteristics are the basis for trying to functionally identify the definitive MMSC and other CSC signatures.

Role: Principal Investigator

6. University of Iowa
Holden Comprehensive
Cancer Center Grant

07/01/17 – 12/30/19 (Zhan)

Ascorbic acid selectively kills myeloma cells

Role: Principal Investigator

7. Myeloma Crowd
Research Initiative Award

11/1/18 - (Zhan)

Target myeloma stem cells to eliminate cancer relapse.

Role: Principal Investigator

8. UIHC-CCOM Research
Investment Pilot Grants

1/1/17-12/30/19 (Zhan)

Implication of Cellular Iron Regulation As a
Therapeutic Strategy for Multiple Myeloma

Role: Principal Investigator

Pending Grants

1. Department of Defense
PRCRP Translational
Team Science Award

1/1/20-12/31/2024 (Leading PI: Zhan)

CD24 Tumor-Initiating Cell as a Novel Therapeutic Target in
Myeloma

**Recommended for
funding as an alternate**

2. NIH/NCI
R01 (Resubmission)

NEK2 signaling pathways in myeloma progression

- | | |
|--|--|
| 3. NIH/NCI
R01 (New submission) | Targeting NEK2 Enables Immune Checkpoint Blockade in High-Risk/Relapsed Myeloma |
| 4. LLS Translational
Research Program | NEK2, a Drug-Resistant Gene in Multiple Myeloma, Modulates Immune Response in Tumor Pathogenesis |
| 5. LLS-WM | Targeted Therapy Using a New Humanized Mouse Model for Waldenstrom's Macroglobulinemia |

Past Grants

- | | |
|------------------------|--|
| 01/01/97 -
01/01/98 | <p>Hunan Provincial Natural Science Funds, China (Zhan)</p> <p>Candidate tumor suppress genes in Nasopharyngeal carcinoma
Grant#98B-5086</p> <p>Direct Costs: Chinese Yuan 20,000 Total Costs: Chinese Yuan 20,000</p> <p>Role: <u>Principal Investigator</u></p> <p><u>Goal:</u> Find out the tumor suppress genes which lost function in Nasopharyngeal carcinoma</p> |
| 01/01/98 -
01/01/01 | <p>National Natural Science Funds of China (Zhan)</p> <p>Further study molecular cloning of differential expression genes in human Nasopharyngeal carcinoma.
Grant# 39800078</p> <p>Direct Costs: Chinese Yuan 110,000 Total Costs: Chinese Yuan 110,000</p> <p>Role: <u>Principal Investigator</u></p> <p><u>Goal:</u> Discover gene expression difference in human Nasopharyngeal carcinoma compared with normal tissue.</p> |
| 07/01/02 -
06/30/05 | <p>NIH National Cancer Institute (NCI) (Shaughnessy)</p> <p>R33 CA97513-01</p> <p>Molecular Diagnosis and Prognosis of Multiple Myeloma</p> <p>Direct Costs: \$300,000 Total Costs: \$450,000</p> <p>Role: <u>Co-Investigator</u></p> <p><u>Goal:</u> Establish new molecular-based diagnostic and prognostic models of the plasma cell dyscrasia MGUS and MM.</p> |
| 04/01/00 –
06/30/08 | <p>NIH National Cancer Institute (NCI) (Barlogie)</p> <p>5P01-CA55819</p> <p>Growth Control in Multiple Myeloma</p> <p>Direct Costs: \$9,829,588 Total Costs: \$14,744,382</p> <p>Role: <u>Co-investigator on Projects 2&4 and Co-leader core C</u></p> <p><u>Goal:</u> Project 2, explore whether the grave prognosis associated with cytogenetic abnormalities or gene array findings reflects different levels of subclinical tumor mass reduction versus lack of normalization of the microenvironment, thus providing a rational basis for type, intensity, and duration of therapies.</p> |

Project 4 addresses whether gene expression profile examined serially after definitive high-dose chemotherapy may reveal a resistance signature in tumors destined to relapse, offering new targets for treatment and better prediction of outcome.

- 07/01/08 -
06/30/09 Multiple Myeloma Research Foundation (Zhan/Xiong)
Explore microRNA's function role in Multiple Myeloma
MMRF Fellowship
Direct Costs: \$68,182 Total Costs: \$75,000
Role: Mentor
Goal: Explore microRNA's function role in Multiple Myeloma.
- 07/01/08 -
06/30/11 Multiple Myeloma Research Foundation (Zhan)
Identification of CKS1B-mediated signaling pathways in myeloma:
Therapeutic implication
Direct Costs: \$180,909 Total Costs: \$200,000
Role: Principal Investigator
Goal: Find a way to target CKS1B to treat high-risk myeloma patients.
- 09/01/11-
08/30/12 Huntsman Cancer Institute Mini-Grant Funding (Zhan)
Targeting Btk to eliminate myeloma stem cells and prevent
osteoclastogenesis
Direct Costs: \$50,000 Total Costs: \$50,000
Role: Principal Investigator
Goal: Find a way to target myeloma stem cells.
- 07/01/07-
06/30/13 National Cancer Institute (Tricot)
R01CA115399
Gene Expression Profiling vs MRD Assessment in Myeloma
National Institutes of Health
Direct Costs: \$1,250,000 Total Costs: \$1,868,750
Role: Co- Investigator (25%)
- 07/01/10 -
06/30/13 National Cancer Institute (Zhan)
R21CA143887
Retinoid Based Treatment Approaches to Target the Myeloma Stem Cell
Direct Costs: \$261,000 Total Costs: \$392,806
Role: Principal Investigator
Goal: Determine if RAR α 2 maintains the "stemness" and drug-resistance of MM stem cells by activating the Wnt/ β -catenin pathway; and ATRA and other retinoids work through interference with Wnt signaling, which leads to loss of "stemness".
- 08/01/10 -
07/30/13 Multiple Myeloma Research Foundation (Zhan)
Novel treatment approaches to target the RAR α 2 positive myeloma cells.
Direct Costs: \$180,909 Total Costs: \$200,000

Role: Principal Investigator

Goal: Increase our understanding of the crucial role of RAR α 2 in myeloma development/ progression and provide a comprehensive preclinical evaluation of the potential and efficacy of treatment which target RAR α 2-positive myeloma disease. Identification of novel signaling pathways related to RAR α 2 may present novel approaches, other than using ATRA itself, in the therapy of patients with RAR α 2-positive myeloma, which does not benefit from current therapeutic strategies

10/01/10 -
09/30/14

Leukemia Lymphoma Society (Zhan)

Targeting NEK2 in MM to Overcome Drug-resistance.

Direct Costs: \$540,000 Total Costs: \$600,000

Role: Principal Investigator

Goal: It is our hope that current incurable aggressive diseases- because of the existence of drug-resistant cancer cells- will see a high fraction of cures by being able to eradicate the drug-resistant cancer cells by targeting NEK2.

10/01/11 –
09/30/15

Leukemia Lymphoma Society LLS (Zhan)

Targeting CKS1B-SCF complex in aggressive myeloma

Direct Costs: \$540,000 Total Costs: \$600,000

Role: Principal Investigator

Goal: Drug resistance is a universal problem with current myeloma therapies, but very little is known about the molecular mechanisms. Over-expression of CKS1B-SCF complex promotes myeloma cell drug-resistance and associates with disease poor prognosis. We propose to test CKS1B functional roles in tumor initiation and progression and determine if inhibition of CKS1B-SCF signaling pathway can overcome drug resistance in myeloma. The goal of this proposed experiments is to test and exam the efficacy of CKS1B inhibitor MLN4924 or CKS1B-siRNA in both cell culture and in vivo models of MM.

9/1/14-
12/31/15

Sigma-Tau (Zhan)

Explore whether heparanase inhibitors can deplete the myeloma stem cell fraction.

Direct Costs: \$49,000 Total Costs: \$68,890

Role: Principal Investigator

Goal: Target heparanase to block MMSC (CD138- fraction) engraftment and lead to eliminate MMSCs.

7/01/10-
6/30/16

National Cancer Institute (Zhan)

R01CA152105

NEK2 overexpression causes drug resistance in myeloma

Direct Costs: \$1,250,000 Total Costs: \$1,875,000

Role: Principal Investigator

The main goal of this project is to elucidate the mechanism by which NEK2 causes treatment-refractory, drug-resistant myeloma.

- 3/01/16–12/31/17 American Society of Hematology (Janz)
The main goal of this project is to support the resubmission of a grant application to the NCI entitled “Biological validation of candidate myeloma driver genes”
Direct Costs: \$150,000 Total Costs: \$150,000
Role: Co- Investigator
- 1/1/16-12/31/17 International Myeloma Foundation (IMF) (Zhan)
Nek2 signaling in myeloma osteolytic disease
Direct Costs: \$72,000 Total Costs: \$80,000
Role: Principal Investigator.
Goal: The long-term objective of this work is to determine the functional role of NEK2 in mediating bone disease in MM and to apply this knowledge to develop novel therapies
- 3/1/16-12/30/17 American Society of Hematology (ASH Bridge Fund) (Zhan)
NEK2 over expression causes drug resistance in mieloma.
Direct Costs: \$150,000 Total Costs: \$150,000
Role: Principal Investigator.
Goal: The long-term objective of this work is to determine the functional role of NEK2 in maintain MDR.
- 2/25/16 – 2/24/18 Pharmacyclics LLC, Sunnyvale, CA (Zhan)
Investigator-initiated research project
BTK is a therapeutic target in MMSC
Direct Costs: \$90,000 Total Costs: \$100,000
Role: Principal Investigator
The main goal of the project is to evaluate the efficacy with which small-drug inhibitors of BTK inhibit the putative multiple myeloma stem cells.
- 10/1/15 – 9/30/18 Multiple Myeloma Research Foundation (Zhan)
Senior Research Award
NEK2 plays a critical role in myeloma minimal residual disease.
Role: Principal Investigator

TEACHING RESPONSIBILITIES/ASSIGNMENTS

Course Lectures

- 1990 - 1993 Instructor, Oral Radiology and Oral Maxillofacial Surgery, Hunan Medical University, Changsha, P.R. China. Undergraduate Students.
- 2006 - 2008 Assistant Professor, Molecular Pathology, University of Arkansas for Medical Sciences, Little Rock, Arkansas. Graduate Students

Laboratory Teaching

2008 - 2017	Lab Specialist: Hongwei Xu
2008 - 2009	Joint PhD candidate: Lei Shi
2009 - 2011	Joint PhD candidate: Fang Xiao
2009 - 2010	Research Associate: Siyuan Tang
2009 - 2010	Undergraduate: Benjamin Mughal
2010 - 2013	Joint PhD candidate: He Wang
2010 - 2013	Joint PhD candidate: Jiliang Xia
2010 - 2011	Research Associate: Ming Zeng
2013 - 2013	PhD candidate: David M Kusner
2013 - 2013	PhD candidate: Kaylia Duncan
2013 - 2014	PhD candidate: Junwei Huang
2013 - present	PhD candidate: Reinaldo Franqui Machin

Trainee Supervision

Fellow

2002 - 2004	Madhumita Santra, Post-Doctoral Fellow.
2004 - 2006	Simona Colla, Post-Doctoral Fellow.
2004 - 2008	Peter Stewart, Post-Doctoral Fellow.
2005 - 2009	Wei Xiong, Post-Doctoral Fellow.
2008 - 2009	Zhaoyang Zhen, Post-Doctoral Fellow
2009 - 2010	Chunjiao Xu, Post-Doctoral fellow
2008 - 2016	Ye Yang, Post-Doctoral Fellow
2010 - 2013	Wen Zhou, Post-Doctoral Fellow
2011 - 2013	Yi Zhou, Post-Doctoral Fellow
2013 - 2015	Erik Wendlandt, Post-Doctoral Fellow
2013 - 2016	Zhimin Gu, Post-Doctoral Fellow
2013 - 2014	Yi Tao, Post-Doctoral Fellow
2013 - 2017	Mu Hao, Post-Doctoral Fellow
2014 - 2017	Gregory S. Thomas, Post-Doctoral Fellow
2014 - 2017	Fei Li, Post-Doctoral Fellow
2017 - 2018	Hua Bai, Research Assistant
2017 - present	Can Li, Research Assistant
2017 - present	Xuelian Tan, Research Assistant
2016 - present	Kalyan Nadiminti, Clinical Hematological Fellow
2016 – Present	Ivana Frech, Senior Research Scientis

PEER-REVIEWED JOURNAL ARTICLES (see the link following)

<https://www.ncbi.nlm.nih.gov/pubmed/?term=zhan+f+and+myeloma>

1. Guo A, Wang Y, Chen B, Wang Y, Yuan J, Zhang L, Hall D, Wu J, Shi Y, Zhu Q, Chen C, Thiel WH, Zhan X, Weiss RM, **Zhan F**, Musselman CA, Pufall M, Zhu W, Au KF, Hong J, Anderson ME, Grueter CE, Song LS. The E-C coupling structure protein junctophilin-2 encodes a stress-adaptive transcription regulator. *Science*, 2018 Dec 21; 362 (6421).
2. Umesalma Shaikamjad¹, Courtney A. Kaemmer¹, Blake Letney¹, Jordan L. Kohlmeyer², Angela M. Schab¹, Jacqueline A. Reilly¹, Ryan M. Sheehy^{1,3}, Jussara Hagen¹, Nitija Tiwari¹, **Fenghuang Zhan⁴**, Thomas M. O'Dorisio⁴, Ron Merrill¹, Abbey Perl⁵, James R.

Howe⁶, Stefan Strack¹, Andrew M. Bellizzi⁷, Goutham Narla⁵, Benjamin W. Darbro⁸, Frederick W. Quelle^{1,4}, and Dawn E. Quelle. A RABL6A-PP2A-AKT pathway drives pancreatic neuroendocrine tumor growth. *J Clin Invest*, *in press*.

3. Franqui-Machin R, Hao M, Bai H, Gu Z, Zhan X, Habelhah H, Jethava Y, Qiu L, Frech I, Tricot G*, **Zhan F***. Destabilizing NEK2 Overcomes Resistance to Proteasome Inhibition in Multiple Myeloma. *J Clin Invest*. 2018 Jun 4. pii: 98765. doi: 10.1172/JCI98765.
4. Hao M, Barlogie B, Tricot G, Liu L, Qiu L, Shaughnessy JD*, **Zhan F***. Gene Expression Profiling Reveals Aberrant T-cell Marker Expression on Yumor Cells of Waldenstrom's Macroglobulinemia. *Clin Cancer Res*. Oct 2. pii: clincanres.1435.2018. doi: 10.1158/1078-0432.CCR-18-1435.
5. Gu C, Holman C, Sompallae R, Jing X, Tomasson M, Hose D, Seckinger A, **Zhan F**, Tricot G, Goldschmidt H, Yang Y, Janz S. Upregulation of FOXM1 in a subset of relapsed myeloma results in poor outcome. *Blood Cancer J*. 2018 Feb 15;8(2):22.
6. Zhan X, Yu W, Franqui-Machin R, Bates ML, Nadiminti K, Cao H, Amendt BA, Jethava Y, Frech I, **Zhan F***, Tricot G*. Alteration of mitochondrial biogenesis promotes disease progression in multiple myeloma. *Oncotarget*. 2017 Nov 27;8(67):111213-111224.
7. Cheng Q, Li X, Wang Y, Dong M, **Zhan FH**, Liu J. The ceramide pathway is involved in the survival, apoptosis and exosome functions of human multiple myeloma cells in vitro. *Acta Pharmacol Sin*. 2017 Aug 31.
8. Hao M, Franqui-Machin R, Xu H, Shaughnessy J Jr, Barlogie B, Roodman D, Quelle DE, Janz S, Tomasson MH, Sanderson RD, Qiu L, Frech I, Tricot G, **Zhan F***. Bone destruction in multiple myeloma is mediated by NEK2. *Leukemia*, 2017 Apr 25.
9. Xia J; Xu H; Zhang X; Allamargot C; Coleman KL; Nessler R; Frech I; Tricot G and **Zhan F***. Multiple myeloma tumor cells are selectively killed by pharmacologically-dosed ascorbic acid . *eBioMedicine*, 2017, Apr; 18:41-49.
10. Gu Z; Xia j; Xu H; Frech I; Tricot G; **Zhan F***. NEK2 promotes aerobic glycolysis in multiple myeloma through regulating splicing of pyruvate kinase. *Journal of Hematology & Oncology*. 2017 Jan; 10(1):17.
11. Tao Y, Yang G, Yang H, Song D, Hu L, Xie B, Wang H, Gao L, Gao M, Xu H, Xu Z, Wu X, Zhang Y, Zhu W, **Zhan F***, Shi J*. TRIP13 impairs mitotic checkpoint surveillance and is associated with poor prognosis in multiple myeloma. *Oncotarget*. 2017 Apr 18;8(16):26718-26731.

12. Nadiminti K, Singh Abbi KK, Mott SL, Dozeman L, Tricot A, Schultz A, Behrends S, **Zhan F**, Tricot G. VTD-melphalan is well tolerated and results in very high rates of stringent CR and MRD-negative status in multiple myeloma. *Onco Targets Ther.* 2017 Jan 6;10:217-226.
13. Schibler J, Tomanek-Chalkley AM, Reedy JL, **Zhan F**, Spitz DR, Schultz MK, Goel A. Mitochondrial-Targeted Decyl-Triphenylphosphonium Enhances 2-Deoxy-D-Glucose Mediated Oxidative Stress and Clonogenic Killing of Multiple Myeloma Cells. *PLoS One.* 2016 Nov 30;11(11):e0167323.
14. Hao M, Zang M, Zhao L, Deng S, Xu Y, Qi F, An G, Qin Y, Sui W, Li F, Yang W, Li Z, Yi S, Zou D, **Zhan F**, Qiu L. Serum high expression of miR-214 and miR-135b as novel predictor for myeloma bone disease development and prognosis. *Oncotarget.* 2016 Apr 12;7(15):19589-600
15. Gao M, Kong Y, Wang H, Xie B, Yang G, Gao L, Zhang Y, **Zhan F**, Dai B, Tao Y, Shi J. Thalidomide treatment for patients with previously untreated multiple myeloma: a meta-analysis of randomized controlled trials. *Tumour Biol.* 2016 Aug;37(8):11081-98
16. Gu C, Yang Y, Sompallae R, Xu H, Tompkins VS, Holman C, Hose D, Goldschmidt H, Tricot G, **Zhan F***, Janz S*. FOXM1 is a therapeutic target for high-risk multiple myeloma. *Leukemia.* 2016 Apr ;30 (4) 873-82.
17. Tompkins VS, Rosean TR, Holman CJ, DeHoedt C, Olivier AK, Duncan KM, Jing X, Foor SD, Acevedo MR, Walsh SA, Tricot G, **Zhan F**, Janz S. Adoptive B-cell transfer mouse model of human myeloma. *Leukemia.* 2016 Apr;30(4):962-6.
18. Huang J, Zhou Y, Thomas GS, Gu Z, Yang Y, Xu H, Tricot G, **Zhan F ***. NEDD8 Inhibition Overcomes CKS1B-Induced Drug Resistance by Upregulation of p21 in Multiple Myeloma. *Clin Cancer Res.* 2015 Dec 15;21(24):5532-42.
19. Ramani VC, **Zhan F**, He J, Barbieri P, Noseda A, Tricot G, Sanderson RD. Targeting heparanase overcomes chemoresistance and diminishes relapse in myeloma. *Oncotarget.* 2016 Jan 12;7(2):1598-607.
20. Gao M, Yang G, Han Y, Kong Y, Wu H, Tao Y, **Zhan F**, Shi J, Wu X. Single-agent bortezomib or bortezomib-based regimens as consolidation therapy after autologous hematopoietic stem cell transplantation in multiple myeloma: a meta-analysis of randomized controlled trials. *Int J Clin Exp Med.* 2015 Aug 15;8(8):12202-10

21. Kelly KR, Espitia CM, Zhao W, Wendlandt E, Tricot G, **Zhan F**, Carew JS, Nawrocki ST. Junctional adhesion molecule-A is overexpressed in advanced multiple myeloma and determines response to oncolytic reovirus. *Oncotarget*. 2015 Dec 1;6(38):41275-89.
22. Li F, Hu L, Xu Y, Li Z, Yi S, Gu Z, Li C, Hao M, Ru K, **Zhan F**, Zetterberg A, Yuan W, Cheng T, Qiu L. Identification of characteristic and prognostic values of chromosome 1p abnormality by multi-gene fluorescence in situ hybridization in multiple myeloma. *Leukemia*. 2015 Sep 16. doi: 10.1038.
23. Franqui-Machin R, Wendlandt EB, Janz S, **Zhan F***, Tricot G*. Cancer stem cells are the cause of drug resistance in multiple myeloma: fact or fiction? *Oncotarget*. 2015 Dec 1;6(38):40496-506.
24. Trotter TN, Li M, Pan Q, Peker D, Rowan PD, Li J, **Zhan F**, Suva LJ, Javed A, Yang Y. Myeloma cell-derived Runx2 promotes myeloma progression in bone. *Blood*. 2015; 125(23):3598-608.
25. Li F, Hao M, Feng X, Zang M, Qin Y, Yi S, Li Z, Xu Y, Zhou L, Sui W, Deng S, Zou D, **Zhan F**, Qiu L. Downregulated miR-33b is a novel predictor associated with disease progression and poor prognosis in multiple myeloma. *Leuk Res*. 2015 Jul;39(7):793-9.
26. Gu Z, Wang H, Xia J, Yang Y, Jin Z, Xu H, Shi J, Domenico I, Tricot G and **Zhan F***. Decreased Ferroportin promotes myeloma cell growth and osteoclast differentiation. *Cancer Res*. 2015; 75(11):2211-21.
27. Yang G, Gao M, Zhang Y, Kong Y, Gao L, Tao Y, Han Y, Wu H, Meng X, Xu H, **Zhan F**, Wu X, Shi J. Carfilzomib enhances natural killer cell-mediated lysis of myeloma linked with decreasing expression of HLA class I. *Oncotarget*. 2015 Sep 29;6(29):26982-94
28. Han SS, Tompkins VS, Son DJ, Han S, Yun H, Kamberos NL, Dehoedt CL, Gu C, Holman C, Tricot G, **Zhan F**, Janz S. CDKN1A and FANCD2 are potential oncotargets in Burkitt lymphoma and multiple myeloma. *Exp Hematol Oncol*. 2015;4:9. PMC4383050.
29. Yang Y, Shi J, Gu Z, Wendlandt E, Xu H, Das S, Tao Y, Huang J, Janz S, Levasseur D, Tricot G, **Zhan F***. Bruton Tyrosine Kinase is a therapeutic target in stem-like cells from multiple myeloma. *Cancer Res*. 2015; 75(3):594-604
30. Hao M, Zang M, Wendlandt E, Xu Y, An G, Gong D, Li F, Qi F, Zhang Y, Yang Y, **Zhan F** and Qiu L. Low serum miR-19a expression as a novel poor prognostic indicator in multiple myeloma. *Int J Cancer*. 2015; 136(8):1835-44.

31. **Zhan F***, Zangari M, Qiu L. Drug resistance in hematologic malignancies: induction mechanisms, genetics, and therapeutics. *Biomed Res Int*. 2015;2015:384575
32. Salem K, McCormick ML, Wendlant E, **Zhan F**, Goel A. Copper-zinc superoxide dismutase-mediated redox regulation of bortezomib resistance in multiple myeloma. *Redox Biol*. 2014; 4:23-33. PMC4309843.
33. Xia J, Machin RF, Gu Z and **Zhan F***. Role of NEK2A in Human Cancer and Its Therapeutic Potentials. *BioMed Res Intl*. 2015; 862461. PMC4330945.
34. Gu Z, Zhou W, Huang J, Yang Y, Wendlandt E, Xu H, He X, Tricot G, **Zhan F***. Nek2 is a novel regulator of B-cell development and immunological response. *BioMed Res Intl*. 2014; 621082. PMC4251609.
35. Meng L, Carpenter K, Mollard A, Vankayalapati H, Warner SL, Sharma S, Tricot G, **Zhan F**, Bearss DJ. Inhibition of Nek2 by small molecules affects proteasome activity. *BioMed Res Intl*. 2014; 273180. PMC4182079.
36. Yang Y, Zhou W, Xia J, Gu Z, Wendlandt E, Zhan X, Janz S, Tricot G, **Zhan F***. Nek2 mediates ALDH1A1 induced drug- resistance in multiple myeloma. *Oncotarget*. 2014 ;5(23):11986-97. PMC4322982.
37. Rosean TR, Tompkins VS, Tricot G, Holman CJ, Olivier AK, **Zhan F**, Janz S. Preclinical validation of interleukin 6 as a therapeutic target in multiple myeloma. *Immunol Res*. 2014; 59(1-3):188-202. PMC4209159.
38. Gao M, Hou J, Tompkins V, Gao L, Wu X, Tao Y, Hu X, Yang G, Han Y, Xu H, **Zhan F**, Shi J. "Early versus deferred treatment for smoldering multiple myeloma: a meta-analysis of Phase III randomized,controlledtrials". *PLoS One*. 2014; 9(10):e109758. PMC4184905.
39. Salama M, Du S, Olga E, Reha T, South S, Sherrie P, Jerry H, **Zhan F**. Neoplastic Plasma Cell Aberrant Antigen Expression Patterns and Their Association with Genetic Abnormalities. *Leuk Lymphoma*. 2014; 4:1-8.
40. Gao M, Gao L, Yang G, Tao Y, Hou J, Xu H, Hu X, Han Y, Zhang Q, **Zhan F**, Wu X, Shi J. Myeloma Cells resistance to NK cell lysis mainly invoves an HLA class 1-dependent mechanism. *Acta Biochim Biophys Sin (Shanghai)*. 2014; 597-604.

41. Gao M, Gao L, Yang G, Tao Y, Tompkin VS, Wu X, Xu H, **Zhan F**, Shi J. Lenalidomide after stem-cell transplantation for multiple myeloma: a meta-analysis of randomized controlled trials. *Int. J Clin Exp Pathol*. 2014; 7(6): 3073-80. PMC4097223.
42. Wang X, Yang Y, Jia H, Jia W, Miller S, Bowman B, Feng J, **Zhan F***. Peptide decoration of nanovehicles to achieve active targeting and pathology-responsive cellular uptake for bone metastasis chemotherapy. *Biomater Sci*. 2014;2:961-71.
43. Zhou W, Yang Y, Gu Z, Wang H, Xia J, Wu X, Zhan X, Levasseur, Zhou Y, Janz S, Tricot G, Shi J, and **Zhan F***. ALDH1 activity identifies tumor-initiating cells and links to chromosomal instability signatures in multiple myeloma. *Leukemia*. 2014; 28(5):1155-8. PMC4018236.
44. Stessman HA, Mansoor A, **Zhan F**, Linden MA, Van Ness B, Baughn LB. Bortezomib resistance can be reversed by induced expression of plasma cell maturation markers in a mouse in vitro model of multiple myeloma. *PLos one*. 2013; 8(10), e77608. PMC3812176.
45. Stessman HA, Mansoor A, **Zhan F**, Janz S, Linden MA, Baughn LB, Van Ness B. Reduced CXCR4 expression is associated with extramedullary disease in a mouse model of myeloma and predicts poor survival in multiple myeloma treated with bortezomib. *Leukemia*. 2013; (10), 2075-7. PMC4053943.
46. An G, Xu Y, Shi L, Zhong S, Deng S, Xie Z, Sui W, **Zhan F**, Qui L. Chromosome 1q21 gains confer inferior outcomes in multiple myeloma treated with bortezomib but copy number variation and percentage of plasma cells involved have no additional prognostic value. *Haematologica*. 2014; 99(2):353-359. PMC3912967.
47. Duncan K, Rosean T, Tompkins V, Oliver A, Sompallae R, **Zhan F**, Tricot G, Acevedo M, Ponto L, Walsh S, Tygrett L, Berger A, Waldschmidt T, Morse H, Sunderland J, Janz S. (18)F-FDG-PET/CT imaging in an IL-6- and MYC-driven mouse model of human multiple myeloma affords objective evaluation of plasma cell tumor progression and therapeutic response to the proteasome inhibitor ixazomib. *Blood Cancer J*. 2013;3:e165. PMC3880444.
48. Zou D, An G, Zhu G, Wang J, Shi L, Meng H, Xu Y, Sui W, Deng S, **Zhan F**, Qiu L. Secondary monoclonal gammopathy of undertermined significance is frequently associated with high response rate and superior survival in patients with plasma cell dyscrasias. *Biol Blood and BoneMarrow Transplant*. 2014; 20(3):319-25.
49. Yang, Y., Shi, J., Tolomelli, G., Xu, H., Xia, J., Wang, H., Zhou, W., Zhou, Y., Das, S., Gu, Z., **Zhan F***, Tricot G*. 2013. RAR α 2 expression confers myeloma stem cell features. *Blood*. 2013; 122 (8): 1437-47. PMC3750340.

50. Brown CO, Schibler J, Fitzgerald MP, Singh N, Salem K, **Zhan F**, Goel A. Scavenger receptor class A member 3 (SCARA3) in disease progression and therapy resistance in multiple myeloma. *Leuk Res*. 2013; 37(8):963-9. PMC3700682.
51. Stessman HA, Baughn LB, Sarver A, Xia T, Deshpande R, Mansoor A, Walsh SA, Sunderland JJ, Dolloff NG, Linden MA, **Zhan F**, Jan S, Myers CL, Van Ness BG. Profiling bortezomib resistance identifies secondary therapies in a mouse myeloma model. *Mol Cancer Ther*. 2013; 12(6): 1140-50. PMC4076840.
52. An G, Shi L, Xu Y, Zou D, Deng S, Sui W, Zhu G, Xie Z, Hao M, Sun Q, **Zhan F**, Qiu L. Prognostic value of high serum lactate dehydrogenase in plasma cell dyscrasias: a re-evaluation in the context of cytogenetic aberration data. *Leuk Lymphoma*. 2013; 54(11):2556-9.
53. Veitonmäki N, Hansson M, **Zhan F**, Sundberg A, Löfstedt T, Ljungars A, Li ZC, Martinsson-Niskanen T, Zeng M, Yang Y, Danielsson L, Kovacek M, Lundqvist A, Mårtensson L, Teige I, Tricot G, Frendéus B. A human ICAM-1 antibody isolated by a function-first approach has potent macrophage-dependent antimyeloma activity in vivo. *Cancer Cell*. 2013; 23(4):502-15.
54. Tai YT, Landesman Y, Acharya C, Calle Y, Zhong MY, Calle Y, **Zhan F**, Kung AL, Schey SA, Richardson P, Munshi NC, Anderson KC. 2013. CRM1 inhibition induces tumor cell cytotoxicity and impairs osteoclastogenesis in multiple myeloma: molecular mechanisms and therapeutic implications. *Leukemia*. 2014; 28(1):155-65. PMC3883926.
55. Zhou W, Yang Y, Xia J, Wang H, Salama ME, Xiong W, Xu H, Shetty S, Chen T, Zeng Z, Shi L, Zangari M, Miles R, Bearss D, Tricot G, **Zhan F***. NEK2 induces drug-resistance mainly through activation of efflux drug pumps and is associated with poor prognosis in myeloma and other cancers. *Cancer Cell*. 2013; 23(1):48-62. PMC3954609.
56. Wu X, Shao Y, Tao Y, Ai G, Wei R, Meng X, Hou J, Han Y, **Zhan F**, Zheng J, Shi J. Proteasome inhibitor lactacystin augments natural killer cell cytotoxicity of myeloma via downregulation of HLA class I. *Biochem Biophys Res Commun*. 2011; 415(1):187-92.
57. Cruz RD, Tricot G, Zangari M, **Zhan F***. Progress in myeloma stem cells. *Am J Blood Res*. 2011; 1:135-145. PMC3301427.
58. Zangari M, Terpos E, **Zhan F**, Tricot G. Impact of bortezomib on bone health in myeloma: A review of current evidence. *Cancer Treat Rev*. 2012; 38(8):968-80.
59. Zangari M, Berno T, **Zhan F**, Tricot G, Fink L. Mechanisms of thrombosis in paraproteinemias: the effects of immunomodulatory drugs. *Semin Thromb Hemost*. 2012;38(8):768-79.
60. Zangari M, Aujay M, **Zhan F**, Hetherington KL, Berno T, Vij R, Jagannath S, Siegel D, Keith Stewart A, Wang L, Orlowski RZ, Belch A, Jakubowiak A, Somlo G, Trudel S, Bahlis N, Lonial S, Singhal S, Kukreti V, Tricot G. Alkaline phosphatase variation during

carfilzomib treatment is associated with best response in multiple myeloma patients. *Eur J Haematol.* 2011; 86(6):484-7.

61. Zangari M, Berno T, **Zhan F**, Boucher KM, Tricot G, Fink L. Activated protein C resistance as measured by residual factor V after Russell's Viper Venom and activated protein C treatment analyzed as a continuous variable in multiple myeloma and normal controls. *Blood Coagul Fibrinolysis.* 2011; 22(5):420-3.
62. Zangari M, Fink L, **Zhan F**, Tricot G. Low venous thromboembolic risk with bortezomib in multiple myeloma and potential protective effect with thalidomide/lenalidomide-based therapy: review of data from phase 3 trials and studies of novel combination regimens. *Clin Lymphoma Myeloma Leuk.* 2011; 11(2):228-36.
63. Wu X, Shi J, Wu Y, Meng X, Hou J, Hu X, Han Y, Jiang W, Tang S, Zangari M, Tricot G, **Zhan F***. Arsenic trioxide-mediated growth inhibition of myeloma cells is associated with an extrinsic of intrinsic signaling pathway through activation of TRAIL or TRAIL receptor 2. *Cancer Biol Ther.* 2010; 10:1201-14. PMC3047108.
64. Zangari M, Yaccoby S, Pappas L, Cavallo F, Kumar NS, Ranganathan S, Suva LJ, Gruenwald JM, Kern S, **Zhan F**, Esseltine DL, Tricot G. A prospective evaluation of the biochemical, metabolic, hormonal and structural bone changes associated with bortezomib response in multiple myeloma patients. *Haematologica.* 2011;96:333-6 PMC3031705.
65. Zangari M, **Zhan F**, Tricot G. Bone and paraproteinemias. *Curr Opin Support Palliat Care.* 2010;4:195-9.
66. Shi L, Wang S, Zangari M, Xu H, Cao T, Xu C, Wu Y, Xiao F, Liu Y, Yang Y, Li G, Tricot G and **Zhan F***. Over-expression of CKS1B activates both MEK/ERK and JAK/STAT3 signaling pathways and promotes myeloma cell drug-resistance. *Oncotarget,* 2010; 1(1):22-33. PMC2949973.
67. Heerema-McKenney A, Waldron J, Hughes S, **Zhan F**, Sawyer J, Barlogie B, Shaughnessy JD Jr. Clinical, immunophenotypic, and genetic characterization of small lymphocyte-like plasma cell myeloma: a potential mimic of mature B-cell lymphoma. *Am J Clin Pathol.* 2010;133(2):265-70.
68. Zangari M, Tricot G, Polavaram L, **Zhan F**, Finlayson A, Knight R, Fu T, Weber D, Dimopoulos MA, Niesvizky R, Fink L. Survival effect of venous thromboembolism in patients with multiple myeloma treated with lenalidomide and high-dose dexamethasone. *J Clin Oncol.* 2010; 28(1):132-5.
69. Chen L, Wang S, Zhou Y, Wu X, Entin I, Epstein J, Yaccoby S, Xiong W, Barlogie B, Shaughnessy Jr. J and **Zhan F***. Identification of early growth response protein 1 (*EGR-1*) as a novel target for *JUN*-induced apoptosis in multiple myeloma. *Blood.* 2010; 115(1):61-70. PMC2803692.

70. Van Rhee F, Szmania SM, Dillon M, van Abbema AM, Li X, Stone MK, Garg TK, Shi J, Moreno-Bost AM, Yun R, Balasa B, Ganguly B, Chao D, Rice AG, **Zhan F**, Shaughnessy JD Jr, Barlogie B, Yaccoby S, Afar DE. Combinatorial efficacy of anti-CS1 monoclonal antibody elotuzumab (HuLuc63) and bortezomib against multiple myeloma. *Mol Cancer Ther.* 2009; 8(9):2616-24. PMC2748787.
71. Zangari M, Fink LM, Elice F, **Zhan F**, Adcock DM, Tricot GJ. Thrombotic Events in Patients With Cancer Receiving Antiangiogenesis Agents. *J Clin Oncol.* 2009;27(29):4865-73.
72. Anguiano A, Tuchman SA, Acharya C, Salter K, Gasparetto C, **Zhan F**, Dhodapkar M, Nevins J, Barlogie B, Shaughnessy JD Jr, Potti A. Gene Expression Profiles of Tumor Biology Provide a Novel Approach to Prognosis and May Guide the Selection of Therapeutic Targets in Multiple Myeloma. *J Clin Oncol.* 2009; 27(25):4197-203.
73. Wang S, Tricot G, Shi L, Xiong W, Zeng Z, Xu H, Zangari M, Barlogie B, Shaughnessy Jr J and **Zhan F***. RARa2 expression is associated with disease progression and plays a crucial role in efficacy of ATRA treatment in myeloma. *Blood*, 2009;114(3): 600-7. PMC2713470.
74. Brenne AT, Fagerli UM, Shaughnessy JD Jr, Vatsveen TK, Ro TB, Hella H, **Zhan F**, Barlogie B, Sundan A, Borset M, Waage A. High expression of BCL3 in human myeloma cells is associated with increased proliferation and inferior prognosis. *Eur J Haematol.* 2009; 82(5):354-363. PMC2704939.
75. Burington B, Barlogie B, **Zhan F**, Crowley J, Shaughnessy JD Jr. Tumor cell gene expression changes following short-term in vivo exposure to single agent chemotherapeutics are related to survival in multiple myeloma. *Clin Cancer Res.* 2008; 14(15):4821-9. PMC3685184.
76. Hsi ED, Steinle R, Balasa B, Szmania S, Draksharapu A, Shum BP, Huseni M, Powers D, Nanisetti A, Zhang Y, Rice AG, van Abbema A, Wong M, Liu G, **Zhan F**, Dillon M, Chen S, Rhodes S, Fuh F, Tsurushita N, Kumar S, Vexler V, Shaughnessy JD Jr, Barlogie B, van Rhee F, Hussein M, Afar DE, Williams MB. CS1, a potential new therapeutic antibody target for the treatment of multiple myeloma. *Clin Cancer Res.* 2008; 14(9):2775-84.
77. **Zhan F***, Barlogie B, Mulligan G, Shaughnessy Jr. J, and Bryant B. High-risk myeloma: a gene expression based risk-stratification model for newly diagnosed multiple myeloma treated with high-dose therapy is predictive of outcome in relapsed disease treated with single-agent bortezomib or high-dose dexamethasone. *Blood*, 2008; 111(2):968-9. PMC2200846.
78. Haessler J, Shaughnessy JD Jr, **Zhan F**, Crowley J, Epstein J, van Rhee F, Anaissie E, Pineda-Roman M, Zangari M, Hollmig K, Mohiuddin A, Alsayed Y, Hoering A, Tricot G, Barlogie B. Benefit of complete response in multiple myeloma limited to high-risk subgroup identified by gene expression profiling. *Clin Cancer Res.* 2007; 13(23):7073-9.

79. Xiong W, Wu X, Starnes S, Johnson SK, Haessler J, Wang S, Chen L, Barlogie B, Shaughnessy Jr. J, and **Zhan F***. An analysis of the clinical and biological significance of TP53 loss in multiple myeloma and the identification of potential novel transcriptional targets of TP53. *Blood*, 2008;112(10):4235-46. PMC2581979.
80. Yang Y, Macleod V, Miao HQ, Theus A, **Zhan F**, Shaughnessy JD Jr, Sawyer J, Li JP, Zcharia E, Vlodavsky I, Sanderson RD. Heparanase enhances syndecan-1 shedding: A novel mechanism for stimulation of tumor growth and metastasis. *J Biol Chem*. 2007; 282(18):13326-33.
81. Claudio JO, **Zhan F**, Zhuang L, Khaja R, Zhu YX, Sivananthan K, Trudel S, Masih-Khan E, Fonseca R, Bergsagel PL, Scherer SW, Shaughnessy J, Stewart AK. Expression and mutation status of candidate kinases in multiple myeloma. *Leukemia*. 2007; 21(5):1124-7.
82. **Zhan F***, Colla¹ S, Wu X, Chen JB, Stewart JP, Kuehl WM, Barlogie B and Shaughnessy, Jr. *CKS1B*, Over Expressed in Aggressive Disease, Regulates Multiple Myeloma Growth and Survival through SKP2- and p27Kip1-Dependent and Independent Mechanisms. *Blood*, 2007; 109 (11): 4995-5001. PMC1885527.
83. Szmania S, Gnjatich S, Tricot G, Stone K, **Zhan F**, Moreno A, Thuro B, Melenhorst J, Barrett J, Shaughnessy J, Old LJ, Barlogie B, Brichard VG, van Rhee F. Immunization with a recombinant MAGE-A3 protein after high-dose therapy for myeloma. *J Immunother*. 2007 ;30(8):847-54.
84. Colla S, **Zhan F (co-1st author)**, Xiong W, Wu X, Xu H, Stephens O, Yaccoby S, Epstein J, Barlogie B and Shaughnessy Jr. The oxidative stress response regulates DKK1 expression through JNK signaling cascade in multiple myeloma plasmacells. *Blood*, 2007;109(10):4470-7. PMC1885505
85. Yaccoby S, Pennisi A, Li X, Dillon SR, **Zhan F**, Barlogie B, Shaughnessy JD Jr. Atacicept (TACI-Ig) inhibits growth of TACI(high) primary myeloma cells in SCID-hu mice and in coculture with osteoclasts. *Leukemia*. 2008; 22(2):406-13. PMC2771378
86. Fagerli UM, Holt RU, Holien T, Vaatsveen TK, **Zhan F**, Egeberg KW, Barlogie B, Waage A, Aarset H, Dai HY, Shaughnessy JD Jr, Sundan A, Børset M. Overexpression and involvement in migration by the metastasis-associated phosphatase PRL-3 in human myeloma cells. *Blood*. 2008;111(2):806-15. PMC2200854
87. Prasad HK, **Zhan F**, Shaughnessy J: Smoldering multiple myeloma, *N Engl J Med* 2007, 357:1048.
88. Park ES, Lee JS, Woo HG, **Zhan F**, Shih JH, Shaughnessy JD, Frederic Mushinski J. Heterologous tissue culture expression signature predicts human breast cancer prognosis. *PLoS One*. 2007; 2:e145. PMC1764035

89. Park ES, Shaughnessy J, Gupta S, Wang H, Lee JS, Woo HG, **Zhan F**, Owens JD Jr, Potter M, Janz S, Mushinski J. Gene expression profiling reveals different pathways related to Abl and other genes that cooperate with c-Myc in a model of plasma cell neoplasia. *BMC Genomics*. 2007. PMC2040348
90. Mulligan G, Mitsiades C, Bryant B, **Zhan F**, Chng WJ, Roels S, Koenig E, Fergus A, Huang Y, Richardson P, Trepicchio WL, Broyl A, Sonneveld P, Shaughnessy JD Jr, Bergsagel PL, Schenkein D, Esseltine DL, Boral A, Anderson KC. Gene expression profiling and correlation with outcome in clinical trials of the proteasome inhibitor bortezomib. *Blood*. 2007; 109(8):3177-88.
91. Annunziata CM, Davis RE, Demchenko Y, Bellamy W, Gabrea A, **Zhan F**, Lenz G, Hanamura I, Wright G, Xiao W, Dave S, Hurt EM, Tan B, Zhao H, Stephens O, Santra M, Williams DR, Dang L, Barlogie B, Shaughnessy JD Jr, Kuehl WM, Staudt LM. Frequent engagement of the classical and alternative NF-kappaB pathways by diverse genetic abnormalities in multiple myeloma. *Cancer Cell*. 2007;12(2):115-30. PMC2730509
92. Li X, Pennisi A, **Zhan F**, Sawyer JR, Shaughnessy JD, Yaccoby S. Establishment and exploitation of hyperdiploid and non-hyperdiploid human myeloma cell lines. *Br J Haematol*. 2007;138(6):802-11. PMC2748973
93. Qian J, Xie J, Hong S, Yang J, Zhang L, Han X, Wang M, **Zhan F**, Shaughnessy JD Jr, Epstein J, Kwak LW, Yi Q. Dickkopf-1 (DKK1) is a widely expressed and potent tumor-associated antigen in multiple myeloma. *Blood*. 2007; 110(5):1587-94. PMC1975842
94. **Zhan F***, Barlogie B, John D S Jr. Gene expression profiling defines a high-risk entity of multiple myeloma. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*. 2007; 32(2):191-203.
95. Dib A, Peterson TR, Raducha-Grace L, Zingone A, **Zhan F**, Hanamura I, Barlogie B, Shaughnessy J Jr, Kuehl WM. Paradoxical expression of INK4c in proliferative multiple myeloma tumors: bi-allelic deletion vs increased expression. *Cell Div*. 2006; 1:23. PMC1634742
96. Lazarevic V, Wahlin A, Hultdin M, **Zhan F**, Shaughnessy J. Chronic lymphocytic leukemia with osteolytic Richter's syndrome mimicking myeloma bone disease shows no over-expression of DKK1. *Leuk Lymphoma*. 2006; 47(9):1987-8.
97. **Zhan F**, Barlogie B, Arzoumanian V, Huang Y, Dhodapkar M and Shaughnessy Jr. J. Gene expression signature of benign monoclonal gammopathy evident in multiple myeloma is linked to good prognosis. *Blood*. 2007; 109(4):1692-700. PMC1794073
98. Yaccoby S, Ling W, **Zhan F**, Walker R, Barlogie B, Shaughnessy Jr JD. Antibody-based inhibition of DKK1 suppresses tumor-induced bone resorption and multiple myeloma growth in- vivo. *Blood*. 2007;109(5):2106-11. PMC1801040

99. Shaughnessy Jr JD, **Zhan F**, Burington BE, Huang Y, Colla S, Hanamura I, Stewart JP, Kordsmeier B, Randolph C, Williams DR, Xiao Y, Xu H, Epstein J, Anaissie E, Krishna SG, Cottler-Fox M, Hollmig K, Mohiuddin A, Pineda-Roman M, Tricot G, van Rhee F, Sawyer J, Alsayed Y, Walker R, Zangari M, Crowley J, Barlogie B. A validated gene expression model of high-risk multiple myeloma is defined by deregulated expression of genes mapping to chromosome 1. *Blood*. 2007;109(6):2276-84.
100. **Zhan F**, Sawyer J, and Tricot G. The role of cytogenetics in myeloma. *Leukemia*. 2006; 20:1484-6.
101. **Zhan F**, Huang Y, Colla S, Stewart JP, Hanamura I, Gupta S, Epstein J, Yaccoby S, Sawyer J, Burington B, Hollmig K, Pineda-Roman M, Tricot G, van Rhee F, Walker R, Zangari M, Crowley J, Barlogie B, Shaughnessy Jr JD. The molecular classification of multiple myeloma. *Blood*. 2006; 108(6):2020-8. PMC1895543
102. Hanamura I, Huang Y, **Zhan F**, Barlogie B, Shaughnessy J. Prognostic value of Cyclin D2 mRNA expression in newly diagnosed multiple myeloma treated with high-dose chemotherapy and tandem autologous stem cell transplantations. *Leukemia*. 2006; 20:1288-90.
103. Hanamura I, Stewart JP, Huang Y, **Zhan F**, Santra M, Sawyer J, Hollmig K, Zangari M, Pineda-Roman M, van Rhee F, Cavallo F, Burington B, Crowley J, Tricot G, Barlogie B, Shaughnessy JD. Frequent gain of chromosome band 1q21 in plasma cell dyscrasias detected by Fluorescence in situ hybridization: incidence increase from MGUS to relapsed myeloma and is related to prognosis and disease progression following tandem stem cell transplantation. *Blood*. 2006; 108(5):1724-32.
104. Carrasco DR, Tonon G, Huang Y, Zhang Y, Sinha R, Feng B, Stewart JP, **Zhan F**, Khatri D, Protopopova M, Protopopov A, Sukhdeo K, Hanamura I, Stephens O, Barlogie B, Anderson KC, Chin L, Shaughnessy JD Jr, Brennan C, Depinho RA. High-resolution genomic profiles define distinct clinico-pathogenetic subgroups of multiple myeloma patients. *Cancer Cell*. 2006; 9:313-25.
105. Ge Y, **Zhan F**, Barlogie B, Epstein J, Shaughnessy J Jr, Yaccoby S. Fibroblast activation protein (FAP) is upregulated in myelomatous bone and supports myeloma cell survival. *Br J Haematol*. 2006 ;133:83-92.
106. Suzuki A, Iida S, Kato-Uranishi M, Tajima E, **Zhan F**, Hanamura I, Huang Y, Tsutomu Ogura, Takahashi S, Ueda R, Barlogie B, Shaughnessy Jr. J, and Esumi H. ARK5 is transcriptionally regulated by the Large-MAF family and mediates IGF-1-induced cell invasion in multiple myeloma: ARK5 as a new molecular determinant of malignant multiple myeloma. *Oncogene*. 2005; 20: 6936-44.

107. Bergsagel PL, Kuehl M, **Zhan F**, Sawyer J, Barlogie B, and Shaughnessy J. Cyclin D dysregulation: an early and unifying pathogenic event in multiple myeloma. *Blood*. 2005; 98:217-23.
108. Santin AD, **Zhan F**, Bignotti E, Siegel ER, Cane S, Bellone S, Palmieri M, Anfossi S, Thomas M, Burnett A, Kay HH, Roman JJ, O'Brien TJ, Tian E, Cannon MJ, Shaughnessy J Jr, Pecorelli S. Gene Expression Fingerprint of Uterine Serous Papillary Carcinoma: Identification of Novel Molecular Markers for Uterine Serous Cancer Diagnosis and Therapy. *British J Cancer*. 2005; 92:1561-73.
109. Van Rhee F, Szmania S, **Zhan F**, Gupta S, Pomtree M, Lin P, Batchu RB, Moreno A, Spagnoli G, Shaughnessy J, and Tricot G. NY-ESO-1 is highly expressed in poor prognosis multiple myeloma and induces spontaneous humoral and cellular immune responses. *Blood*, 2005;105:3939-44.
110. John Shaughnessy, Jr., **Fenghuang Zhan**, Barthel Barlogie, A. Keith Stewart. Gene Expression Profiling and Multiple Myeloma. *Best Pract Res Clin Haematol*. 2005;18(4):537-52.
111. Santin AD, **Zhan F**, Bignotti E, Siegel ER, Cane S, Bellone S, Palmieri M, Anfossi S, Thomas M, Burnett A, Kay HH, Roman JJ, O'Brien TJ, Tian E, Cannon MJ, Shaughnessy J Jr, Pecorelli S. Gene expression profiles of primary HPV16- and HPV18-infected early stage cervical cancers and normal cervical epithelium: identification of novel candidate molecular markers for cervical cancer diagnosis and therapy. *Virology*. 2005; 331:269-91.
112. Hardin J, Waddell M, Page CD, **Zhan F**, Barlogie B, Shaughnessy J, and Crowley J, Evaluation of multiple models to distinguish closely related forms of disease using DNA microarray data: an application to multiple myeloma. *Statistical Applications in Genetics and Molecular Biology, Stat Appl Genet Mol Biol*. 2004; 3:10.
113. Santin AD, **Zhan F**, Bellone S, Palmieri M, Cane S, Bignotti E, Anfossi S, Gokden M, Dunn D, Roman JJ, O'Brien TJ, Tian E, Cannon MJ, Shaughnessy J Jr, Pecorelli S. Gene expression profiles in primary ovarian serous papillary tumors and normal ovarian epithelium: identification of candidate molecular markers for ovarian cancer diagnosis and therapy. *Int J Cancer*. 2004; 112:14-25.
114. Santin AD, **Zhan F**, Bellone S, Palmieri M, Cane S, Gokden M, Roman JJ, O'Brien TJ, Tian E, Cannon MJ, Shaughnessy J Jr, Pecorelli S. Discrimination between uterine serous papillary carcinomas and ovarian serous papillary tumours by gene expression profiling. *Br J Cancer*. 2004; 90:1814-24.
115. Lin P, Mahdavy M, **Zhan F**, Zhang HZ, Katz RL, Shaughnessy JD. Expression of PAX5 in CD20-positive multiple myeloma assessed by immunohistochemistry and oligonucleotide microarray. *Mod Pathol*. 2004; 17:1217-22.

116. Maxwell CA, Rasmussen E, **Zhan F**, Keats JJ, Adamia S, Strachan E, Crainie M, Walker R, Belch AR, Pilarski LM, Barlogie B, Shaughnessy J Jr, Reiman T. RHAMM expression and isoform balance predict aggressive disease and poor survival in multiple myeloma. *Blood*. 2004; 104:1151-8.
117. Tian E, **Zhan F**(co-1st author), Walker R, Rasmussen E, Ma Y, Barlogie B, Shaughnessy JD Jr. The role of the Wnt-signaling antagonist DKK1 in the development of osteolytic lesions in multiple myeloma. *N Engl J Med*. 2003; 349:2483-94.
118. Kelly T, Miao HQ, Yang Y, Navarro E, Kussie P, Huang Y, MacLeod V, Casciano J, Joseph L, **Zhan F**, Zangari M, Barlogie B, Shaughnessy J, Sanderson RD. High heparanase activity in multiple myeloma is associated with elevated microvessel density. *Cancer Res*. 2003; 63:8749-56.
119. Batchu RB, Moreno AM, Szmania S, Gupta SK, **Zhan F**, Rosen N, Kozlowski M, Spencer T, Spagnoli GC, Shaughnessy J, Barlogie B, Tricot G, van Rhee F. High-level expression of cancer/testis antigen NY-ESO-1 and human granulocyte-macrophage colony-stimulating factor in dendritic cells with a bicistronic retroviral vector. *Hum Gene Ther*. 2003; 14:1333-45.
120. **Zhan F**, Barlogie B and Shaughnessy Jr. J. Toward the Identification Distinct Molecular and Clinical Entities of Multiple Myeloma Using Global Gene Expression Profiling. *Semin Hematol*. 2003; 40: 308-20.
121. Tarte K, **Zhan F**, De Vos J, Klein B, Shaughnessy J Jr. Gene expression profiling of plasma cells and plasmablasts: toward a better understanding of the late stages of B-cell differentiation. *Blood*. 2003; 102: 592-600
122. Santra M, **Zhan F**, Tian E, Barlogie B, Shaughnessy J Jr. A subset of multiple myeloma harboring the t(4;14)(p16;q32) translocation lacks FGFR3 expression but maintains an IGH/MMSET fusion transcript. *Blood*. 2003; 15:2374-6.
123. Guikema JE, Hovenga S, Vellenga E, Conradie JJ, Abdulahad WH, Bekkema R, Smit JW, **Zhan F**, Shaughnessy J Jr, Bos NA. CD27 is heterogeneously expressed in multiple myeloma: low CD27 expression in patients with high-risk disease. *Br J Haematol*. 2003; 121:36-43.
124. Zent C, **Zhan F**, Schichman S, Bumm K, Lin P, Chen B, and Shaughnessy J. The distinct gene expression profiles of chronic lymphocytic leukemia and multiple myeloma suggest different anti-apoptotic mechanisms but predict only some differences in phenotype. *Leuk Res*. 2003 ;27:765-74.

125. Shaughnessy J, Jacobson J, Sawyer J, McCoy J, Fassas A, **Zhan F**, Bumm K, Epstein J, Anaissie E, Siegel D, Desikan R, Munshi N, Badros A, Tian E, Zangari M, Tricot G, Crowley J, Barlogie B. Continuous absence of metaphase-defined cytogenetic abnormalities, especially of chromosome 13 and hypodiploidy, ensures long-term survival in multiple myeloma treated with Total Therapy I: interpretation in the context of global gene expression. *Blood*. 2003; 101:3849-56.
126. **Zhan F**, Tian E, Bumm K, Smith R, Barlogie B, and Shaughnessy J. Gene expression profiling of human plasma cell differentiation and classification of multiple myeloma based on similarities to distinct stages of late-stage B-cell development. *Blood*. 2003; 101:1128-40.
127. Tarte K, De Vos J, Thykjaer T, **Zhan F**, Fiol G, Costes V, Reme T, Legouffe E, Ross J-F, Shaughnessy J, Orntoft T, and Klein B. Generation of polyclonal plasma cells from peripheral blood B cells : a normal counterpart of malignant plasma cells. *Blood*. 2002; 100: 592-600.
128. **Zhan F**, Hardin J, Bumm K, Zheng M, Tian E, Sanderson R, Yang Y, Wilson C, Zangari M, Anaissie E, Morris C, Muwalla F, Van Rhee F, Fassas A, Tricot G, Crowley J, Barlogie B, and Shaughnessy J. Global gene expression profiling of multiple myeloma, monoclonal gammopathy of undetermined significance and normal bone marrow plasma cells. *Blood*. 2002; 99:1745-57.
129. Bumm K, Zheng M, Baily C, **Zhan F**, Eddlemon P, Terry J, Barlogie B, Shaughnessy J. CGO: utilizing and integrating gene expression microarray data in clinical research and data management. *Bioinformatics*. 2002; 18:327-8.
130. Shaughnessy J, Gabrea A, Yi, Q, Brents, L, **Zhan F**, Tian E, Sawyer J, Barlogie B, BergsAgel PL, Kuehl M. Cyclin D3 at 6p21 is downregulated by recurrent Ig translocations in multiple myeloma. *Blood*. 2001; 98: 217-23.
131. Deng LW, **Zhan F**, Li G, et al: A common LOH/deletion region on chromosome 3p26.2-25.3 in naso-pharyngeal carcinoma. *Gene, Chromosome & Cancer*. 1999; 23:21-25.
132. **F Zhan**, X Jian, and Shen Z: Giant hemangioma of the sternocleidomastoid muscle: report of a case. *J Oral Maxillofac Surg*. 1997;55:190.
133. **Zhan F** and Huang J. A case of benign lymphoepithelial lesion occurred in a child bilateral submandibular glands. *J of Oral Maxillofac Surg*. 1993; 3:39.

Patents Submitted

1. Shaughnessy J, Fenghuang Z, Barlogie B. (2001). UAMS #: I07-01. A gene expression signature of benign monoclonal gammopathy evident in multiple myeloma is linked to good prognosis. U.S. Patent No. I07-01. Washington, D.C.:U.S. Patent and Trademark Office.
2. Shaughnessy J, Fenghuang Z, Barlogie B. (2004). UAMS #: I07-24. A gene expression

- profiling based identification of genomic signature of high risk multiple myeloma and uses thereof. U.S. Patent No. I07-24. Washington, D.C.:U.S. Patent and Trademark Office.
3. Shaughnessy J, Fenghuang Z, Barlogie B. (2005). UAMS #: I05-05. Gene expression profiling of ASPM, OPN3, and CKS1B, of chromosome 1q expression in malignant plasma cells and correlated with early death. U.S. Patent No. I05-05. Washington, D.C.:U.S. Patent and Trademark Office.
 4. Shaughnessy J, Fenghuang Z, Barlogie B. (2006). UAMS#: I05-06. Development and validation of a gene expression-based model for the classification of myeloma. U.S. Patent No. I05-06. Washington, D.C.:U.S. Patent and Trademark Office.
 5. Shaughnessy J, Fenghuang Z, Barlogie B. (2007). Atty. Docket No.122288: Expression of RARa2 as a predictor of cancer survival and efficacy of retinoid treatment. U.S. Patent No. 122288. Washington, D.C.:U.S. Patent and Trademark Office.
 6. Fenghuang Zhan, Maurizio Zangari, Guido Tricot (2009). U-4613 Nek 2 as a Marker for Cancer Chemoresistance and Prognosis.
 7. Fenghuang Zhan, Maurizio Zangari, Guido Tricot (2012).U-13/717,264 Multiple Myeloma Prognosis and Treatment
 8. Fenghuang Zhan, Ivana Frech, Guido Tricot (2016). High dose ascorbic acid plus melphalan treat multiple myeloma.
 9. Fenghuang Zhan, Ivana Frech, Guido Tricot (2017). CD24 as a tumor-initiating cell biomarker and a therapeutic target in multiple myeloma.
 10. Fenghuang Zhan, Ivana Frech, Guido Tricot (2018). TRIP13 is a deubiquitinase regulator.

RECENTLY PUBLISHED ABSTRACTS (30 of/ 141)

1. **Fenghuang Zhan**, Lei Shi, Siqing Wang, Hongwei Xu, Thai M. Cao, Chunjiao Xu, Yong Wu, Maurizio Zangari, Guiyuan Li, and Guido J. Tricot. CKS1B Mediates SKP2/p27Kip1-Independent Myeloma Cell Survival and Disease Progression through Activation of MEK/ERK and JAK/STAT3 Signaling Pathways. ASH, 2009.
2. Siqing Wang, Lei Shi, Hongwei Xu, Chunjiao Xu, Maurizio Zangari, Guido J. Tricot, and **Fenghuang Zhan**. Combination of ATRA with a COX2 Inhibitor Induces Synergistic Effects On RARalpha2-Expressing Multiple Myeloma (MM) Cells. ASH, 2009.
3. Jumei Shi, Jun Hou, Yi Tao, Xiuqin Meng, Ying Han, Maurizio Zangari, Guido J. Tricot, and **Fenghuang Zhan**. TRAIL as the ATO-Target Gene Uniquely Activated In the Hyperdiploid Subtype of Myeloma with Prognostic Relevance, Resulting In Better Prognosis. ASH, 2010.
4. Guido J. Tricot, Ye Yang, Chunjiao Xu, Hongwei Xu, Ming Zeng, Maurizio Zangari, and **Fenghuang Zhan**. Targeting Myeloma Stem Cells through Simultaneous Inhibition of Wnt and Hedgehog (Hh) Signaling Pathways. ASH, 2010.
5. **Fenghuang Zhan**, Fang Xiao, Maurizio Zangari, Hongwei Xu, Benjamin Mughal, and Guido J. Tricot. Targeting NEK2 Kinase In Drug-Resistant Multiple Myeloma with Small Molecule Inhibitors. ASH, 2010.
6. Sarah K. Johnson, Peter Stewart, Shmuel Yaccoby, **Fenghuang Zhan**, Bart Barlogie, and John D Shaughnessy, Jr.Loss of CYR61 in Myeloma Microenvironment Is Associated with Poor Survival. ASH, 2011.
7. Holly A. F. Stessman, Aatif Mansoor, Fenghuang Zhan, Guido J. Tricot, John Sunderland, Susan A. Walsh, Siegfried Janz, Brian Van Ness, and Linda B. Baughn . Low Expression of

- CXCR4 in Bortezomib-Resistant Multiple Myeloma Correlates with Extramedullary Disease in a Murine Mouse Model. ASH, 2011.
8. Guido J. Tricot, Ming Zeng, Ye Yang, Maurizio Zangari, Hongwei Xu, and **Fenghuang Zhan**
The Effect of ICAM-1 Antibody Therapy in the SCID-Hu Mouse Model Using Primary Myeloma Cells. ASH, 2011.
 9. Guido J Tricot, Ye Yang, Fang Xiao, Maurizio Zangari, Hongwei Xu, and **Fenghuang Zhan**. Inhibition of RARa2 and its downstream pathways decrease drug resistance in myeloma. ASH, 2011.
 10. **Fenghuang Zhan**, Wen Zhou, Maurizio Zangari, Hongwei Xu, and Guido J. Tricot
ALDH1 Activity Identifies Chemotherapy-Resistant Multiple Myeloma Stem Cells. ASH, 2011.
 11. Xuli Wang, Ye Yang, Scott Miller, and **Fenghuang Zhan**. Skeletal-Targeted, Osteolytic-Responsive Drug Delivery System Improves Anti-Tumor Efficacy in Multiple Myeloma. ASH, 2012.
 12. Maurizio Zangari, Tamara Berno, Giampaolo Talamo, Xin Zhan, Wen Zhou, He Wang, Ye Yang, Jiliang Xia, Yi Zhou, Karen Pena, Leanne Lujan, Jessica Kohan, Mohamed E Salama, and **Fenghuang Zhan**
Phase I Exploratory Study of IV Formulation of Panobinostat in Combination with Bortezomib in Relapsed/Refractory Multiple Myeloma Patients: Effect On Serum PTH and Gene Expression Profiling (GEP) Studies. ASH, 2012.
 13. Wen Zhou, Xiao He, He Wang, Mohamed E Salama, Xia Jiliang, Hongwei Xu, Maurizio Zangari, Guido J. Tricot, and **Fenghuang Zhan**. NEK2 Regulates Immature B Cell Development and GC Formation in NEK2 Transgenic Mouse. ASH, 2012.
 14. Yi Tao, Zhimin Gu, Ye Yang, Hongwei Xu, Xiaojing Hu, Guido Tricot, **Fenghuang Zhan** and Junmei Shi. High Trip 13 and low P31 comet cause drug resistance and poor prognosis in multiple myeloma. ASH, 2013.
 15. Meirong Zang, Qin Yu, Li Fei, Wenjuan Yang, Xiaoyan Feng, Fang Qi, Gang An, Changhong Li, Yan Xu, **Fenghuang Zhan** and Lugui Qiu. Serum Mir-4254, Mir-19a and Mir-33b are potential markers for diagnosis and prognostic evaluation in multiple myeloma. ASH, 2013.
 16. Zhimin Gu, Ye Yang, Hongwei Xu, Junwei Huang, Jie He, Yi Tao, Guido Tricot, **Fenghuang Zhan**. Elevated Expression of CKS1B inhibits senescence through enhanced degradation of p21 in multiple myeloma. ASH, 2013.
 17. A.F. Stessman, Linda B Baughn, Aatif Mansoor, Amit Mitra Nathan Dolloff, Chad Myers, **Fenghuang Zhan** and Taylor Harding. Strategies to identify effective treatments for proteasome inhibitor resistant multiple myeloma. ASH, 2013.
 18. Ye Yang, Zhimin Gu, Hongwei xu, Junwei Huang, Jie He, Yi Tao, Guido Tricot and **Fenghuang Zhan**. Targeting BTK as a treatment for multiple myeloma Stem cells. ASH, 2013
 19. Gang An, Yan Xu, Shuhui Deng, Dehui Zou, **Fenghuang Zhan** and Lugui Qui.
Chromosome 1q21 gain confer inferior outcomes in multiple myeloma treated with bortezomib but copy number variation and percentage of plasma cells involved have no additional prognostic value. ASH, 2013

20. Maurizio Zangari, Tamara Berno, Mohamed Salama, Sherjeel Sana, Giampaolo Talamo, Karen Pena, Scott Miller and **Fenghuang Zhan**. Effect of low dose bortezomib on bone formation in smoldering myeloma patients. ASH, 2013.
21. Zhimin Gu, He Wang, Jiliang Xia, Ivana De Domenico, Ye Yang, Junwei Huang, Hongwei Xu, Zhengdong Jin, Guido J. Tricot and **Fenghuang Zhan**. Decreased FPN1 in myeloma promotes malignant cell growth and osteoclast differentiation. ASH, 2014.
22. Ye Yang, Guido J. Tricot, Jiliang Xia, Zhimin Gu, Hongwei Xu, Mu Hao and **Fenghuang Zhan**. NEK2 suppresses cellular senescence through regulation of the β -Catenin/CCND2/RB Axis in multiple myeloma. ASH, 2014.
23. Erik Wendlandt, Guido J. Tricot, Benjamin Darbro and **Fenghuang Zhan**. Cytogenetic analysis of multiple myeloma identifies cytogenetic alterations implicated in disease complexity and progression. ASH, 2014.
24. Mu Hao, Yu Qin, Meirong Zang, Yan Xu, Gang An, Changhong Li, Ye Yang, Zhimin Gu, **Fenghuang Zhan** and Lugui Qiu. Hypermethylation of Tap73 suppresses ABL1-involved DNA damage response in multiple myeloma. ASH, 2014.
25. Mu Hao, Shuhui Deng, Weiwei Sui, Gang An, Zengjun Li, MD, Yi Shuhua, MD, **Fenghuang Zhan**, and Lugui Qiu. Serum High Expression of Micorna-214 Is a Novel Predictor for Myeloma Bone Disease and Poor Prognosis. ASH, 2015.
26. Junwei Huang, Yi Zhou, Zhimin Gu, Ye Yang, Hongwei Xu, Guido J Tricot, and **Fenghuang Zhan**. Targeting Neddylolation to Overcome Drug Resistance in Multiple Myeloma. Ash 2015.
27. Mu Hao, Reinaldo Franqui Machin¹, Hongwei Xu, Gregory S. Thomas, Lugui Qiu, Guido J Tricot, and **Fenghuang Zhan**. Drug Resistant Myeloma Cells Cause More Severe Bone Destruction in Myeloma. Ash 2015.
28. Kalyan Nadiminti, Kamal Kant Singh Abbi, Annick Tricot, Allyson Schultz, Lindsay Dozeman, Sarah L Mott, **Fenghuang Zhan**, Guido Tricot. Bortezomib, Dexamethasone, Thalidomide and Melphalan (VDT-Mel) Preparative Regimen in Autologous Stem Cell Transplant (ASCT) Results in a Very High Stringent CR (sCR) Rate in Multiple Myeloma (MM). ASH 2015.
29. Reinaldo Franqui Machin, Xin Zhan, Hongwei Xu, Ivana Frech, Guido J Tricot and **Fenghuang Zhan**. Nek2 Stabilization By Usp7 Leads to Activation of NF-Kb in Multiple Myeloma. ASH 2017.
30. Xin Zhan, Reinaldo Franqui-Machin, Kalyan Nadiminti, Huojun Cao, Brad A. Amendt, YogeshJethava, Ivana Frech, **Fenghuang Zhan** and Guido J. Tricot Clinical Investigation of Mitochondrial Biogenesis in Multiple Myeloma. ASH 2017.

Invited/Visiting Professor Presentations

International

- | | |
|------|--|
| 2003 | Invited Speaker at Cancer Research Institute, Central South University, China |
| 2005 | Invited Speaker at 30th World Congress of the International Society of Hematology, Istanbul, Turkey. |
| 2008 | Invited Speaker at Cancer Research Institute, Southern Medical University, China |
| 2010 | Korean Myeloma Meeting, Chair: Korean Multiple Myeloma Working Party, |

	The translational Research in Multiple Myeloma, Chonnam National University Hwasun Hospital, Hwasun, Jeollanamdo, Korea.
2011	Invited Speaker at Lymphoid malignacies Center, CAMS & PUMC, Tianjin, China
2011	Invited Speaker at Cancer Research Institute, Central South University, China
2011	Invited Speaker at Department of Hematology, Hainan Medical College, China
2013	Invited Speaker at the 1st Union Summit Forum on Lymphoid Malignancies, Tianjin, China
2014	Invited Speaker at the World Chinese Scientists Peak Forum, Tong-ji University, Shanghai, China
2014	Invited Speaker at the Fourth Conference on Hematological Malignancies of China, Chinese anti-cancer Association, Wuhan, China
2015	
2016	Invited Speaker at Lymphoid malignacies Center, CAMS & PUMC, Tianjin, China
2017	Invited Speaker at the Fourth Conference on Hematological Malignancies of China, Chinese anti-cancer Association, Wuhan, China

National

2010	Invited Speak at Stony Brook Pathology Grand Rounds, U of Stony Brook, NY
2011	Invited Speaker at University of Alabama at Birmingham, Birmingham, AL 35233
2012	Invited Speaker at Department of Internal Medicine, University of Iowa, Iowa City, IA
2012	Seminar, Department of Pathology, University of Iowa, IA 52242
2012	Translational Research Program Review Meeting, New York City, NY
2012	ASH Meeting Oral Presentation #257, Atlanta, GA
2013	MCB Seminar, Iowa City, IA 52242
2013	Seminar, at Free Radical & Radiation Biology Program, UI, 52242
2014	Seminar, at Immunology Seminar program, University of Iowa, IA 52242
2014	Seminar, Holden comprehensive cancer center grand rounds, UI, IA51142
2016	Seminar, Holden comprehensive cancer center grand rounds, UI, IA51142

Mark Irvin M. Manzano, Ph.D.mark.manzano@northwestern.edu

217-778-5910 (mobile)

312-503-3076 (work)

Northwestern University

Department of Microbiology-Immunology

320 E. Superior St., Tarry 6-752

Chicago, IL, USA 60611

EDUCATION AND RESEARCH TRAINING

Research Associate, Northwestern University**January 2012-Present**

Advisor: Eva Gottwein, Ph.D.

Ph.D., Georgetown University**2011**

Advisor: Radhakrishnan Padmanabhan, Ph.D.

Thesis: Identification of *cis*-acting elements in the 3'-untranslated region of the dengue 2 virus type 2 RNA that modulate translation and replication**B.S., University of the Philippines, Diliman****2005**Molecular Biology and Biotechnology, *magna cum laude*

Senior Thesis Advisor: Celia Aurora Torres-Villanueva, Ph.D.

AWARDED RESEARCH FUNDING

Chicago Biomedical Consortium**2015-2017**

Postdoctoral Research Grant Program

Project: CRISPR Screen for Survival Factors of Viral Lymphomas

Total Direct Costs: \$30,000 (\$15,000 for Year 1, renewed \$15,000 for Year 2)

ACADEMIC HONORS AND RECOGNITIONS

2016	Travel Award (Best Presentation), 19 th International Workshop on Kaposi's Sarcoma-Associated Herpesvirus and Related Agents
2015	The Graduate School Travel Award, Northwestern University
2014	The Office of Postdoctoral Affairs Scholarship for the "Business for Scientists and Engineers" Course at the Kellogg School of Management, Northwestern University
2014	Best Poster, Department of Microbiology-Immunology Retreat, Northwestern University
2013	Katten Muchin Rosenman Travel Scholarship, Robert H. Lurie Comprehensive Cancer Center, Northwestern University
2013	Finalist, The Hope Funds for Cancer Research Postdoctoral Fellowship
2011	Young Scholars Award, Cosmos Club Foundation
2009	Student Travel Grant, American Society for Virology
2005	Bank of the Philippine Islands-Department of Science and Technology Science Award, Department of Science and Technology, Philippines (National Award)
2001-2005	University Scholar, University of the Philippines, Diliman (equivalent to Dean's List equivalent, all semesters)

PUBLICATIONS

Peer-reviewed (5 first author publications, 13 total, h-index = 10, cumulative citations = 590,

Google Scholar link: <https://scholar.google.com/citations?user=jP8oQusAAAAJ&hl=en>)

1. Patil A, **Manzano M**, Gottwein E. Genome-wide CRISPR screens reveal genetic mediators of cereblon modulator toxicity in primary effusion lymphoma. *Blood Advances* 3(14):2105-2117, 2019.

2. **Manzano M**, Patil A, Waldrop A, Dave S, Behdad A, Gottwein E. Gene essentiality landscape and druggable oncogenic dependencies in herpesviral primary effusion lymphoma. *Nature Communications* 9(1):3263, 2018. PMC6093911.
3. Patil A, **Manzano M**, Gottwein E. CK1 α and IRF4 are essential and independent effectors of immunomodulatory drugs in primary effusion lymphoma. *Blood* 132:577-86, 2018. PMC6085990.
4. Balasubramanian A*, **Manzano M***, Teramoto T, Pilankatta R, Padmanabhan R. High-throughput screening for the identification of small-molecule inhibitors of the flaviviral protease. *Antiviral Research* 134:6-16, 2016. PMC5065773 (*Equal contributions).
5. **Manzano M**, Forte E, Raja AN, Schipma MJ, Gottwein E. Divergent target recognition by coexpressed 5'-isomiRs of miR-142-3p and selective viral mimicry. *RNA* 21(9):1606-1620, 2015. PMC4536321.
6. Forte E, Raja AN, Shamulailatpam P, **Manzano M**, Schipma MJ, Casey JL, Gottwein E. MicroRNA-mediated transformation by the Kaposi's sarcoma-associated herpesvirus Kaposin locus. *Journal of Virology* 89(4):2333-2341, 2015. PMC4338870.
7. Grosswendt S*, Filipchuk A*, **Manzano M**, Klironomos F, Schilling M, Herzog M, Gottwein E, Rajewsky N. Unambiguous identification of miRNA:target site interactions by different types of ligation reactions. *Molecular Cell* 54(6):1042-1054, 2014. PMC4181535 (*Equal contributions).
8. Zhang W, Nandakumar N, Shi Y, **Manzano M**, Smith A, Graham G, Gupta S, Vietsch EE, Laughlin SZ, Wadhwa M, Chetram M, Joshi M, Wang F, Kallakury B, Toretsky J, Wellstein A, Yi C. Downstream of mutant KRAS, the transcription regulator YAP is essential for neoplastic progression to pancreatic ductal adenocarcinoma. *Science Signaling* 7(324):ra42, 2014. PMC4175524.
9. Boonyasuppayakorn S, Reichert ED, **Manzano M**, Nagarajan K, Padmanabhan R. Amodiaquine, an antimalarial drug, inhibits dengue virus type 2 replication and infectivity. *Antiviral Research* 106:125-134, 2014. PMC4523242.
10. **Manzano M**, Shamulailatpam P, Raja AN, Gottwein E. Kaposi's sarcoma-associated herpesvirus encodes a mimic of cellular miR-23. *Journal of Virology* 87(21):11821-11830, 2013. PMC3807327.
11. Teramoto T, Chiang HS, Takhampunya R, **Manzano M**, Padmanabhan R, Maric M. Gamma interferon-inducible lysosomal thioreductase (GILT) ablation renders mouse fibroblasts sensitive to dengue virus replication. *Virology* 441(2):146-151, 2013. PMID 23642353.
12. **Manzano M**, Reichert ED, Polo S, Falgout B, Kasprzak W, Shapiro BA, Padmanabhan R. Identification of *cis*-acting elements in the 3'-untranslated region of the dengue virus type 2 RNA that modulate translation and replication. *Journal of Biological Chemistry* 286(25):22521-22534, 2011. PMC3121397.
13. Alcaraz-Estrada SL, **Manzano MI**, Del Angel RM, Levis R, Padmanabhan R. Construction of a dengue virus type 4 reporter replicon and analysis of temperature-sensitive mutations in non-structural proteins 3 and 5. *Journal of General Virology* 91(Pt 11):2713-2718, 2010. PMC3052559.

Book Chapters

1. **Manzano M**, Padia J, Padmanabhan R. Small molecule inhibitor discovery for dengue virus protease using high-throughput screening. *Methods in Molecular Biology* 1138:331-344, 2014. PMID 24696346.
2. **Manzano M** and Padmanabhan R. Targeted mutagenesis of dengue virus type 2 replicon RNA by yeast in vivo recombination. *Methods in Molecular Biology* 1138:151-160, 2014. PMID 24696336.

Manuscripts in review or preparation

1. Morrison K, **Manzano M**, Chung K, Schipma MJ, Bartom ET, Gottwein E. The oncogenic Kaposi's sarcoma-associated herpesvirus encodes a mimic of the tumor suppressive miR-15/16 family. bioRxiv 660811. In review at *Cell Reports*.
2. **Manzano M**, Gunther T, Ju H, Nicholas J, Bartom ET, Grundhoff A, Gottwein E. IRF4 and viral vIRF3 cooperate to establish a pro-survival gene expression program in KSHV-transformed B cells. In preparation.

SELECTED CONFERENCE PRESENTATIONS

1. **Manzano M**, Patil A, Behdad A, and Gottwein E. Genome-wide CRISPR screens identifies MCL1 as a critical player in the survival of KSHV-transformed primary effusion lymphoma cell lines. 42nd International Herpesvirus Workshop, Ghent, Belgium. July 29-August 2, 2017. Selected for main workshop session.
2. **Manzano M**, Patil A, and Gottwein E. Genome-wide CRISPR screens for oncogenic mechanisms of KSHV-transformed primary effusion lymphoma cell lines. 41st Annual International Herpesvirus Workshop, Madison, WI. July 23-27, 2016. Selected for main workshop session.
3. **Manzano M**, Patil A, and Gottwein E. Genome-wide CRISPR screens for oncogenic mechanisms of KSHV-transformed primary effusion lymphoma cell lines. 19th International Workshop on Kaposi's Sarcoma-Associated Herpesvirus and Related Agents, Los Angeles, CA. July 19-22, 2016. Received Travel Award for Best Presentation.

MENTORING

Graduate Students

- 2011 Brian Zedalis, M.S. (Senior Research Associate, Gilead Sciences)
2010 Kovosh Dastan, M.D. (Medical Resident, University of Virginia)
2009 Joshua Brown-Clay, Ph.D. (Postdoc, Luxembourg Institute of Health)

Undergraduate Students

- 2013 Alexis Oguh (Ph.D. Student, University of Pennsylvania)
2011 Shira Saperstein, M.D., M.P.H. (Medical Resident, Temple University)
2009 Michael DeLuca, M.D., M.S. (Medical Resident, Massachusetts General Hospital)

Research Staff

- 2019 Ajinkya Patil (incoming Ph.D. Student, Harvard Medical School)

PROFESSIONAL DEVELOPMENT

- 2015 Introduction to Programming for Big Data, Northwestern University
2015 Genome Engineering 3.0 Workshop, Broad Institute
2014 Certificate, Business for Scientists and Engineers, Kellogg School of Management,

Northwestern University (full scholarship from The Graduate School)
2006 Certificate, Current Good Manufacturing Practices, Georgetown University

ACTIVITIES

2019 Ad hoc reviewer, *Journal of Medicinal Chemistry*
2015-2016, 2019 Ad hoc reviewer, *Database: The Journal of Biological Databases and Curation*
2015-2017, 2019 Organized student/postdoc-invited speaker talks for Virology for Northwestern University Department of Microbiology-Immunology seminar series
2007-2009 Teaching assistant, Medical Microbiology Laboratory, Georgetown University

COMMUNITY AND OUTREACH

2013 Mentor for Chicago Region Physical Sciences-Oncology Center Summer Research Experiences for Underserved College Students
Alexis Oguh (currently a Ph.D. Student in University of Pennsylvania)
2010-2011 Participated as a student grant reviewer and program evaluator of the newly formed Student Research Grants Program, Georgetown University Medical Center Graduate Student Organization

PATENT APPLICATIONS

1. Padmanabhan R, Teramoto T, and **Manzano M**. Flavivirus protease inhibitors. US Application No. 61/717,221, filed October 23, 2012.
2. Padmanabhan R, Teramoto T, and **Manzano M**. Flavivirus protease inhibitors. International Application No. PCT/US2013/066380, filed October 23, 2013.

AFFILIATIONS

American Society for Virology, 2009-Present
American Society for Microbiology, 2005-2006, 2010-2011
American Heart Association, 2014

REFERENCES

Eva Gottwein, Ph.D.

Assistant Professor of Microbiology and Immunology
Northwestern University
320 E. Superior St., Tarry 6-735
Chicago, IL 60611
e-gottwein@northwestern.edu, 312-503-3075

Laimonis Laimins, Ph.D.

Guy and Anne Youmans Professor
Professor of Microbiology and Immunology
Northwestern University
303 E. Chicago Ave., Morton 6-681
Chicago, IL 60611
l-laimins@northwestern.edu, 312-503-0648

Radhakrishnan Padmanabhan, Ph.D.

Professor of Microbiology and Immunology

Georgetown University

3900 Reservoir Rd. NW

Med-Dent Bldg. SW309

Washington, DC 20057

rp55@georgetown.edu, 202-687-2092

APPENDIX B

Act 181

State of Arkansas

As Engrossed: S2/4/19

92nd General Assembly

A Bill

Regular Session, 2019

SENATE BILL 151

By: Senators Irvin, Bledsoe, B. Davis, J. English

By: Representatives M. Gray, Barker, Bentley, Brown, Capp, Cavanaugh, Crawford, Dalby, C. Fite,
Lundstrum, J. Mayberry, Petty, Rushing, Speaks, Vaught, Gazaway

For An Act To Be Entitled

AN ACT CONCERNING THE PURSUIT OF A NATIONAL CANCER
INSTITUTE-DESIGNATED CANCER CENTER AT THE WINTHROP P.
ROCKEFELLER CANCER INSTITUTE AT THE UNIVERSITY OF
ARKANSAS FOR MEDICAL SCIENCES; TO CREATE THE
UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES NATIONAL
CANCER INSTITUTE DESIGNATION *TRUST FUND*; AND FOR
OTHER PURPOSES.

Subtitle

CONCERNING THE PURSUIT OF A NATIONAL
CANCER INSTITUTE-DESIGNATED CANCER CENTER
AT THE WINTHROP P. ROCKEFELLER CANCER
INSTITUTE AT THE UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. DO NOT CODIFY. Legislative findings.

The General Assembly finds that:

(1) In 2018, approximately sixteen thousand (16,000) Arkansans
were diagnosed with cancer in 2018, which means that forty-four (44)
Arkansans were diagnosed with cancer per day;

(2) Of those sixteen thousand (16,000) Arkansans diagnosed with
cancer, six thousand nine hundred ten (6,910) will die of the disease;

(3) The four (4) types of cancer with significantly high annual



1 diagnosis rates in Arkansas are:

2 (A) Lung and bronchus cancer, with two thousand seven
3 hundred twenty (2,720) diagnoses;

4 (B) Breast cancer, with two thousand one hundred sixty
5 (2,160) diagnoses;

6 (C) Prostate cancer, with one thousand two hundred sixty
7 (1,260) diagnoses; and

8 (D) Colon and rectal cancer, with one thousand three
9 hundred seventy diagnoses (1,370);

10 (4) Over the past twenty-eight (28) years, nationwide cancer-
11 related deaths have decreased by five percent (5%), but in Arkansas the rate
12 of cancer-related deaths has increased by nine percent (9%);

13 (5) Only Kentucky, Mississippi, and Oklahoma had higher cancer-
14 related death rates in the past twenty-eight (28) years than Arkansas;

15 (6) Cancer is the second-leading cause of death in Arkansas and
16 may become the leading cause of death within the next decade, surpassing the
17 current leading cause, cardiovascular disease, based on the diagnosis trends
18 in the state;

19 (7) There are currently seventy (70) National Cancer Institute-
20 Designated Cancer Centers, located in thirty-six (36) states and the District
21 of Columbia, including National Cancer Institute-Designated Cancer Centers in
22 Texas, Missouri, Oklahoma, and Tennessee;

23 (8) There are no National Cancer Institute-Designated Cancer
24 Centers in Arkansas, Mississippi, or Louisiana;

25 (9) In 2018, the State of Oklahoma received the seventieth
26 National Cancer Institute-Designated Cancer Center;

27 (10) Having a National Cancer Institute-Designated Cancer Center
28 in Arkansas will improve and expand access to clinical trials, cancer
29 treatment, cancer prevention, cancer screening, and education in Arkansas;

30 (11) A National Cancer Institute-Designated Cancer Center in
31 Arkansas would act as a hub of groundbreaking treatments and care for the
32 communities around the state;

33 (12) Arkansas cancer patients often times are required to leave
34 the state to receive treatment at a National Cancer Institute-Designated
35 Cancer Center;

36 (13) National Cancer Institute-Designated Cancer Centers have

1 expanded treatment options due to research grant funds and experimental
2 trials, and hundreds of research studies are underway at these centers,
3 ranging from basic laboratory research to clinical assessments of new
4 treatments not currently available in Arkansas;

5 (14) Having a National Cancer Institute-Designated Cancer Center
6 in the state would save the lives of thousands of Arkansans through expanded
7 treatment opportunities, including opportunities to participate in
8 experimental cancer treatments;

9 (15) Being a National Cancer Institute-Designated Cancer Center
10 would allow the Winthrop P. Rockefeller Cancer Institute at the University of
11 Arkansas for Medical Sciences to be awarded more research funds, which will
12 provide additional experimental cancer treatments in the state;

13 (16) A National Cancer Institute-Designated Cancer Center will
14 provide support for cancer treatment providers, clinics, and hospitals in
15 Arkansas;

16 (17) In addition to the human suffering caused by cancer, there
17 are economic costs that result from the disease, including medical costs and
18 the impact on the productivity of the cancer patient and his or her family;

19 (18) The Winthrop P. Rockefeller Cancer Institute at the
20 University of Arkansas for Medical Sciences is pursuing designation as a
21 National Cancer Institute-Designated Cancer Center for the benefit of the
22 more than three million (3,000,000) citizens of Arkansas;

23 (19) The National Cancer Institute recommends that a cancer
24 center have at least twenty million dollars (\$20,000,000) in National Cancer
25 Institute-funded research;

26 (20) The Winthrop P. Rockefeller Cancer Institute at the
27 University of Arkansas for Medical Sciences currently has approximately ten
28 million dollars (\$10,000,000) in National Cancer Institute-funded research;

29 (21) The Winthrop P. Rockefeller Cancer Institute at the
30 University of Arkansas for Medical Sciences can apply for only a limited
31 number of National Cancer Institute grant funds because over sixty percent
32 (60%) of the National Cancer Institute's grant applications require that the
33 cancer center be a National Cancer Institute-Designated Cancer Center in
34 order to apply for the grant funds;

35 (22) In order to achieve status as a National Cancer Institute-
36 Designated Cancer Center, the Winthrop P. Rockefeller Cancer Institute at the

1 University of Arkansas for Medical Sciences will need to recruit:

2 (A) A renowned expert in cancer research to serve as the
3 Director of the Winthrop P. Rockefeller Cancer Institute at the University of
4 Arkansas for Medical Sciences; and

5 (B) Nationally recognized National Cancer Institute-funded
6 medical professionals;

7 (23) To be successful in gaining status as a National Cancer
8 Institute-Designated Cancer Center, ongoing, dedicated financial support from
9 the State of Arkansas is critical;

10 (24) The Winthrop P. Rockefeller Cancer Institute at the
11 University of Arkansas for Medical Sciences will need a stream of funding
12 between ten million dollars (\$10,000,000) and twenty million dollars
13 (\$20,000,000) per year to establish and maintain a National Cancer Institute-
14 Designated Cancer Center;

15 (25) Like other states that have been successful in securing
16 status as a National Cancer Institute-Designated Cancer Center for their
17 cancer centers, it is incumbent that the State of Arkansas invest in this
18 initiative;

19 (26) It is a strategic goal of the Winthrop P. Rockefeller
20 Cancer Institute at the University of Arkansas for Medical Sciences to
21 becomes a National Cancer Institute-Designated Cancer Center;

22 (27) State government funds will assist the Winthrop P.
23 Rockefeller Cancer Institute at the University of Arkansas for Medical
24 Sciences secure vital investments from other public and private sources;

25 (28) The Winthrop P. Rockefeller Cancer Institute at the
26 University of Arkansas for Medical Sciences is committed to raising at least
27 thirty million dollars (\$30,000,000) in private funds to support the pursuit
28 of achieving status as a National Cancer Institute-Designated Cancer Center;

29 (29) The private resources pursued by the Winthrop P.
30 Rockefeller Cancer Institute at the University of Arkansas for Medical
31 Sciences are a part of a cohesive and focused plan that will forever change
32 the state;

33 (30) It is estimated that having a National Cancer Institute-
34 Designated Cancer Center will bring in an additional seventy million dollars
35 (\$70,000,000) annually to Arkansas's economy and will create one thousand
36 five hundred eighty-four (1,584) new jobs over five (5) years;

1 (31) The state should establish a fund solely for the purpose of
2 pursuing and maintaining status as a National Cancer Institute-Designated
3 Cancer Center for the Winthrop P. Rockefeller Cancer Institute at the
4 University of Arkansas for Medical Sciences;

5 (32) If upon June 30, 2027, the Winthrop P. Rockefeller Cancer
6 Institute at the University of Arkansas for Medical Sciences has not achieved
7 status as a National Cancer Institute-Designated Cancer Center, then the fund
8 created in this act should sunset; and

9 (33) Future General Assemblies will have the authority and
10 responsibility to evaluate the progress of the Winthrop P. Rockefeller Cancer
11 Institute at the University of Arkansas for Medical Sciences toward achieving
12 status as a National Cancer Institute-Designed Cancer Center and adjust this
13 act accordingly.

14
15 SECTION 2. Arkansas Code Title 19, Chapter 5, *Subchapter 11*, is
16 amended to add an additional section to read as follows:

17 19-5-1149. University of Arkansas for Medical Sciences National Cancer
18 Institute Designation Trust Fund – Report.

19 (a) There is created on the books of the Treasurer of State, the
20 Auditor of State, and the Chief Fiscal Officer of the State a trust fund to
21 be known as the “University of Arkansas for Medical Sciences National Cancer
22 Institute Designation Trust Fund”.

23 (b) The fund shall consist of:

24 (1) Moneys obtained from private grants or other sources that
25 are designated to be credited to the fund; and

26 (2) Any other funds authorized or provided by law.

27 (c) The fund shall be used by the Winthrop P. Rockefeller Cancer
28 Institute at the University of Arkansas for Medical Sciences solely to
29 achieve and maintain status as a National Cancer Institute-Designated Cancer
30 Center.

31 (d) The Treasurer of State shall invest the moneys available in the
32 fund.

33 (e)(1) The investment of funds under this section is exempt from § 19-
34 3-518(a)(2)(B)(i)(b) and (c).

35 (2) Moneys in the fund may be invested in any instrument:

36 (A) Listed in § 19-3-518(b)(1)(B); and

1 (B) Approved by the guidelines established by the State
2 Treasury investment policy approved by the State Board of Finance.

3 (f) Moneys remaining in the fund at the end of each fiscal year shall
4 carry forward and be made available for the purposes stated in this section
5 in the next fiscal year.

6 (g)(1) The Winthrop P. Rockefeller Cancer Institute at the University
7 of Arkansas for Medical Sciences shall submit a semiannual report containing
8 the following information to the Governor; the Legislative Council or, if the
9 General Assembly is in session, the Joint Budget Committee; the Senate
10 Committee on Public Health, Welfare and Labor; and the House Committee on
11 Public Health, Welfare, and Labor:

12 (A) The balance of the fund as of the reporting date;

13 (B) A list of the administrative costs paid for from the
14 fund, including without limitation salaries, pensions, and packages;

15 (C) The total revenue received by the fund during the
16 reporting period; and

17 (D) A detailed description of the steps taken and the
18 progress made toward achieving status as a National Cancer Institute-
19 Designated Cancer Center during the reporting period.

20 (2) The semiannual report required under this subsection shall
21 be submitted by January 1 and July 1 of each year.

22
23
24 /s/Irvin

25
26
27 APPROVED: 2/19/19
28
29
30
31
32
33
34
35
36