NCI Fund
Legislative Report

July 1, 2020 – November 30, 2020

Winthrop P. Rockefeller Cancer Institute

NCI 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 2% 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 (5+ hours drive) away from central Arkansas and not a feasible cancer care solution for most Arkansans.

Sylvester Cancer Center in Miami, FL 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, OK in 2018, Markey Cancer Center in Lexington, KY in 2013 and the University of Kansas Cancer Center in Kansas City, KS 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 on its journey toward 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 Arkansas.

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 ~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 (Figure 2)

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) (https://grants.nih.gov/grants/guide/pa-files/PAR-20-043.html).

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.

Expected Timeline

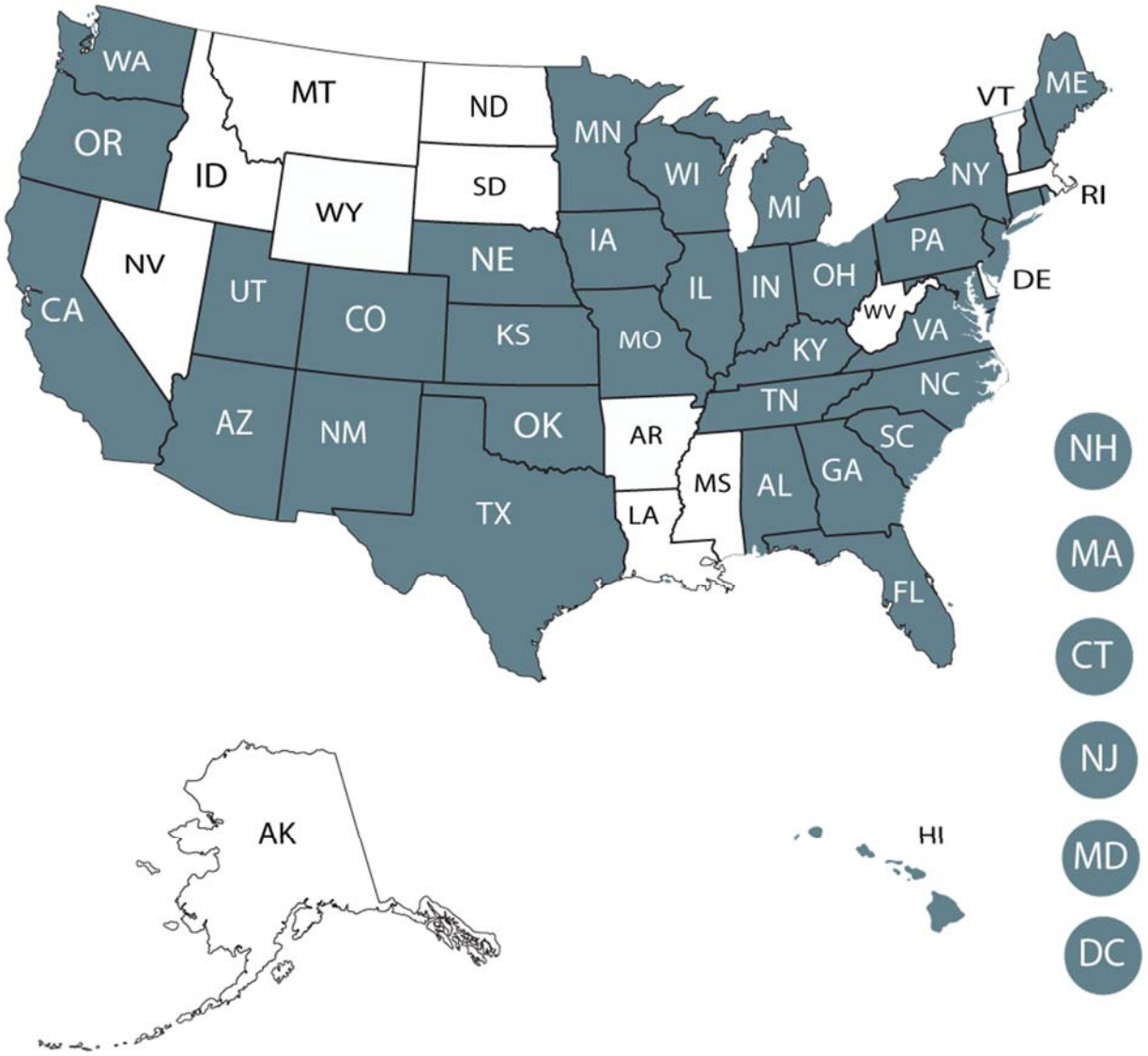
The Winthrop P. Rockefeller Cancer Institute is targeting submission of its CCSG in ~4 years. Two critical factors may extend or decrease this timeline: 1) how quickly strategic cancer research recruitments can be made and 2) the timeline set by NCI for submitting a CCSG application.

Impact of COVID-19:

The impact of COVID-19 on our state and the delivery of healthcare to our citizens continues to be a subject of much public focus and has required adherence to a common data-driven strategy by all healthcare providers. UAMS has continued to alter many processes and services to provide the safest environment possible for all of our patients, accepting that this would lead to a temporary financial hardship for the organization. In March and April, even though we did not close any of our clinics, we limited the number of patients who were seen in person. Also, elective surgeries were suspended, which led to a decrease in clinic volumes. The resumption of elective surgeries was slowly phased in starting in May. By the beginning of July, almost all patients were seen in person with only about 2% being seen via telemedicine. With the new surge in COVID cases across the state in October, operative volumes have been curtailed once again to align with availability of in-patient hospital beds. However, our clinics and infusion rooms have continued to see an increase in volumes. From July through November, our infusion room visits were 93% compared to the same period in 2019. For Medical Oncology/Myeloma, the clinic volumes were 99.7% compared to the same period in 2019. Overall, the volumes for all our clinics were 92% compared to the same period in 2019. In October, we opened our brand-new infusion area on the 6th floor, including a 10-bed Phase I unit. This unit gives us the ability to conduct Phase I drug trials, which previously was not available in the state, and patients had to be referred out-of-state for these trials. Our second infusion room will be moving to the 4th floor in January 2021. Also, we expect to complete the brand-new state of the art breast imaging center on the third floor by March 2021. Our Stem Cell Transplantation Program continues to be a Center of Excellence. We are the only facility in the state of Arkansas to provide CAR-T therapy, which is a specialized state of the art therapy for patients with lymphomas and leukemias.

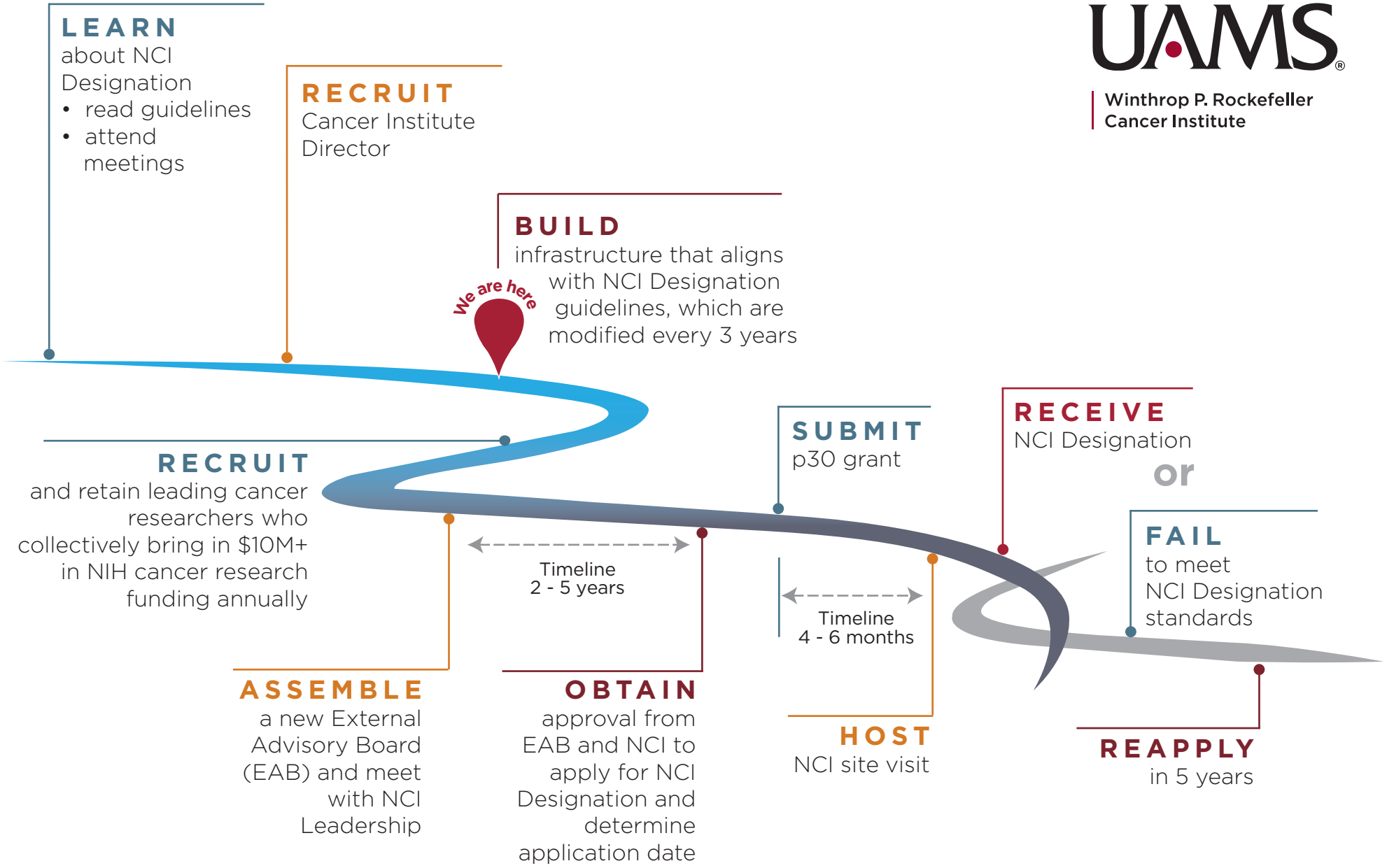
Laboratory research has continued throughout the COVID-19 pandemic at UAMS. The majority of clinical research has continued with only a few trials halting enrollment for a few weeks. The primary impact has been felt in recruitment, though this has not been as significant as anticipated. While our initial screening and interview process has shifted to the virtual environment, the majority of final candidates who appear likely for recruitment have been able to come on campus for visits, and offer letters have been signed (see **Table 1**). At the time of this report, we have quite a few recruits in the pipeline. Only a few of these are choosing not to travel due to COVID, and we expect to host them later this spring or summer for a final on campus recruitment visit. As all institutions are dealing with these challenges, we have not lost any candidates as a result, and we have been very pleased with our success in recruitments.

Figure 1. NCI Designated Cancer Centers. There are currently 71 NCI Designated cancer centers across 36 states and the District of Columbia. The 36 states with one or more NCI Designated cancer centers are depicted in shading below:



Roadmap to NCI Designation

UAMS
Winthrop P. Rockefeller Cancer Institute



Winthrop P. Rockefeller Cancer Institute
Senate Bill 151
Trust Fund - Pursuit of a National Cancer Institute Designation
FY2021 Semiannual Report Due January 1, 2021

Trust Fund Reporting Period (06/1/2020 - 11/30/2020)

Beginning Balance (6/1/2020)	$9,585,288.63
Total Transfers In	$9,160,939.16
Special Revenue: Cigarette Paper Tax	$892,025.95
**Processing Charges by DF&A on Special Revenue	($27,652.80)
Net Revenue Received	$19,610,600.94
Expense:	
**Workers Comp Charged direct by DF&A	($4,908.20)
Expense Draws Posted For Period (06/01/2020 - 10/31//2020)	($1,128,741.60)
Ending Balance (11/30/2020)	$18,476,951.14
Expense Draws For November 2020 Not Yet Posted to AASIS	($292,879.62)
Adjusted Ending Balance	$18,184,071.52

**Department of Finance and Administration adjustments

Expense Breakdown - Senate Bill 151 - Trust Fund For NCI Designation
Reporting Period: 6/1/2020 - 11/30/2020

		Semiannual Report January 1, 2021				
Program Account Description	**Fund Center Account**	**Salary**	**Fringe**	**M&O**	**Total Expense**	**Notes**
Atiq, Omar, MD (COM Internal Medicine-Medical Oncology)	3012857	0.00	0.00	870.65	870.65	Support of head & neck clinical trial
Cancer Service Line Support	3012859	7,955.87	1,493.96	0.00	9,449.83	$24K Total attachment for Jonathon Laryea, MD, Director Cancer Service Line for FY20 only.
Hauer-Jensen, Martin, MD, PhD (COP - Radiation Health)	3012860	38,651.96	10,608.65	57,000.00	106,260.61	Bridge funding for resubmission of COBRE grant
Cancer Institute Basic Research	3012862	0.00	0.00	19,352.51	19,352.51	For WPRCI Research Retreat
Cancer Clinical Trials Research Administration (CCTRA)	3012863	8,317.45	1,904.84	132,152.11	142,374.40	Cancer Clinical Trials
Bodenner, Robert, MD, PhD (COM - Geriatric Endocrinology)	3012864	10,922.14	2,215.66	0.00	13,137.80	Partial salary for 2 Research Techs to complete the canine grant submission in final stage.
Lewis, Gary, MD (COM - Radiation Oncology)	3012865	33,000.00	3,720.41	0.00	36,720.41	Recruitment package support
Leung, Ricky, PhD (COM Pharmacology Toxicology)	3012866	54,442.50	15,812.59	8,118.78	78,373.87	Recruitment package support
Fujiwara, Ryoichi -MHJ Cobre (COP Pharmaceutical Science)	3012873	0.00	0.00	17,070.74	17,070.74	COBRE grant bridge funding
Stolarz, Amanda -MHJ Cobre (COP Pharmaceutical Science)	3012874	2,047.48	-245.38	6,421.94	8,224.04	COBRE grant bridge funding
Frett, Brendan -MHJ Cobre (COP Coll of Pharm-Medicinal Chemistry)	3012875	0.00	0.00	22,010.53	22,010.53	COBRE grant bridge funding
Hsu, Ping-Ching -MHJ Cobre (CPH EOH)	3012876	2,524.54	679.51	0.00	3,204.05	COBRE grant bridge funding
Schinke, Caroline -MHJ Cobre (COM Internal Medicine-Myeloma)	3012877	0.00	0.00	17,398.94	17,398.94	COBRE grant bridge funding
Birrer, Michael, MD, (Cancer Institute)	3012954	69,589.65	19,366.98	4,799.87	93,756.50	Recruitment package support
Manzano, Mark, PhD (COM Microbiology & Immunology)	3012957	9,295.83	5,913.64	32.38	15,241.85	Recruit package support
Zhan, Frank MD, PhD (COM Internal Medicine - Medical Oncology)	3012958	141,934.27	22,298.07	-2,142.74	162,089.60	Recruitment package support
Belido, Teresita, PhD (COM Physiology and Biophysics)	3012983	24,166.65	6,176.60	100,696.55	131,039.80	Recruitment package support
Stephens, Kimberly, MD (COM Peds Care)	3012984	9,787.33	1,286.16	182.41	11,255.90	Recruitment package support
Su, Joseph, MD (CPH Epidemiology)	3012985	19,412.82	7,522.36	9,812.53	36,747.71	Recruitment package support
Cancer Institute Genomics Core Support	3012986	0.00	0.00	126,072.38	126,072.38	Supplement to Core for expense in excess of operating revenue
Cancer Institute Health Disparities - Ronda Henry-Tillman, MD	3012989	31,213.75	6,481.55	3,490.17	41,185.47	Retention package support
Core Voucher Program	3012996	0.00	0.00	61,105.85	61,105.85	Cancer core use vouchers for CI members
Xia, Fen, MD -Sample Banking (COM Radiation Oncology)	3012999	0.00	0.00	8,345.71	8,345.71	Clinical trial support.

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Amick, Benjamin III, PhD (CPH Epidemiology)	3013016	16,256.00	2,933.10	-7,388.10	11,801.00	Recruitment package support
Cornett, Larry (AR INBRE grant support)	3013041	3,156.25	935.94	80,000.00	84,092.19	Program support
Ryan, Katie, PhD (COM Biochemistry)	3013042	16,763.76	3,681.03	9,760.54	30,205.33	Recruitment package support
Cancer Institute CCSG Administration	3013049	0.00	0.00	10,782.00	10,782.00	Recruit ads
Delgado-Calle, Jesus, MD, (COM Physiology & Biophysics)	3013083	0.00	0.00	34,503.23	34,503.23	Recruitment package support
DFA Charges - Workers Comp	3013087	0.00	4,908.20	0.00	4,908.20	Charges administered by DFA
Tricot, Guido, MD (COM Myeloma Center)	3013104	6,997.57	535.33	0.00	7,532.90	Recruitment package support
Recruitment Costs	3013114	0.00	0.00	29,100.59	29,100.59	Advertising costs, travel, interview meals, etc.
Shaughnessy Jr., John (COM Myeloma Center)	3013122	21,333.35	5,330.38	0.00	26,663.73	Recruitment package support
Dr. Karbassi Breast Vaccine Support	3013127	0.00	0.00	2,694.00	2,694.00	Support of clincal trial for a breast cancer vaccine
Roy Choudhury, Samrat, PhD (COM Pediatrics)	3013173	0.00	0.00	18,048.90	18,048.90	Recruitment package support
Total Expense		527,769.17	123,559.58	770,292.47	1,421,621.22	

Expense Detail Justification

All expenses posted to the Trust Fund for NCI Designation support the advancement of cancer research directly or through support of clinical initiatives that enable the conduct of clinical research.

- **Atiq Omar, MD** - Research support was provided to Dr. Omar Atiq to conduct a head and neck cancer clinical trial entitled, "A Phase I/II Clinical Trial of PepCan in Head and Neck Cancer Patients in Remission to Reduce Recurrence Regardless of HPV Status". This trial is expanding on a peer-reviewed cancer clinical trial funded by NCI for another Cancer Institute researcher, Mayumi Nakagawa, MD, PhD.
- **Cancer Service Line Support**- Dr. Jonathon Laryea provided leadership of the Cancer Service Line between transitioning Cancer Institute directors.
- **Martin Hauer-Jensen, MD, PhD** - Bridge funding of research is a valuable and essential resource for researchers, and it is common practice for a cancer center to provide it to support research through small gaps in funding due to grant award timelines. Peer-reviewed grant funds are often awarded 7-12 months following submission of a grant. Support of research during this waiting period for new funding is strategic and critical. Dr. Martin-Hauer Jensen's multi-million dollar COBRE grant has been resubmitted, but bridge funding was required to keep projects going until the grant could be reviewed and scored (expected any day). Bridge funding was required for Dr. Donald Bodenner to continue his research investigating canine detection of cancer.
- **Cancer Institute Basic Research** – The NCI expects designated cancer centers to host an annual cancer research retreat. A collaborative retreat with University of Arkansas at Fayetteville cancer researchers was held virtually on October 30, 2020. It was hosted by the Winthrop Rockefeller Institute.
- **Cancer Clinical Trials Research Administration (CCTRA)** – Funds were used to support two staff positions for FY21 and renovation of 11th floor CCTRA office
- **Robert Bodenner, MD, PhD** – Funds were used to support Dr. Bodenner's canine grant-funded study.
- Multiple cancer researcher recruitment packages were supported through this mechanism (**Lewis, Leung, Fujiwara, Stolarz, Frett, Hsu, Schinke, Birrer, Manzano, Zhan, Belido, Stephens, Su, Amick, Ryan [Katie and Kevin], Delgado-Calle, Tricot, Shaughnessy, Roy Choudhury**). Cancer research faculty recruited during the current reporting period are shown in **Table 1**.
- **Cancer Institute Genomics Core Support** - Funds were used to support various needs of the Cancer Institute Genomics Shared Resource and the Tissue Bank. These Cancer Institute shared resources are infrastructure components required by NCI, and they are developed specifically to meet the stated needs of the cancer researchers at an institution.
- **Cancer Institute Health Disparities** – Funds were used to support the retention of Ronda Henry-Tillman, MD.
- **Core Voucher Program** - Core vouchers are available to Cancer Institute researchers through competitive application. These funds directly support cancer research projects.
- **Fen Xia, MD** – Funds were used to support a patient tissue banking project for Dr. Xia's clinical trial.
- **AR INBRE** – Funds were used to provide supplemental support to the INBRE grant held by Larry Cornett, PhD

- **Cancer Institute CCSG Administration** – Ads were placed in high profile journals and websites to recruit medical oncologists
- **DFA Charges Workers Comp** – These charges are imposed by the Arkansas Department of Finance and Administration and are identified on the AASIS ledgers as “Workers Comp”
- **Recruitment Costs** – Funds were used to place ads for cancer researchers in top journals and websites. Due to the COVID environment, all recruits are initially considered virtually through seminar presentation and virtual Zoom interviews. If recruitment is likely, candidates are invited for an on campus interview. Funds in this category were also used to cover travel costs for these candidates**.**
- **Karbassi Breast Vaccine Support** – This is long-term support for the continued study of a breast cancer vaccine clinical trial initiated by Tom Kieber-Emmons, PhD under a U.S. Army Department of Defense grant.

State Funds - NCI Designation

		Projected Expense						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
	FY20 (Actual Expense)	FY21	FY22	FY23	FY24	FY25	FY26	Total
Funds Committed by Year	1,556,705	8,059,857	7,183,693	6,182,442	4,624,341	3,439,454	1,712,351	31,202,138

Support for research faculty recruits is not a one-time investment; it is one that rolls across multiple years. When recruited to any academic institution, research faculty receive several years of financial support from the institution as part of their “recruitment package”. These funds provide critical support to the new faculty members while they are establishing their new laboratory and begin working with new collaborators. Each recruitment package is unique in components, timeline and amount and is tailored to the needs and value of each recruit.

The Projected Expense details the funds committed by the Cancer Institute to support recruited cancer researchers in future years. These numbers only include package offers that have been accepted; no pending offers or projected future offers are included. Ongoing support of the Cancer Institute shared resource voucher program and pilot programs is included. These expenses do not project or include additional annual deposits to the NCI Trust Fund Account.

Progress Toward Achieving NCI Designation June 1, 2020 – November 30, 2020

Detailed Progress:

1. **Large scale recruitment of cancer researchers continues:** In January and February, 2020, an omnibus ad seeking multiple cancer researchers was placed in four top scientific journals and their accompanying online sites (see previous report). From this effort, twenty-one top candidates have been interviewed via Zoom, and eleven candidates have had on-campus interviews. **Table 1** shows the eight successful recruitments from this reporting period. Their CVs are provided in **Appendix A.** The remaining three candidates who interviewed in person are still in the recruitment pipeline. We are extremely excited about all of these recruits, and believe they will contribute significantly to our research portfolio.

2. **Strategic recruitment of cancer researchers across UAMS:** The Cancer Institute works with departments across the UAMS campus to recruit faculty of interest to the departments. When departments discover a candidate they would like to pursue who is engaged in cancer research, the Cancer Institute becomes engaged in that process. This allows Cancer Institute research priorities to be considered in all relevant recruitments across campus.

3. **Targeted recruitment of cancer researchers:** In October, Cancer Institute Director, Michael Birrer, MD, PhD personally reached out to recent NCI K99 award recipients. Individuals who receive this highly competitive award are in their final years of postdoctoral training, and are able to carry this award forward into a new faculty position at a new academic institution. K99 candidates are highly sought out by research institutions across the country. The Cancer Institute has interviewed five K99 candidates. All are still in the recruitment pipeline as these recruitments often go more slowly than others due to the required transitional timing of this award.

4. **Strategic Recruitment of Oncology Clinical Faculty and Staff:** Multiple ads were placed in top medical journals and websites seeking medical oncologists during this reporting period. Four medical oncologists have been interviewed via zoom and three on campus visits have been completed. All four candidates are still in the recruitment pipeline. **Table 2** shows the six successful clinical oncology recruitments completed during this reporting period. Brief biographies of these recruits follow Table 2; CVs of these recruits are provided in **Appendix B**. Recruitment of these physicians is essential to provide the comprehensive cancer clinical care expected by NCI of a cancer center of our size. Many of these physicians will also be enrolling patients to clinical trials and will have the opportunity to initiate their own clinical research protocols. Note: Adam Wolfe, MD, PhD is included in both cancer researcher and clinical oncology recruitment tables due to the nature of his faculty appointment that requires him to be productive in both clinical and bench laboratory environments.

5. **Cancer Research Grant Activity: Table 3** summarizes grant activity occurring June 1, 2020 – November 30, 2020.

Table 1. Cancer Research Recruitments June 1, 2020 - November 30, 2020							
Candidate	**Current/Previous Institution**	**Recruited Rank**	**Recruitment Status**	**Recruitment Home Department**	**Research Interest**	**Peer-Reviewed Cancer Research Funding at Time of Legislative Reporting**	**CI investment***
Hui-Ming Chang, MD	University of Missouri School of Medicine	Professor	Started November 1, 2020	Pharmacology/Toxicology (secondary: Inrternal Medicine)	Doxorubicin induced cardiotoxicity	$2,258,482 (R01)	$1,000,000 start up over 4 years starting 10/1/2020
Eric Enemark, PhD	St. Jude Children's Research Hospital	Associate Professor	Begins January 1, 2021	Biochemistry	DNA replication, X-ray crystallographty and cryo-EM	$1,255,290 (R01, R35)	$1,750,000 start up over 5 years starting 1/4/2021
Sayem Miah, PhD	Indiana University School of Medicine	Assistant Professor	Begins January 1, 2021	Biochemistry	non-Receptor Tyrosine Kinase (nRTK) mediated TGFβ/SMAD signaling in tumorigenesis and metastasis	None	$1,375,000 total CI investment for start up resources ($325,000 for one half of FY21, $325,000 FY22, $275,000 FY23, $275,000 FY24, $150,000 FY25, $25,000 FY26)
Marius Nagalo, PhD	Mayo Clinic in Arizona	Assistant Professor	Begins June 1, 2021	Pathology	molecular engineering of tumor specific virotherapies in hepatobiliary cancers	$386,103 (K01)	$1,100,00 lab start up funds + 80% of salary over 5 years ($554,583 total salary support) = $1,654,583 total CI investment
Mark Park, MD, PhD	NIH/NIEHS	Assistant Professor	Begins January 1, 2021	Epidemiology	Molecular and nutritional epidemiology, oxidative stress and breast cancer	None	80% of salary for 3 years starting 1/1/2021, plus $255,000 startup for a total package of $589,500
Samrat Roy Choudhury, PhD	UAMS	Assistant Professor	Started October 1, 2020	Pediatrics	Multiple Myeloma, investigating epigenetic deregulations and novel theragnostics in MM	None	$350,000 in FY21 for salary suport and lab set up
Adam Wolfe, MD, PhD	The Ohio State University	Assistant Professor	Begins July 1, 2021	Radiation Oncology	DNA damage response and repair, radiosensitizing strategy for oncogene-driven cancers (such as pancreatic cancer)	None	80% of a $330,000 salary for 4 years starting 7/1/2021 + $150,000 in startup support over 3 years for a total package of $1,116,240
Edward Yeh, MD	University of Missouri School of Medicine	Professor	Started November 1, 2020	Internal Medicine	Doxorubicin induced cardiotoxicity	$1,250,000 (R01)	$1,000,000 start up support over 4 years starting in FY21

*Cancer Institute investment represents the total commitment made by the Winthrop P. Rockefeller Cancer Institute to support the cancer research candidate and generally represents a three to five year 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. Clinical Oncology Recruitments June 1, 2020 - November 30, 2020				
Incoming	**Anticipated Start Date**	**Clinic**	**Subspecialty**	**Previous Organization**
Ahmet Aydin, MD	2/1/2021	Urology Oncology	Urologic Oncology	Urologic Oncology Fellowship at Moffitt Cancer Center, Tampa, FL
Richard Crownover, MD, PhD	11/16/2020	Radiation Oncology	Breast, Gynecological, Sarcoma Radiation Oncology	Mays Cancer Center at UT Health San Antonio, San Antonio, TX
Neelakanta Dadi, MBBS	7/1/2021	Medical Oncology	Gastrointestinal and Genitourinary Oncology	Hematology/Oncology Fellowship at Louisiana State University Fiest Weiller Cancer Center, Shreveport, LA
Michail Mavros, MD	10/1/2020	Surgical Oncology	Hepato-Pancreatico-Biliary Surgery	Clinical Fellow in Hepato-Pancreatico-Biliary Surgery at the University of Toronto, Toronto, ON, Canada
Zhong Su, PhD, MBA	2/15/2021	Radiation Oncology	Medical Physics	University of Florida (Gainesville, FL) Department of Radiation Oncology and University of Florida Health Proton Therapy Institute (Jacksonville, FL)
Adam Wolfe, MD, PhD	7/1/2021	Radiation Oncology	Gastrointestinal Radiation Oncology	Postdoctoral Clincial Research Fellow (American Board of Radiology Holman Research Pathway) and Chief Resident, Department of Radiation Oncology, Ohio State University, Columbus, OH

Ahmet Aydin, M.D.
Specialty: Urologic Oncology
Aydin received his medical degree and completed a urology residency at the Hacettepe University Faculty of Medicine in Ankara, Turkey. He is currently completing a urologic oncology fellowship with the Department of Genitourinary Oncology at Moffitt Cancer Center in Tampa, Florida.

Richard Crownover, M.D., Ph. D.
Specialty: Radiation Oncology (Breast, Gynecologic, Sarcoma)
Crownover received his medical degree from the Duke University School of Medicine in Durham, North Carolina, where he later earned his Ph.D. in Physics. He went on to complete a residency in radiation oncology from the UC San Francisco Department of Radiation Oncology in San Francisco, California. Since 2007, he has served on the radiation oncology faculty of Mays Cancer Center at UT Health San Antonio in San Antonio, TX where he also acted as the residency program director.

Neelakanta Dadi, M.B.B.S.
Specialty: Gastrointestinal and Genitourinary Oncology
Dadi studied medicine at Andhra Medical College in Andhra Pradesh, India before going on to complete a residency with the University of Utah School of Medicine. He is currently completing a hematology/oncology fellowship with the Louisiana State University Fiest Weiller Cancer Center.

Michail Mavros, M.D.
Specialty: Hepato-Pancreatico-Biliary Surgery
Mavros is a graduate of the University of Athens School of Medicine in Athens, Greece and completed his residency in general surgery at MedStar Georgetown University Hospital – Washington Hospital Center in Washington, DC. He recently completed clinical fellowships in both complex general surgical oncology and hepato-pancreatico-biliary surgery at the University of Toronto in Toronto, ON, Canada.

Zhong Su, Ph.D., MBA
Specialty: Medical Physics
Su studied applied physics at the National University of Defense Technology in Hunan, China before going on to receive his M.S. and Ph.D. in nuclear engineering sciences from the University of Florida in Gainesville, Florida. Since 2008, he has served on the radiation oncology faculty of the University of Florida in Gainesville and the University of Florida Health Proton Therapy Institute in Jacksonville.

Adam Wolfe, M.D., Ph.D.
Specialty: Radiation Oncology (Gastrointestinal)
Wolfe received his medical degree from of the University of Texas McGovern Medical School and his Ph.D. in cancer biology from the University of Texas MD Anderson Cancer Center in Houston, Texas. He is currently completing a residency in radiation oncology and a postdoctoral clinical research fellowship with the Department of Radiation Oncology at Ohio State University in Columbus, Ohio.

Table 3. Cancer Research Grant Activity				
	External Peer-Reviewed New Grants Awarded (#)	Awarded External Peer-Reviewed New Grant Funding (Annual Project Period Direct Costs)	External Peer-Reviewed New Grants Submitted (#)	Proposed Peer-Reviewed Grant Funding Submitted (Total Costs for All Years)
June 1, 2020 – November 30, 2020	5	$1,144,194	96	$116,057,813

APPENDIX A

Curricula vitae of cancer research recruits

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

Current Position:

Co-Director, Center for Precision Medicine
Associate Research Professor, Department of Medicine
School of Medicine
University of Missouri
Columbia, MO 65212

Address: 2503 Chelan Circle
Columbia MO 65203
E-mail: mingchangmd@gmail.com

Education:

Clinical Fellow	Department of Anesthesia, Harvard Medical School, The Children's Hospital, Boston, MA	1986-1988
Research Fellow	Department of Anesthesia, Harvard Medical School The Children's Hospital, Boston, MA	1986-1987
Resident	Department of Anesthesia, Boston University Medical School, University Medical Center, Boston, MA	1984-1986
Intern	George Washington University Medical School, University Medical Center, Washington D.C.	1983-1984
M.S.	Master of Science in Physiology, Harvard School of Public Health, Boston, MA	1982-1983
M.P.H.	Master of Public Health in Epidemiology, Harvard School of Public Health, Boston, MA	1981-1982
Resident	Department of Medicine, Taiwan TB Prevention Bureau, Taipei, Taiwan	1980-1981
Intern	National Taiwan University Hospital, Taipei, Taiwan	1979-1980
M.D.	National Taiwan University, Medical College, Taipei, Taiwan	1973-1980

Professional Experiences:

Co-Director	Center for Precision Medicine, School of Medicine University of Missouri, Columbia, MO	2016-Present
Affiliate Faculty	Institute for Data Science and Informatics, University of Missouri, Columbia, MO	2017-present
Special Advisor to the President	University of Texas Health Science Center at Houston Houston, TX	2001-2008
Vice President	International Programs University of Texas Health Science Center at Houston,	

	Houston, TX	2006-2008
Associate Vice President		
	International Programs and	
	University of Texas, Health Science Center at Houston	
	Houston, TX	2001-2006
Director of Education		
	Department of Palliative Care and Rehabilitation,	
	University of Texas, M.D. Anderson Cancer Center	
	Houston, TX	2000-2003
Course Director	Senior Clinical Rotation "Multidisciplinary Approach to Palliative Care, Pain Management, and Symptom Control"	
	The University of Texas Medical School at Houston and	
	The University of Texas, M.D. Anderson Cancer Center	
	Houston, TX	1997-2003
Director	Senior Clinical Performance Examination	
	(Standardized Patient OSCE Examination)	
	University of Texas Medical School at Houston	
	Houston, TX	1996-2001

Academic Appointments:

Associate Research Professor		
	Department of Medicine	
	University of Missouri School of Medicine	
	Columbia, MO	2016-present
Associate Professor	University of Texas Health Science Center at Houston	
	Houston, TX	2000-2008
Associate Professor	Department of Palliative Care and Rehabilitation,	
	University of Texas, M.D. Anderson Cancer Center	
	Houston, TX	2000-2003
Assistant Professor	Departments of Anesthesiology and Medicine,	
	University of Texas, M.D. Anderson Cancer Center	
	Houston, TX	1997-2000
Assistant Professor	Department of Internal Medicine,	
	University of Texas Health Science Center at Houston	
	Houston, TX	1993-2000
Assistant Professor	Department of Anesthesiology	
	University of Texas Health Science Center at Houston	
	Houston, TX	1993-1996
Instructor in Anesthesia		
	Harvard Medical School	
	Massachusetts General Hospital	
	Boston, MA	1989-1993

Hospital Appointments:

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

Medical Staff	Department of Medicine, Hermann Hospital, Memorial Hermann Healthcare System Houston, TX	1998-2004
Attending Physician	Department of Anesthesiology and Pain Management Department of Palliative Care and Rehabilitation University of Texas, M.D. Anderson Cancer Center Houston, TX	1997-2003
Attending Physician	Department of Anesthesia, Pain Control Unit, Massachusetts General Hospital Harvard Medical School, Boston MA	1990-1993
Attending Physician	Assistant in Anesthesia Promoted to Assistant Anesthetist in 1992 Department of Anesthesia Massachusetts General Hospital Harvard Medical School, Boston MA	1989-1993

Certificate and Licensure:

American Board of Anesthesiology, Active	1990-present
State Medical License, California, Active	1995-present
State Medical License, Texas, Active	1993-present
State Medical License, Massachusetts, Active	1984-present
American Board of Pain Medicine	2004
Pain Management, Recertification, American Board of Anesthesiology	2003
Special Purpose Examination (SPEX)	1994
Pain Management, American Board of Anesthesiology	1993
Federation Licensing Examination (FLEX)	1983
Education Commission for Foreign Medical Graduates	1981
Medical License, Republic of China	1981

Professional Memberships and Activities

American Academy of Pain Medicine	1995-present
Scientific Review and Guidelines Committee	2018-present
Board of Directors	2003-2006
Founding Chair, Education Committee	1998-2002
Chair, Scientific Session, Annual Meeting	2003
Program Committee, Annual Meeting	2000, 2003
American Medical Association	1998-present
American Heart Association	2016-present

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

International Association for the Study of Pain	1992, present
American Society of Anesthesiologists	1983-present
Task Force on Pain Management Clinical Practice Guidelines	1993-1996
Cancer Pain Section	
Texas Society of Anesthesiologists	1993-2008
Alternate Delegate	1998-2002
American Pain Society	1993-2008
Association of American Medical Colleges	1998-2001

Committee Assignments and Administrative Services:

Scientific Review and Guidelines Committee		
	American Academy of Pain Medicine	2018-present
Search Committee	President for University of Texas	
	Health Science Center at Houston	2008
Global Initiative Advisory Group		
	The University of Texas System	2007
Global Initiative Task Force		
	The University of Texas System	2006
Executive Council	University of Texas Health Science Center at Houston	2005-2008
International Affairs Advisory Council		
	Texas Medical Center, Houston TX	2001-2008
Search Committee	President of Houston Community College	
	Coleman Collage for Health Sciences	2005
Chair	International Programs Award Review Committee	
	University of Texas Health Science Center at Houston	2005-2008
Delegate	US Federal Government	
	Vietnam Education Foundation	2004
Multicultural Affairs Committee		
	University of Texas Health Science Center at Houston	2004-2008
Board of Clinical Directors		
	National Pain Foundation	2004-2006
Scientific Advisory Committee		
	University Clinical Research Center	
	University of Texas Health Science Center at Houston	
	University of Texas MD Anderson Cancer Center	1996-2006
Chair	International Relations Council	
	University of Texas Health Science Center at Houston	2003-2008
Interinstitutional Relations Council		

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

	University of Texas Health Science Center at Houston	2003-2008
Grant Review Study Section		
	California Cancer Research Program	2001-2002
Steering Committee	Collaboration among Texas medical schools to improve education in Cancer Prevention and Detection. (CATCHUM)	1997-2002
Curriculum Committee, *ex officio,* University of Texas,		
	Health Science Center at Houston, Medical School	1997-2001
Steering Committee	Collaboration among Texas medical schools to improve education in pain management	1997-1999
Admission Committee		
	University of Texas Health Science Center at Houston Medical School	1996-2001
Committee for Institution Accreditation		
	Institutional Self-Study Project for the Southern Association of Colleges and Schools, University of Texas Health Science Center at Houston	1998-2000
Cost Awareness Committee		
	University of Texas Health Science Center at Houston	1998-1999
Problem Based Learning Task Force		
	Collaboration among Texas medical schools to improve education in Cancer Prevention and Detection (CATCHUM)	1997-1999

Educational Activities:

Co-Director	Center for Precision Medicine, Create and maintain a conducive environment for education in research. Mentor center faculty, post-doctoral fellows, residents, medical students, graduate students, and undergraduate campus students on bench to bedside research projects, thesis writing, and abstract/poster presentations University of Missouri, School of Medicine, Department of Medicine	2016-present
Co-Chair	7th Multidisciplinary Approach to Palliative Care Pain, and Symptom Management Conference, University of Texas, MD Anderson Cancer Center	2002-2003
Director	Senior Clinical Rotation "Multidisciplinary Approach to Palliative Care, Pain Management, and Symptom Control" The University of Texas, Health Science Center at Houston, Medical School and The University of Texas, MD Anderson Cancer Center	1997-2003
Director	Senior Clinical Performance Examination (Standardized Patient OSCE Examination)	

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

	University of Texas, Health Science Center at Houston Medical School	1996-2001
Course Director	"End of Life Care and Pain Management" University of Texas, Health Science Center at Houston, Medical School	1997, 2000
Lecturer	"End of Life Care and Pain Management" Senior Clinical Clerkship in Internal Medicine, University of Texas Health Science Center at Houston Medical School	2000-2003
Faculty Examiner	Fourth-year medical student exit examination University of Texas, Health Science Center at Houston Medical School	1995-2003
Teaching Faculty	Physicians and Fellows in Pain Management University of Texas MD Anderson Cancer Center	1997-2003
Faculty Facilitator	Problem-based learning, University of Texas, Health Science Center at Houston, Medical School	1995-2001
Faculty	Clinical Epidemiology Core Group University of Texas, Health Science Center at Houston Medical School	1996-2000
Faculty Examiner	First-year Introduction to Clinical Medicine, University of Texas, Health Science Center at Houston Medical School	1997-1998
Faculty	Workshop on Evidence Base Medicine for Faculty University of Texas Health Science Center at Houston Medical School.	1997-1998
Faculty	Hands-on Interventional Pain Workshop University of Texas, MD Anderson Cancer Center	1997
Physician Examiner	Second Year Physical Diagnosis Course University of Texas Health Science Center at Houston Medical School	1995-1997
Faculty Advisors	MS I and II students University of Texas Health Science Center at Houston Medical School	1994-1997
Tutor	Residents in Anesthesiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA	1990-1991
Clinical Instructor	Residents and Fellows in Anesthesiology and Pain Management, Massachusetts General Hospital, Harvard Medical School. Boston, MA	1989-1992

Honors and Awards:

Medical Honoree	American Heart Association, Heart Ball Houston, TX	2011
Fleming and Davenport Awards		2000
Scholar	Harvard Alumni Association (Taipei)	1981

CURRICULUM VITAE

HUI-MING CHANG, M.D., M.P.H., M.S.

Grants and Contract Awards:

Current:

1. Principle Investigator**,**
Prevention of Heart Failure induced by Doxorubicin with early administration of Dexrazoxane (clinical trial: PHOENIX)
RO1 HL151993, NIH, National Heart Lung and Blood Institute and National Cancer Institute (NHLBI and NCI), 7 percentile, 10/17/2019 scientific review. Notice of Award 6/8/2020
$3,480,512 6/15/2020-5/31/2025

2. Co-Principle Investigator,
Doxorubicin-induced Cardiotoxicity: Role of Topoisomerase 2b
RO1 HL126916 NIH, National Heart, Lung and Blood Institute (NHLBI)
$1,600,000 4/1/2015-8/31/2021

Completed:

1. Principal Investigator, "End of Life Care and Pain Management Educational Program" Fleming and Davenport Awards, 1/2001-1/2006
   Initiated and directed this educational program.
2. Principal Investigator at the UT-Health Science Center at Houston, "The CATCHUM Project" National Institute of Health, DHHS, 5R25CA65561804, 4/1998-3/2003
   Responsible for all CATCHUM activities at UT-Houston
3. Co-Investigator, "Pathobiology of Paroxysmal Nocturnal Hemoglobinuria" National Institute of Health, RO1 HL45851, 7/1994-7/1998. Responsible for establishing mutant cell lines defective in the biosynthesis of the glycosyl-phosphatidylinositol (GPI) anchor.
   Played a critical role in molecular cloning of genes encoding enzymes of the GPI biosynthesis pathway.
4. Principal Investigator, "Modulation of Substance P Release in Primary Sensory Neurons by Misoprostol and NSAIDs,". Searle, Arthritis and Prostaglandins Research Challenge, 12/1991-3/1994.
   Responsible for planning experiments, training and supervising a post-doctoral fellow in performing the experiments, and in writing manuscripts.

Publications:

PEER-REVIEWED ARTICLES:

1 **Chang HM**, Berde CB, Holz GG, Steward GF, Kream RM. Sufentanil, morphine, met-enkephalin and k-agonist (U50,488H) inhibit substance P release from primary sensory neurons: a model for presynaptic spinal opioid actions. **Anesthesiology.** 1989; 70:672-677 PMID: 2467589

2. DeGasperi R, Thomas LJ, Sugiyama E, **Chang HM**, Beck PJ, Orlean P, Albright C, Waneck G, Sambrook J, Warren CD, and Yeh ETH. Correction of a defect in mammalian GPI anchor biosynthesis by a transfected yeast gene. **Science**, 250:988-991, 1990 PMID: 1978413
3. Sugiyama E, DeGasperi R, Urakaze M, **Chang HM**, Thomas LJ, Hyman R, Warren CD, and Yeh ETH. Identification of the defects in GPI anchor biosynthesis in the Thy-1 expression mutants. **Journal of Biological Chemistry**. 266:12119-12122, 1991 PMID: 1829456
4. Thomas LJ, DeGasperi R, Sugiyama E, **Chang HM**, Beck PJ, Orlean P, Urakaze M, Kamitani T, Sambrook J, Warren CD, and Yeh ETH. Functional analysis of T-cell mutants defective in the biosynthesis of glycosylphosphatidylinositol anchor. Relative importance of glycosylphosphatidylinositol anchor vs. N-linked glycosylation in T-cell activation. **Journal of Biological Chemistry** 266:23175-23184, 1991 PMID:1835975
5. De Armendi AJ, Ryan JF, **Chang HM**, Liu LMP, Jaramillo D. Retained caudal catheter in a paediatric patient. **Paediatric Anaesthesia** 2:325-327,1992
6. Yeh ET and **Chang HM**. Pathophysiology and principles of pain management in rheumatic patients. **Current Opinion in Rheumatology**, 4:332-336, 1992 PMID: 1599812
7. Mahoney JF, Urakaze M, Hall S, DeGasperi R, **Chang HM**, Sugiyama E, Warren CD, Nicholson-Weller A, Borowitz M, Rosse WF, Yeh ETH. Defective glycosylphosphatidylinositol anchor synthesis in paroxysmal nocturnal hemoglobinuria PNH) granulocytes. **Blood**, 79:1400-1403, 1992. PMID: 1372185
8. Urakaze M, Kamitani T, DeGasperi R, Sugiyama E, **Chang HM**, Warren CD, Yeh ETH. Identification of a missing link in glycosylphosphatidylinositol anchor biosynthesis in mammalian cells. **Journal of Biological Chemistry**, 267:6459-6462, 1992. PMID: 1313004
9. Thomas LJ, Urakaze M, DeGasperi R, Kamitani T, Sugiyama E, **Chang HM**, Warren CD, Yeh ETH. Differential expression of glycosylphosphatidylinositol-anchored proteins in a T-cell hybridoma mutant producing limiting amounts of the glycolipid core. Implication for Paroxysmal Nocturnal Hemoglobinuria. **Journal of Clinical Investigation**, 89:1172-1177, 1992. PMID: 1532587
10. Kamitani T, **Chang HM**, Rollins C, Waneck GL, Yeh ETH. Correction of the class H defect in glycosylphosphatidylinositol anchor biosynthesis in Ltk$^-$ cells by a human cDNA clone. **Journal of Biological Chemistry**, 268: 20733-20736,1993 PMID: 8407896
11. Ware R, Howard TA, Kamitani T, **Chang HM**, Yeh ETH, Seldin MF. Chromosomal assignment of genes involved in glycosylphosphatidylinositol anchor biosynthesis: implications for the pathogenesis of paroxysmal nocturnal hemoglobinuria. **Blood**, 83(12): 3753-3757,1994 PMID: 8204896
12. **Chang HM**, Patt RB. Postoperative Pain Management- At Last. **Pain Digest** 4:221- 222,1994
13. Norris J, Hall S, Ware R, Kamitani T, **Chang HM**, Yeh ETH, Rosse WF Glycosyl-phosphatidylinositol anchor synthesis in paroxysmal nocturnal

hemoglobinuria: partial or complete defect in an early step. **Blood**, 83(3) 816-821,1994 PMID: 7507735

14. Yeh ET, Kamitani T, **Chang HM**. Biosynthesis and processing of the glycosylphosphatidylionsitol anchor in mammalian cells. **Seminars in Immunology**, 6:73-80,1994 PMID:8054538
16. **Chang HM**, Wang L, Zhang XP, Kream RM, Yeh ETH. Modulation of Substance P Release in primary sensory neurons by misoprostol and prostaglandins. **American Journal of Therapeutics**, 3, 276-279, 1996 PMID: 11862261
17. Okura T, Gong L, Kamitani T, Wada T, Okura I, Wei CF, **Chang HM**, Yeh ETH. Protection against Fas/APO-1 and tumor necrosis factor-mediated cell death by a novel protein, Sentrin. **Journal of Immunology. Cutting Edge**, 157:4277-4281, 1996 PMID: 8906799
18. **Chang HM**. Cancer Pain Management. **Medical Clinics of North America**, Vol. 83, No 3:711-736 May 1999 PMID: 10386122
19. **Chang HM**. Educating Medical Students in Pain Medicine and Palliative Care, Editorial, **Pain Medicine**, Vol.3, No.3, 2002 PMID: 15099251
20. **Chang HM** Pain and Its Management in Patients with Cancer, **Cancer Investigation**, Vol. 22, No. 5, 2004 PMID: 15581060
21. Yeh ET, **Chang HM** Oncocardiology-Past, Present, and Future: A Review, **JAMA Cardiol**. 2016 Dec 1;1(9):1066-1072 PMID: 27541948
22. **Chang HM**, Yeh ET Potential of Oncocardiology-Reply, **JAMA Cardiol**. 2017 July 1;2(7):818 PMID: 28273313
23. Yeh ET, **Chang HM** Cancer and Clot: Between a Rock and a Hard Place, **J Am Coll Cardiol** 2017 August 22; 70 (8): 939-941 PMID: 28818203
24. **Chang HM**, Moudgil R, Scarabelli T, Okwuosa T, Yeh ET Cardiovascular Complications of Cancer Therapy: Best Practices in Diagnosis, Prevention, and Management: Part 1, **J Am Coll Cardiol** November 14;70(20):2536-2551, 2017 PMID: 29145954
25. **Chang HM**, Okwuosa T, Scarabelli T, Moudgil R, Yeh ET Cardiovascular Complications of Cancer Therapy: Best Practices in Diagnosis, Prevention, and Management: Part 2, **J Am Coll Cardiol** November 14;70 (20):2552-2565, 2017 PMID: 29145955
26. Yang FM, Zuo Y, Zhou W, Xia C, Hahm B, Sullivan M, Cheng J, **Chang HM**, Yeh ET sNASP Inhibits TLR Signaling to Regulate Immune Response in Sepsis. **J Clin Invest**. 2018 Jun 1;128(6):2459-2472. doi: 10.1172/JCI95720. Epub 2018 May 7. PMID: 29733298
27. Yeh ETH, Ewer MS, Moslehi J, Dlugosz-Danecka M, Banchs J, **Chang HM**, Minotti G Mechanisms and Clinical Course of Cardiovascular Toxicity of Cancer Treatment I. Oncology. Semin Oncol 2019 Dec 46(6):397-402 doi:10.1053/j.seminoncol 2019.10.006 Epub 2019 Nov 11 PMID: 31753424
28. Li J, **Chang HM**, Banchs J, Araujo D, Hassan SA, Wagar EA, Yeh ET, Meng Q. Detection of subclinical cardiotoxicity in sarcoma patients receiving continuous doxorubicin infusion or pre-treatment with dexrazoxane before bolus doxorubicin.

Cardio-Oncology, 2020 Jan 2;6:1 doi:10.1186/s40959-019-0056-3 ecollection 2020 PMID:32154027

29. **Chang HM**, Yeh ET, SUMO: From Bench to Bedside. **Physiological Reviews**. 2020 In press

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PEER-REVIEWED PRACTICE GUIDELINES AND POSITION STATEMENT:

30. Ferrante FM, Bedder M, Caplan RA, **Chang HM**, Connis RT, Harrison P, Jamison RN, Krane EJ, Nedelikovic S, Patt R., Portenoy RK. Practice Guidelines for Cancer Pain Management. Developed by Task Force on Pain Management, Cancer Pain Section. American Society of Anesthesiologists **Anesthesiology**, 1996; 84: 1243-57
31. **Chang HM**, Gallagher R, Vailancourt PD, Balter K, Workman EA, McClain B, Ellenberg M, Chiang JS Undergraduate Medical Education in Pain Medicine, End-of-Life Care, and Palliative Care: A position statement from the American Academy of Pain Medicine. **Pain Medicine**, Vol.1, No 3: 224, September 2000

Published Abstracts and Presentations:

1. **Chang HM**, Palmer L, Tolley S, Bruera E. The effects of a required end-of-life care and pain management teaching session. 38th Annual Meeting of American Society of Clinical Oncology, May 2002, Proceedings of the American Society of Clinical Oncology 2002; 21(1): p. 354a (Oral Presentation)
2. **Chang HM**, Palmer JL, Mun Y, Willey JS, Bruera E. The effects of an end-of-life care and pain management course. Research in Medical Education (RIME) Association of American Medical Colleges (AAMC) 112th Annual Meeting, November 2001 RIME 2001 p. 13 (Poster)
3. **Chang HM**, Palmer JL, Mun Y, Tolley S, Bruera E Do students who elect to take a course in end-of-life care and pain management have better baseline Attitudes and Knowledge towards end-of-life care and pain management. 13th International Symposium in Supportive Care in Cancer, June 2001, A89 Supportive Care in Cancer 2001;9(4):p304 (Poster)
4. **Chang HM**, and the CATCHUM Pain Education Task Force. Concept Curriculum on Pain for Medical Undergraduates developed by CATCHUM-A Consortium of Texas Medical Schools. American Society of Anesthesiologists, Annual Meeting, October 2000, A 565 (Poster)
5. **Chang HM**, Payne R, Dang NYT, Butler P, Willerson JT, Buja LM. Educating medical students on pain management, end of life care, and palliative care. American Society of Anesthesiologists, Annual Meeting, October 2000. A 579 (Oral Presentation)
6. **Chang HM**, Payne R, Dang NYT, Butler P, Orlander PR, Willerson JT, Buja LM. End of life care and pain management: a well-received new course for medical students. National Medical Education Conference co-sponsored by the National Institute for Healthcare Research (NIHR) and the Association for American Medical Colleges (AAMC) March 1998 (Poster)

7. Okura T, Kamitani T, Wada T, Okura I, Wei CF, **Chang HM**, Yeh ETH. Novel gene product in Association with the cell death domains of the tumor necrosis factor receptor 1 and FAS. American Heart Association 68th Scientific Sessions 1995; A1768 (Poster)
8. **Chang HM**, Zhang XP, Kream RM, Yeh ETH. Modulation of substance P release in primary sensory neurons by prostaglandins and misoprostol. 7th World Congress on Pain International Association for the Studies of Pain (IASP) 1993; A118 (Poster)
9. Thomas LJ, Urakaze M, DeGasperi R, Kamitani T, Sugiyama E, **Chang HM**, Warren CD, Yeh ETH. Differential expression of GPI-anchored proteins in a mutant producing limiting amounts of the GPI core: implications for paroxysmal nocturnal hemoglobinuria. XVI MGH Research Symposium, 1992; A126 (Poster)
10. **Chang HM**, Berde CB, Holz GG, Steward GF, Kream RM. Opioids inhibits substance P release from cultured dorsal root ganglia. Abstracts of Scientific Papers, American Society of Anesthesiologists Annual Meeting, 1987; 67:A388 (Oral Presentation)

Invited Lectures:

"Education for pain medicine: Developing or participating in educational programs while applying a domestic or international perspective" American Academy of Pain Medicine Annual Meeting 2004

"Pain management and the use of opioids in palliative care" American Academy of Pain Medicine Annual Meeting 2003

"If only I can live without pain- pain management", 7th Multidisciplinary approach to palliative care, pain, and symptom management conference 2003

"The effects of end-of life care and pain management educational programs", Texas Medical Center, Palliative Care Grand Round 2002

"The effects of a required end-of-life care and pain management teaching session", oral presentation, 38th Annual Meeting of American Society of Clinical Oncology 2002

"Pain and palliative care" Spring Branch Medical Center Continuing Medical Education Forum, Houston Texas 2001

"Visceral Pain" Physical Medicine & Rehabilitation Lecture Series, University of Texas, M.D. Anderson Cancer Center 2000

"Pain management and palliative care symposium", a Conference sponsored by the World Health Organization, the Chinese Anti-Cancer Association, and the Ministry of Health, the People's Republic of China, Beijing, China 1998

"Education, research and society", a Symposium sponsored by Stanford University School of Medicine and National Taiwan University Medical College Alumni Association of North America, San Francisco, California 1998

Anesthesia Grand Round, Chang Gung Memorial Hospital
Taipei, Taiwan 1992

Anesthesia Grand Round, National Cheng Kung University Hospital

Tainan Taiwan	1992
Physiology Seminar, National Taiwan University Medical School	
Taipei,Taiwan	1992
Anesthesia Grand Round, University of Utah Medical Center,	
Salt Lake City, UT	1991
Anesthesia Grand Round, Harvard Medical School, Beth Israel Hospital	
Boston, MA	1988

Other Creative Products:

1. Chang HM NIH, Precision Medicine Initiative, All of Us Research Program, Use cases February 2018 "What are the long-term cardiovascular effects of cancer therapy? Do childhood cancer survivors have reduced cardiac functions?"

https://allofusresearchpriorities.ideascale.com/a/dtd/What-are-the-long-term-cardiovascular-effects-of-cancer-therapy-Do-childhood-cancer-survivors-have-reduced-cardiac-functions/197154-44880#idea-tab-comments

2. Chang HM NIH, Precision Medicine Initiative, All of Us Research Program, Use cases February 2018 "What are the genetic, comorbid risk factors, and anticancer agents that contribute to heart failure after cancer therapy"

https://allofusresearchpriorities.ideascale.com/a/dtd/What-are-the-genetic-comorbid-risk-factors-and-anticancer-agents-that-contribute-to-heart-failure-after-cancer-therapy/196492-44880#idea-tab-comments

3. Chang HM NIH, Precision Medicine Initiative, All of Us Research Program, Use cases February 2018 "Cancer and clot: What is the incidence and timing of thromboembolism after cancer diagnosis."

https://allofusresearchpriorities.ideascale.com/a/dtd/Cancer-and-clot-What-is-the-incidence-and-timing-of-thromboembolism-after-cancer-diagnosis/196911-44880#idea-tab-comments

Community Service:

Harvard Club of Houston, School Admission Committee	1995-2006
Asia Society	2001-present

CURRICULUM VITAE

NAME: ERIC J. ENEMARK

OFFICE ADDRESS:
Department of Structural Biology
St. Jude Children's Research Hospital
262 Danny Thomas Place
Memphis, Tennessee 38105
Telephone: (901) 595-6178
FAX: (901) 595-3032
E-mail: eric.enemark@stjude.org
Website: www.stjude.org/enemark

ACADEMIC DEGREES:

B.A.	1991	Carleton College, Northfield, MN
Ph.D.	1999	Stanford University, Stanford, CA

PROFESSIONAL APPOINTMENTS:

1991-1999	Doctoral Dissertation, Stanford University, Stanford, CA Advisor: T. D. P. Stack
1999-2002	Postdoctoral Associate, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY Principal Investigator: Leemor Joshua-Tor
2002-2008	Research Investigator, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY Principal Investigator: Leemor Joshua-Tor
2009-2015	Assistant Member, Department of Structural Biology, St. Jude Children's Research Hospital, Memphis, TN
2015-present	Associate Member, Department of Structural Biology, St. Jude Children's Research Hospital, Memphis, TN

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Crystallographic Association (ACA)

RESEARCH INTERESTS:

Molecular mechanisms of DNA replication, including: (1) the atomic details underlying molecular recognition and site-specific DNA-binding, (2) the molecular details of DNA manipulation and translocation, and (3) the role of ATPases and their chemical architecture.

PUBLICATIONS:

1 **E. J. Enemark** and T. D. P. Stack, "Synthesis and Structural Characterization of a Stereospecific Dinuclear Gallium Triple Helix: Use of the trans-Influence in Metal-Assisted Self-Assembly," *Angew. Chem. Int. Ed. Engl.* 34:996-998 (1995).

2 **E. J. Enemark** and T. D. P. Stack, "Spectral and Structural Characterization of Two Ferric Coordination Modes of a Simple Bis(catecholamide) Ligand: Metal-Assisted Self-Assembly in a Siderophore Analog," *Inorganic Chemistry* 35:2719-2720 (1996).

3 M. A. Masood, **E. J. Enemark**, and T. D. P. Stack, "Ligand Self-Recognition in the Self-Assembly of a [{Cu(L)}2]2+ Complex: The Role of Chirality," *Angew. Chem. Int. Ed. Engl.* 37:928-932 (1998).

4 **E. J. Enemark** and T. D. P. Stack, "Stereospecificity and Self-Selectivity in the Generation of a Chiral Molecular Tetrahedron by Metal-Assisted Self-Assembly," *Angew. Chem. Int. Ed. Engl.* 37:932-935 (1998).

5 **E. J. Enemark***, G. Chen*, D. E. Vaughn, A. Stenlund, and L. Joshua-Tor, "Crystal Structure of the DNA Binding Domain of the Replication Initiation Protein E1 from Papillomavirus," *Molec. Cell* 6:149-158 (2000).

6 **E. J. Enemark**, A. Stenlund, and L. Joshua-Tor, "Crystal Structures of Two Intermediates in the Assembly of the Papillomavirus Replication Initiation Complex," *EMBOJ* 21:1487-1496 (2002).

7 N. H. Tolia, **E. J. Enemark**, B. K. L. Sim, and L. Joshua-Tor, “Structural Basis for the EBA-175 Erythrocyte Invasion Pathway of the Malaria Parasite Plasmodium falciparum,” *Cell* 122:183-193 (2005).

8 **E. J. Enemark** and L. Joshua-Tor, “Mechanism of DNA translocation in a replicative hexameric helicase,” *Nature* 442:270-275 (2006).

9 **E. J. Enemark** and L. Joshua-Tor, “On Helicases and other Molecular Motors,” *Current Opinion in Structural Biology* 18:243-257 (2008).

10 S. D. Baker, E. I. Zimmerman, Y. D. Wang, S. Orwick, D. S. Zatechka, J. Buaboonnam, G. A. Neale, S. R. Olsen, **E. J. Enemark**, S. Shurtleff, J. E. Rubnitz, C. G. Mullighan, H. Inaba, “Emergence of polyclonal FLT3 tyrosine kinase domain mutations during sequential therapy with sorafenib and sunitinib in FLT3-ITD-positive acute myeloid leukemia,” *Clin. Cancer Res.* 19: 5758-5768 (2013).

11 S. J. Lee, S. Syed, **E. J. Enemark**, S. Schuck, A. Stenlund, T. Ha, and L. Joshua-Tor, “Dynamic look at DNA unwinding by a replicative helicase,” *Proc Natl Acad Sci U S A* 111:E827-835 (2014).

12 C. A. Froelich*, S. Kang*, L. B. Epling, S. P. Bell#, **E. J. Enemark#**, “A conserved MCM single-stranded DNA binding element is essential for replication initiation,” *Elife* 3: e01993 (2014).

13 J. M. Miller*, B. T. Arachea*, L. B. Epling, **E. J. Enemark**, “Analysis of the crystal structure of an active MCM hexamer,” *Elife* 3: e03433 (2014).

14 L. B. Epling*, C. R. Grace*, B. R. Lowe*, J. F. Partridge#, **E. J. Enemark#**, “Cancer-associated mutants of RNA helicase DDX3X are defective in RNA binding and translation,” *JMB* 427(9):1779-96 (2015). Featured article, selected for cover illustration.

15 C. A. Froelich, A. Nourse, **E. J. Enemark**, “MCM ring hexamerization is a prerequisite for DNA-binding,” *NAR* 43(19):9553-63 (2015).

16 J. M. Miller and **E. J. Enemark**, “Archaeal MCM Proteins as an Analog for the Eukaryotic Mcm2-7 Helicase to Reveal Essential Features of Structure and Function”, *Archaea*, doi: 10.1155/2015/305497 (2015).

17 M. Meagher and **E. J. Enemark**, “Structure of a double-hexamer of the *Pyrococcus furiosus* MCM N-terminal domain”, *Acta Crystallographica Section F*, 72(Pt 7):545-51 (2016).

18 J. M. Miller and **E. J. Enemark**, “Fundamental Characteristics of AAA+ Protein Family Structure and Function”, *Archaea*, PMID: 27703410. (2016).

19 I. Iacobucci, J. Wen, M. Meggendorfer, J. K. Choi, L. Shi, S. B. Pounds, C. L. Carmichael, K. E. Masih, S. M. Morris, R. C. Lindsley, L. J. Janke, T. B. Alexander, G. Song, C. Qu, Y. Li, D. Payne-Turner, D. Tomizawa, N. Kiyokawa, M. Valentine, V. Valentine, G. Basso, F. Locatelli, **E. J. Enemark**, S. K. Y. Kham, A. E. J. Yeoh, X. Ma, X. Zhou, E. Sioson, M. Rusch, R. E. Ries, E. Stieglitz, S. P. Hunger, A. H. Wei, L. B. To, I. D. Lewis, R. J. D'Andrea, B. T. Kile, A. L. Brown, H. S. Scott, C. N. Hahn, P. Marlton, D. Pei, C. Cheng, M. L. Loh, B. L. Ebert, S. Meshinchi, T. Haferlach, C. G. Mullighan, “Genomic subtyping and therapeutic targeting of acute erythroleukemia”, *Nat Genet*. 694-704 PMID: 30926971 (2019).

20 M. Meagher*, L. B. Epling*, **E. J. Enemark**, “DNA translocation mechanism of the MCM complex and implications for replication initiation”, *Nat Commun.*, doi: 10.1038/s41467-019-11074-3. (2019).

* co-first authors; # co-corresponding authors

ORAL PRESENTATIONS:

American Chemical Society National Meeting, San Francisco, CA, Apr 1997

DNA Tumor Viruses - 2006 Meeting, Salk Institute, La Jolla, CA, July 2006

9th Summer Session of the New York Structural Biology Discussion Group, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, July 2006

DNA Replication and Genome Integrity 2006 Salk/Caltech Meeting, Salk Institute, La Jolla, CA, Aug 2006

Seventh International conference on AAA proteins, Royal Agricultural College, Cirencester, UK, Sep 2007

Frontiers of Structural Biology, Keystone Symposium, Steamboat Springs, CO, Jan 2008

University of Tennessee Health Sciences Center Department of Molecular Sciences seminar, Jan 2011

University of Memphis Department of Chemistry seminar, Mar 2011

Director's Rounds providing highlights from the Molecular Oncology Program (one of three presenters), St. Jude, Mar 2011

"A conserved single-stranded DNA binding element is essential for MCM helicase loading and replication initiation", Helicases and Nucleic Acid Translocases, Cambridge, UK, Aug 2013

"Identification of a conserved single-stranded DNA binding element and its role in MCM helicase loading and replication initiation", Eukaryotic DNA Replication and Genome Maintenance, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, Sep 2013

"Cancer-associated mutants of RNA helicase DDX3X are defective in RNA binding and translation", Frontiers in Nucleic

Acids, Southeast Regional Meeting of the American Chemical Society, Nashville, TN, Oct 2014

"The MCM helicase: unwinding without becoming unraveled", University of Alabama at Birmingham, Birmingham, AL, Mar 2015

"The MCM helicase: unwinding without becoming unraveled", The University of Arkansas for Medical Sciences, Little Rock, AR, Apr 2015

"Cancer-associated mutants of RNA helicase DDX3X are defective in RNA-stimulated ATP hydrolysis", FASEB Helicase Meeting, Steamboat Springs, CO, July 2015

"MCM ring hexamerization is a prerequisite for DNA-binding", DNA-modifying enzymes, Southeast Regional Meeting of the American Chemical Society, Memphis, TN, Nov 2015

"Mechanistic Insight to the MCM Helicase at the Replication Fork", University of Arizona, Tucson, AZ, Sep 2016

"Mechanism of DNA translocation and replication initiation by the MCM complex", Eukaryotic DNA Replication and Genome Maintenance, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, Sep 2017

"DNA translocation mechanism of the MCM complex and implications for replication initiation", SER-CAT annual meeting, University of Alabama at Birmingham, Birmingham, AL, Mar 2019

"DNA translocation mechanism of the MCM complex and implications for replication initiation", SER-CAT 5-year CAT review, Argonne National Laboratory, Argonne, IL, Apr 2019

"DNA translocation mechanism of the MCM complex and implications for replication initiation", The Helicase and Nucleic Acid-based Machine Conference, Steamboat Springs, CO, July 2019

RESEARCH SUPPORT

ONGOING
R01 GM098771 Enemark (PI) 08/01/2011 - 08/31/2020
Competitive Renewal in 2016. Percentile: 10
Molecular mechanisms of DNA replication
The goal of this study is to determine detailed pictures of how MCM proteins interact with DNA and ATP compounds at the molecular level through a coordinated approach involving structural studies by X-ray crystallography and in vitro methods.
Role: PI

PENDING
1R35GM136313-01 Enemark (PI) 05/01/2020 - 04/30/2025 (Proposed Project Period)
Status: **Program officer called to say this grant will be funded for 5 years**

MENTORED TRAINEES (Post-doctoral fellows)

1. Clifford A. Froelich
2. Buenafe T. Arachea
3. Justin M. Miller
4. Martin Meagher
5. Shanshan Yu
6. Sanaz Rasouli

7. Madison Spence

MENTORED TRAINEES (Undergraduate Students)

1. Anna Magliolo
2. Matthew Snyder
3. Lisa Clark
4. Raquel Ortega

GRANT REVIEWING:

1. Ad hoc member of NIH GCAT study section, October 2016
2. Ad hoc member of NIH MGA study section, February, 2017
3. Ad hoc member of NIH MGA study section, October, 2017
4. Ad hoc member of NIH SEP Exploration of Antimicrobial Therapeutics and Resistance November, 2018
5. Ad hoc reviewer of NSF grants

MANUSCRIPT REVIEWING:

Reviewer for: eLife, PNAS, Nature Structural & Molecular Biology, Current Biology, Nucleic Acids Research, Journal of Molecular Biology, Plos One, Trends in Biochemical Sciences, BioEssays, Cellular and Molecular Life Sciences

TEACHING:

Beamline instructor, RapiData, Brookhaven National Laboratory, Upton, NY, Spring 2004-2008 (Directed by Dr. Robert M. Sweet, Brookhaven National Laboratory)

Guest lecturer, Scientific Reasoning and Logic, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, Sep 2006

Lectures (2), contributions to exam and participant in student presentations, Physical Biochemistry and Applications in Structural Biology, UTHSC Department of Molecular Sciences course MSCI 812 (course director, Dr. Stephen White, St. Jude Department of Structural Biology), Memphis, TN, Winter 2010

Lectures (3), contributions to exam and participant in student presentations, Physical Biochemistry and Applications in Structural Biology, UTHSC Department of Molecular Sciences course MSCI 812 (course director, Dr. Stephen White, St. Jude Department of Structural Biology), Memphis, TN, Winter 2013

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Marha Howe, Department of Microbiology, Immunology & Biochemistry), Spring 2015

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Len Lothstein, Program Director, Master of Science in Laboratory Research and Management), Spring 2015

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Terrance G. Cooper, Department of Microbiology, Immunology & Biochemistry), Spring 2016

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Len Lothstein, Program Director, Master of Science in Laboratory Research and Management), Spring 2016

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Terrance G. Cooper, Department of Microbiology, Immunology & Biochemistry), Spring 2017

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Len Lothstein, Program Director, Master of Science in Laboratory Research and Management), Spring 2017

Lectures (3) and exam questions for Genes to Proteins module of the curriculum of St. Jude Graduate Program in Biomedical Sciences (Module co-leaders: Eric Enemark, Janet Partridge, Richard Kriwacki), Fall 2017

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Terrance G. Cooper, Department of Microbiology, Immunology & Biochemistry), Spring 2018

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Len Lothstein, Program Director, Master of Science in Laboratory Research and Management), Spring 2018

Lectures (2) and exam questions for Genes to Proteins module of the curriculum of St. Jude Graduate Program in Biomedical Sciences (Module co-leaders: Eric Enemark, Janet Partridge, Richard Kriwacki), Fall 2018

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Terrance G. Cooper, Department of Microbiology, Immunology & Biochemistry), Spring 2019

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Len Lothstein, Program Director, Master of Science in Laboratory Research and Management), Spring 2019

Lecture and exam question for Genes to Proteins module of the curriculum of St. Jude Graduate Program in Biomedical Sciences (Module leader: Richard Kriwacki), Fall 2019

Lectures (2) and exam questions for Techniques I: Biochemical and Cellular Methods, UTHSC Department of Microbiology, Immunology & Biochemistry course MSCI 934 (course director, Dr. Terrance G. Cooper, Department of Microbiology, Immunology & Biochemistry), Spring 2020

Practical session and exam questions for UTHSC Master's Degree Program in Laboratory Research and Management course PATH 803 (course director, Dr. Nick Laribee, Department of Pathology and Laboratory Medicine), Spring 2020

DOCTORAL THESIS COMMITTEE MEMBER:

Stefan Gajewski International Research Scholar, St. Jude Children's Research Hospital, Advisor: Stephen White, St. Jude Department of Structural Biology (graduated)

Chi Zhang UTHSC Integrated Program in Biomedical Sciences, Advisor: Jie Zheng, St. Jude Department of Structural Biology (graduated)

ShanShan Yu UTHSC Integrated Program in Biomedical Sciences, Advisor: Brenda Schulman, St. Jude Department of Structural Biology/St. Jude Department of Genetics and Tumor Cell Biology (graduated)

Yinan Wu UTHSC Integrated Program in Biomedical Sciences, Advisor: Stephen White, St. Jude Department of Structural Biology (graduated)

Brandon Lowe UTHSC Integrated Program in Biomedical Sciences, Advisor: Janet Partridge, St. Jude Department of Pathology (graduated)

Randy Watson UTHSC Integrated Program in Biomedical Sciences, Advisor: Brenda Schulman, St. Jude Department of Structural Biology/St. Jude Department of Genetics and Tumor Cell Biology (graduated)

Jesse Jones UTHSC, Advisor: Kirk Hevener, UTHSC Department of Pharmacology (graduated)

Yumei Zheng UTHSC Integrated Program in Biomedical Sciences, Advisor: Brenda Schulman, St. Jude Department of Structural Biology/St. Jude Department of Genetics and Tumor Cell Biology

Trent Hall UTHSC Integrated Program in Biomedical Sciences, Advisor: Shannon McKinney-Freeman, St. Jude Department of Hematology

SERVICE:

Molecular Interaction Analysis laboratory oversight committee

Admissions Committee, St. Jude Graduate School of Biomedical Sciences Graduate school (2018)

Co-leader for the "Genes to Proteins" module for the inaugural 2 years of the St. Jude Graduate School of Biomedical Sciences program (2017, 2018)

Representative on the Board of Directors of SER-CAT which operates two X-ray beamlines at the Advanced Photon Source, Argonne, IL (2015-2017)

Mentor for internal grant-writing workshops

REFERENCES:

Leemor Joshua-Tor
Professor & HHMI Investigator
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Stephen P. Bell
Professor & HHMI Investigator
Massachusetts Institute of Technology/HHMI
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77 Massachusetts Ave.
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1000 East 50th Street. • Kansas City, MO 64110

EDUCATION

University of Saskatchewan, Saskatoon, SK, Canada
- **Ph.D.** in Biochemistry 2011-2015

Linkoping University**,** Sweden
- **Master** in Medical Biology 2007-2009

University of Rajshahi**,** Bangladesh
- **M. Sc.** in Applied Chemistry 2004-2005
- **B. Sc.** in Applied Chemistry 1998-2004

RESEARCH EXPERIENCES

Postdoctoral Fellow: Mentor: Michael Washburn 2016-present
Stowers Institute for Medical Research, Kansas City, MO

Proteomic interrogation of SMAD4 for epigenetic regulation in normal and cancer cells.
- Affinity purification of protein complexes
- Sample preparation and analysis with LC/MS.
- Phospho and Targeted proteomic analysis
- TMT labeling and Cross-linking mass spectrometry
- Computational analysis and interpretation of proteomics data

Ph.D. in the lab of Dr. Kiven Erique Lukong May 2011-December 2015
The University of Saskatchewan, College of Medicine, Saskatoon, SK, Canada

The role of breast tumor kinase (BRK) activation in mammary gland tumorigenesis
- ER signaling regulates the expression of BRK in breast cancer cells
- BRK phosphorylates and degrades Dok1 via ubiquitin-proteasome pathways in cancer cells
- The effect of constitutive activation of BRK on carcinogenesis and tumor growth *in vivo*.

Master in Medical Biology, University of Linköping**,** Sweden September 2007-June 2010

- Project1: Molecular interaction between Egr1, tissue factor, cathepsin L, and p53 in cellular stress and cell death induced by cholesterol oxidation products in atherosclerosis.
- Project2: Egr1, p53, and apoptosis in atherosclerosis

PUBLICATIONS

1. S. Miah, C. A. S. Banks, Y. Ogunbolude, E. T. Bagu, J. M. Berg, A. Saraf, T.T. Tettey, G. Hattem, G. Dayebgadoh, C. G. Kempf, M. Sardiu, S. Napper, L. Florens, K. E. Lukong, M. P. Washburn. BRK Phosphorylates SMAD4 for proteasomal degradation and inhibits tumor suppressor FRK to control SNAIL, SLUG and metastatic potential. **Science Advances**; 2019 DOI: 10.1126/sciadv.aaw3113

2. Miah S, Bagu E, Goel R, Ogunbolude Y, Dai C, Ward A, Vizeacoumar FS, Davies G, Vizeacoumar FJ, Anderson D, Lukong KE. Estrogen receptor signaling regulates the expression of the breast tumor kinase in breast cancer cells. BMC Cancer. 2019. 16;19(1):78.

3. Charles Banks, Ying Zhang, **Sayem Miah**, Yan Hao, Mark K. Adams, Zhihui Wen, Janet L. Thornton, Laurence Florens, Michael Washburn. Integrative Modeling of a Sin3/HDAC Complex Sub-structure. 2020 Cell Report (Accepted).

4. Banks CAS, **Miah S**, Adams MK, Eubanks CG, Thornton JL, Florens L, Washburn MP. Differential HDAC1/2 network analysis reveals a role for prefoldin/CCT in HDAC1/2 complex assembly. Sci Rep.2018 12;8(1):13712.

5. Banks CAS, Thornton JL, Eubanks CG, Adams MK, **Miah S**, Boanca G, Liu X, Katt ML, Parmely TJ, Florens L, Washburn MP. A Structured Workflow for Mapping Human Sin3 Histone Deacetylase Complex Interactions Using Halo-MudPIT Affinity-Purification Mass Spectrometry. Mol Cell Proteomics. 2018 Jul;17(7):1432-1447

6. Miah S, Banks CA, Adams MK, Florens L, Lukong KE, Washburn MP. Advancement of mass spectrometry-based proteomics technologies to explore triple-negative breast cancer. Mol Biosyst. 2016 Dec 20;13(1):42-55.

7. Miah S, Goel RK, Dai C, Kalra N, Beaton-Brown E, Bagu ET, Bonham K, Lukong KE. BRK targets Dok1 for ubiquitin-mediated proteasomal degradation to promote cell proliferation and migration. PLoS One. 2014.

8. Miah S, Martin A, Lukong KE. Constitutive activation of breast tumor kinase accelerates cell migration and tumor growth in vivo. Oncogenesis. 2012

9. Bagu ET, **Miah S**, Dai C, Spriggs T, Ogunbolude Y, Beaton E, Sanders M, Goel RK, Bonham K, Lukong KE. Repression of Fyn-related kinase in breast cancer cells is associated with promoter site-specific CpG methylation. Oncotarget. 2017 14;8(7):11442-11459.

10. Ogunbolude Y, Dai C, Bagu ET, Goel RK, **Miah S**, MacAusland-Berg J, Ng CY, Chibbar R, Napper S, Raptis L, Vizeacoumar F, Vizeacoumar F, Bonham K, Lukong KE. FRK inhibits breast cancer cell migration and invasion by suppressing epithelial-mesenchymal transition. Oncotarget. 2017 Dec 6;8(68):113034-113065.

11. Hasan MM, Alam MW, Wahid KA, **Miah S**, Lukong KE. A Low-Cost Digital Microscope with Real-Time Fluorescent Imaging Capability. PLoS One. 2016 Dec 15;11(12)

12. Goel RK, **Miah S**, Black K, Kalra N, Dai C, Lukong KE. The unique N-terminal region of SRMS regulates enzymatic activity and phosphorylation of its novel substrate docking protein 1. FEBS J. 2013

13. Miah S, Zadeh SN, Yuan XM, Li W. Expression of Egr1 and p53 in human carotid plaques and apoptosis induced by 7-oxysterol or p53. Exp Toxicol Pathol. 2013

14. Laskar A, **Miah S**, Andersson RG, Li W. Prevention of 7β-hydroxycholesterol-induced cell death by mangafodipir is mediated through lysosomal and mitochondrial pathways. Eur J Pharmacol. 2010.

15. Yuan XM, Osman E, **Miah S**, Zadeh SN, Xu L, Forssell C, Li W. p53 expression in human carotid atheroma is significantly related to plaque instability and clinical manifestations. Atherosclerosis. 2010

Book Chapter

Mark K. Adams, Charles A.S. Banks, **Sayem Miah**, Maxime Killer, Michael P. Washburn. Purification and enzymatic assay of class I histone deacetylase enzymes. Methods in Enzymology; 2019

TALKS

- Sayem Miah. BRK Phosphorylates SMAD4 for proteasomal degradation and inhibits tumor suppressor FRK to control SNAIL, SLUG and metastatic potential. YISR 2019, Kansas City, MO. September 6, 2018.
- Sayem Miah. BRK Phosphorylates SMAD4 for proteasomal degradation and inhibits tumor suppressor FRK to control SNAIL, SLUG and metastatic potential. Stowers Institute for Medical Research, May 2017.
- Sayem Miah. The role and mechanism of action of BRK in breast cancer progression. Saskatchewan Cancer Research Conference, 2015. Saskatoon, SK, Canada. June 25, 2015.
- Sayem Miah. The role of BRK in breast cancer progression. Graduate Research Conference, 2015, Curiosity. The University of Saskatchewan. March 5, 2015.
- Sayem Miah. The role of breast tumor kinase activation in mammary tumorigenesis and metastasis. Cancer Centre, University of Saskatchewan. Cancer Research Unit Seminar Series: March 30, 2012.

SCHOLARSHIPS AND AWARDS RECEIVED

- Research excellence award KU Cancer Center Annual Research Symposium 2018
- Non-devolved scholarships, Dept. of Biochemistry, University of Saskatchewan 2013-2015
- Saskatchewan Innovation and opportunity scholarships 2014
- Graduate research fellowship, College of Medicine, University of Saskatchewan 2014-2015
- Canadian Cancer society travel award 2015
- Canadian Cancer society travel award 2014
- Research fellowship to study "Egr1, p53, and apoptosis in atherosclerosis" Linköping University, Linköping, Sweden 2010

POSITIONS AND EMPLOYMENT

- 2006-2007 Quality Assurance Officer, Popular Pharmaceuticals (Pvt.) Ltd. Gazipur, Bangladesh.
- 2007-2009 Graduate Researcher, Master program in Biosciences, Linkoping University, Sweden.
- 2009-2010 Research fellow, Ximing Lab, Linkoping University, Sweden.
- 2010-2011 Research Assistant, Lukong Lab, University of Saskatchewan, Canada.
- 2013-2013 Teaching Assistant, Dept. Biochemistry, University of Saskatchewan, Canada.
- 2011-2015 Graduate Researcher, Dept. of Biochemistry, University of Saskatchewan, Canada.
- 2016-present Postdoctoral Fellow, Washburn Lab, Stowers Institute for Medical Research

TEACHING & LEADERSHIP EXPERIENCES

Stowers Institute for Medical Research, Kansas City, MO

- Teaching proteomics modules in Stowers graduate school; 2017-Present

The University of Saskatchewan, College of Medicine, Saskatoon, SK, Canada

- Teaching assistant for BMSC 240, 2012

STUDENT AND TECHNICIAN MENTORED

- Ms. Anika Burmeister, Lukong Lab, Uni. of Saskatchewan, *Sanofi-Aventis BioTalent participant* 2010
- Ms. Julie Gunawan, Lukong Lab undergraduate researcher, University of Saskatchewan 2010
- Mr. Sukrut Gohil, Lukong Lab undergraduate Summer student, University of Saskatchewan 2011
- Ms. Chenlu Dai, Lukong Lab Master student, University of Saskatchewan 2012
- Ms. Alexandria Lexie Martin, Lukong Lab technician, University of Saskatchewan 2011

Curriculum Vitae and Bibliography

Bolni Marius Nagalo, PhD

Personal Information

Citizenship:	United States of America
Work Address:	13400 East Shea Boulevard Scottsdale, AZ 85259
Email Address:	Nagalo.Bolni@mayo.edu
Phone:	480-301-6036

Present Academic Rank and Position

Associate Consultant I - Division of Hematology/Oncology, Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona	02/2019 - Present
Associate Consultant I-Research - Department of Research, Mayo Clinic, Scottsdale, Arizona	02/2019 - Present
Associate Consultant I-Research (Joint Appointment) - Mayo Clinic in Rochester, Mayo Clinic, Rochester, Minnesota	02/2019 - Present
Assistant Professor of Oncology - Mayo Clinic College of Medicine and Science	03/2019 - Present
Assistant Professor of Molecular Medicine - Mayo Clinic College of Medicine and Science	04/2019 - Present

Education

The University of Ouaga I JKZ, Burkina Faso, West Africa - BS, Biochemistry and Applied Microbiology	2004 - 2007
The University of Ouaga I JKZ, Burkina Faso, West Africa - Advanced Fellowship, Genetic engineering of plants	2006 - 2008
The University of Ouaga I JKZ, Burkina Faso, West Africa - Masters, Molecular Genetics	2006 - 2008
The University of Ouaga I JKZ, Burkina Faso, West Africa - Ph.D., Molecular Biology	2008 - 2012
Department of Genetics and Molecular Biology, The University of Ouaga I JKZ, Burkina Faso, West Africa - Fellow	2012 - 2013
Department of Molecular Medicine, Rochester, Minnesota - Post-doctoral Fellowship	2015 - 2017

Additional Education

Transfusion Medicine/ Haemobiology Technician Certificate National Blood Transfusion Center - Ministry of Health, Burkina Faso, West Africa	09/2011
Senior Clinical Laboratory Technician Certification Heart Clinic - Ministry of Health, Burkina Faso, West Africa	10/2011
Senior clinical Laboratory Technician Certification Clinic MK - Ministry of Health, Burkina Faso, West Africa	10/2012
Mental Health Direct Support Professional Certificate Bridgewell, Lynnfield, Massachusetts	10/2013
Medication Administration Process Bridgewell, Lynnfield, Massachusetts	11/2014

Substance Abuse Support Specialist 11/2014
Lahey Behavioral Health

Certification

Board Certifications

American Heart Association (AHA)

Neonatal Advanced Life Support (NALS) 2017 - Present

American Red Cross

CPR/AED for Professional Rescuers and Health Care Providers 2017 - Present

Honors and Awards

Best Undergraduate Student - The University of Ouaga I JKZ 2004

Graduate Studies Scholarship - Conferenza Episcopal Italiana, The University of Ouaga I JKZ 2008

Best Graduate Student Award - University of Ouagadougou 2010

Magna Cum Laude - The University of Ouaga I JKZ 2010

Research Assistantship - University of Ouagadougou 2011

Best Ph.D. Thesis Evaluation - The University of Ouaga I JKZ 2013

Summa Cum Laude - The University of Ouaga I JKZ 2013

Diversity Supplement Award - National Cancer Institute, National Institutes of Health To promote diversity in Biomedical Research 2015

Travel Award - Network of Minority Research Investigators, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health 2016

Faculty Development Award - University of Wisconsin 2016

Annual Meeting Travel Award - Network of Minority Research Investigators, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health 2017

Scholarship - Mayo Clinic Pancreatic and Hepato-Biliary Cancer Symposium 2017

Welcome Trust Mobility & Skills Training Award - Cardiff University 2018

Mentored Research Scientist Development Award (K01), National Cancer Institute 2018

Kathryn H. and Roger Penske Career Development Award to Support Medical Research at Mayo Clinic Arizona 2019

Marley Endowment Funds , Mayo Clinic Cancer Center, Arizona 2019

Previous Professional Positions and Major Appointments

Clinical Laboratory Assistant - MK - Medical Center, Burkina Faso, West Africa 2008 - 2009

Assistant Lecturer - Department of Biochemistry, University of Ouagadougou; Department of Biochemistry, Burkina Faso, West Africa 2009 - 2010

Research Assistant - University of Ouagadougou, Burkina Faso, West Africa 2010 - 2011

Adjunct Lecturer - Endicott College, Beverly, Massachusetts 01/2013 - 06/2015

Lecturer - The University of Wisconsin; Department of Biological Sciences, Marshfield, Wisconsin 07/2016 - 01/2017

Research Fellow - Division of Hematology/Oncology, Department of Internal Medicine, Mayo Clinic, Phoenix, Arizona 2017 - 02/2019

Service

Community Memberships and Services

Africa Partners Medical
Volunteer 2014 - Present

American Red Cross
Volunteer 2013 - Present

AVOMETRESA
Member 2004 - Present

Grace Episcopal Church
Member 2015 - Present

Professional Memberships and Societies

Professional Memberships and Services

African Network for Gastrointestinal & Liver Diseases (ANGT)
Member 2016 - Present

American Association for the Study of Liver Diseases
Member 2017 - Present

International Coalition of Heapatologists/Liver Disease (IC-Hep)
Member 2016 - Present

National Institutes of Health
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
Network of Minority Research Investigators
Member 2016 - Present

National Postdoctoral Association
Member 2015 - 2018

NIDDK/NMRI (National Minority Research Investigators)
Member 2016-Present

West Africa Network for Gastrointestinal & LIver Diseases
Member (WANGLD) 2015 - Present

American Society of Gene & Cell Therapy (ASGT) 2019-Present
Member

Sigma XI Society 2019-Present
Member

American Association for Cancer Research (AACR) 2017-Present
Member

GMap Region National Institute of Cancer/CURE Program 2017-Present

NIH-NIDDK-NMRI (National Minority Research Investigators) 2019-Present
Meeting Oversight Committee 2019-2020

Journal Responsibilities

Journal Other Responsibilities

Asian Pacific Journal of Tropical BIomedicine
Reviewer 2015 - Present

Asian Pacific Journal of Tropical Medicine
Reviewer 2013 - Present

Pan African Medical Journal
Reviewer 2014 - Present

Education Interests and Accomplishments

Teaching

Hepatitis B Infection and HCC — 05/2009
Open House
University of Ouagadougou
Burkina Faso, West Africa

Anatomy/Physiology and Clinical Microbiology — 2014 - 2015
Endicott College; School of Arts and Sciences
Beverly, Massachusetts

In Vitro Crispr/Cas 9 Mediated Genome Editing Experiments — 04/2016 - 06/2016
Roberts' Lewis Laboratory
Mayo Clinic
Rochester, Minnesota

General Microbiology, Concepts of Biology and Anatomy/Physiology I & II — 2016 - 2017
Lecture and laboratory section
The University of Wisconsin
Marshfield, Wisconsin

Allele Specific PCR and Genotyping Real Time PCR — 08/2016
CERBA Biomolecular Research Center
Burkina Faso, West Africa

CIVVoholics (Speaker) — 11/2017
Arizona State University
Tempe, Arizona

Speaker — 11/2019
Pancreatic and Hepato-Biliary Cancer Symposium
Mayo Clinic
Phoenix, Arizona

Mentorship

Sison, Artemio MSc. — 01/2014 - 01/2015
Description: Undergraduate Student**- Endicott College, Beverly, MA**
Current Status: Scientist Active Genomes Expressed (AGED) Diagnostics
Outcome: Independent Project: International Internship at the International Pietro Annigonni Research Center, Burkina Faso: Low cost point-of care diagnostic of Plasmodium falciparum in West African samples

Teixeira Yokoda, Raquel, M.D — 12/2017 - 06/2019
Description: Research fellow**- Mayo Clinic Arizona**
Current Status: Resident pathology , Albert Einstein College of Medicine, NY
Outcome: Development of fusogenic vesicular stomatitis virus amalgamated with entry protein of Sendai virus (VSV-SeV FH) and Canine distemper virus (VSV-CDV FH).

Ashok V. Kumar B.Sc. — 10/2018-06/2019
Description: Undergraduate Student**- Arizona State University, Tempe AZ**
Current Status: Research Assistant, Mayo Clinic Arizona, Biostatistics
Outcome: Independent Project: Crispr-Cas9-mediated knockout of DNA replication enzyme complexes to inhibit tumor cell proliferation.

Florencia Djigma, Ph.D. — 09/2018-12/2018
Description: Visiting-Research Fellow-**Mayo Clinic Arizona**
Current Status: Assistant Professor of Molecular Biology- The University of Ouaga I JKZ, Burkina Faso
Outcome: Identification of novel SNPs on TERT promoter in chronic hepatitis B-induced HCC patients from Burkina Faso.

Dumbauld, Chelsae R. — 09/2019-Present

Description: Predoctoral Student, **Mayo Clinic, Arizona**
Current Status: PhD candidate, Mayo Graduate School, Mayo Clinic, Arizona
Outcome: Generation of a Synthetic Biology-enabled Vesiculovirus to Treat Soft Tissue Sarcoma (STS).

Institutional/Departmental Administrative Responsibilities, Committee Memberships and Other Activities

Mayo Clinic in Arizona

Mayo Clinic in Arizona
MERG 05/01/2018 - Present
Oversight Committee
Global Health
Internal Advisory Board Member 06/01/2019 - Present
Center for Health Equity and Community Engagement Research
Internal Advisory Board Member

Presentations Extramural (Selected out of 10)

National or International

Oral

Biology and Pathogenesis of HIV 12/2011
International Scholarship Program
Independent Communications Authority of South Africa
Addis Ababa, Ethiopia

HIV/AIDS and Antimicrobial Resistance 11/2013
African Society for Laboratory Medicine
South Africa

Efficacy of the Oncolytic Hybrid VSV-FH against Liver Cancer 05/2016
National Institutes of Health; National Institute of Diabetes, Digestive and Kidney Disease; Network of Minority Health Researchers Investigators

Poster

Efficacy of Oncolytic VSV in the Treatment of Hepatocellular Carcinoma 02/2016
2016 IC-HEP Global Fund Advances in Medicine International Medical Conference Program

Regional

Poster

Epidemiology of Transfusion Transmitted Disease in Koudougou, Burkina Faso 11/2016
NIH/NIDDK/NMRI Mid-west Regional
Cleveland, Ohio

Research Interests and Accomplishments

My current research is focus in translational virotherapy for patients with advanced cancers, particularly advanced hepatobiliary and pancreatic cancers as a major type of malignancies. I am also working towards development of strategies to address health disparities in cancer therapy and cancer-focused research.

Research Grants Awarded

Active Grants

Federal

Program Director / Principal	CGAS-STING Pathway Targeting Replicative Adenoviruses with CD46 Tropism and AFP Promoter Conditional Replication Restriction for the Treatment of Hepatocellular Carcinoma. Funded by National Cancer	09/2018 - 08/2023

Investigator	Institute. (K01 CA234324)	

Mayo Clinic

Principal Investigator	Hybrid oncolytic vsv for the treatment of pancreatic cancer. Funded by Development - Benefactor Funded Career Development Award	05/2019 - 04/2022
Principal Investigator	Marley Award Spring 2019 / IACUC # A00004284-19 / GENERATION OF A SYNTHETIC BIOLOGY-ENABLED VESICULOVIRUS TO TREAT SOFT TISSUE SARCOMA (STS). Funded by Development - Gifts from benefactors	05/2019 - 05/2020
Principal Investigator	Generation of a Synthetic Biology-enabled Vesiculovirus to Treat Soft Tissue Sarcoma (sts). Funded by Mayo Clinic (FP00104194)	07/2019 - 06/2020
Principal Investigator	Somali Tobacco Outreach & Research Initiative (STORI): Community Health Needs Assessment. The idea behind the project is to learn more about the Somali community in Phoenix, particularly about tobacco use, access and barriers to healthcare, and social networks related to health information. Funded by Mayo Clinic Cancer Center (Mod15-001153-06)	9/2019 - 5/2020

Completed Grants

Foundation

Principal Investigator	DP2CA195764-01 (Borad) NIH/NCI Diversity Supplement Award Post-doctoral Fellowship: Oncolytic Virotherapy in Hepatocellular Cancer. Explore dual oncolytic virotherapy in patients with hepatocellular cancer. The focus of the grant is to develop novel oncolytic virotherapies in patients with hepatocellular cancer (HCC).	09/2016-08/2018
Principal Investigator	R01CA175795-02S1 (Peng) Diversity Supplement Award Title: Evaluation of the anti-tumor efficacy of the oncolytic hybrid VSV-FH against hepatobiliary cancers	06/2015-07/2016
Principal Investigator	Welcome Trust Mobility & Skills Training Award Cardiff University, Wales, United Kingdom. This is a three-month on-site training in recombineering technology for ease manipulation and engineering of oncolytic DNA viruses in a Nobel Prize institution in the U.K.	04/2018-07/2018
Co-Investigator	IC-HEP Conference/Travel Award (Roberts) Grant number: BURK-001 International Coalition For Hepatologist Educators Providers-Global Fund-Advances in Medicine International Medical Conference Program. Title: Understanding and addressing the younger onset of hepatitis b virus associated.	01/2017-02/2017
Principal Investigator	Evaluate the Incidence and the Residual Risk of Transfusion Transmitted Infectious Diseases Agents among Blood Donors. Funded by Annigonni Foundation.	08/2011 - 10/2012

Other

Principal Investigator	Improve the quality of screening of HIV, HBV and HCV in blood donation using nucleic acid testing (Nat's) in a regional blood transfusion center of Burkina Faso. . Funded by National Blood Transfusion Center/Ministry of Health	10/2008 - 12/2009
Principal Investigator	Applied Molecular Biology. Funded by Conferenza Episcopal Italiana	10/2009 - 12/2012

Principal Investigator	Clinical research centers (CERBA/Labiogene) to support graduate studies in Biomedical Sciences. Funded by West African Economic and Monetary Union	10/2011 - 12/2012

Pending Grants

Foundation

Principal Investigator	DP2 OD029247 DP2 - NIH Director's New Innovator Award Program Gene Therapy-Mediated Tumor Rejection in Hepatocellular Carcinoma. Advanced hepatocellular carcinoma (HCC) is the most common primary cancer of the liver and is predicted to be the leading cause of cancer-related deaths in the United States around 2020. The proposed project will evaluate for the first time a virally mediated tumor specific delivery of human Rh antigen and HLA class I (HLA-A*0201) as a novel multimodal immunotherapy and gene therapy platform for patients with advanced HCC. Currently, these patients have limited treatment options, thus this project will address a critical unmet need for more effective therapies.	8/2020-6/2025
Co-Investigator	DOD CA190642 (Borad) Dept. of the Army -USAMRAA Oncolytic Ad5NULL-A20 Mediated CD19 Expression to Enhance CAR T-Cells Therapy for Treatment of Pancreatic Adenocarcinoma. This proposal seeks to reprogram pancreatic ductal adenocarcinoma (PDAC) cells to express hCD19t for the use of FDA approved CAR T-cell therapies, thus enabling a new application of the current therapy in a disease with very difficult management and survival rate	10/2020-09/2021
Co-Investigator	RO1 GRANT12950368 (Castro) In vivo Ad5NULL-A20 Mediated Cellular Engineering to Increase Immunogenicity in avBeta6 Expressing Tumor Cells. This project is a first-of-its-kind pre-clinical evaluation of a multimodal immune-virotherapy platform based on targeted oncolysis, PDAC ectopic expression of truncated human CD19 and BCMA for CAR T cell therapy and tumor cellactivity of PH20 hyaluronidase using Ad5Null-A20 vectors, a tumor specific oncolytic vector.	7/2020-06/2025
		08/2020-09/2020

Patents

Title	Patent Number	Country	Date Filed	Date Issued
Provisonal Patent "CHIMERIC VESICULOVIRUSES AND METHODS OF USE" MITESH J. BORAD, and BOLNI M. NAGALO	07039-1926P01/ 2019-029	US	08/2019	08/2019
Provisonal Patent “NOVEL HYBRID LENTIVIRAL CONSTRUCTS WITH MORRETON VIRUS G PROTEINS FOR GENE THERAPY” MITESH J. BORAD, and BOLNI M. NAGALO	Case# DR19-730/US		06/2019	06/2019

Bibliography

Peer-reviewed Articles

1. **Nagalo BM**, Bisseye C, Sanou M, Nebie YK, Kiba A, Kienou K, Zongo JD, Simpore J. [Molecular diagnosis of acquired human immunodeficiency virus (HIV) in pooled plasma from blood donors at the Regional Blood Transfusion Center in Ouagadougou, Burkina Faso]. Med Trop (Mars). 2011 Apr; 71

(2):137-41 PMID: 21695869
2. **Nagalo MB**, Sanou M, Bisseye C, Kabore MI, Nebie YK, Kienou K, Kiba A, Dahourou H, Ouattara S, Zongo JD, Simpore J. Seroprevalence of human immunodeficiency virus, hepatitis B and C viruses and syphilis among blood donors in Koudougou (Burkina Faso) in 2009. Blood Transfus. 2011 Oct; 9 (4):419-24 Epub 2011 July 18 PMID: 21839011 PMCID: 3200412 DOI: 10.2450/2011.0112-10
3. **Nagalo BM**, Bisseye C, Sanou M, Kienou K, Nebie YK, Kiba A, Dahourou H, Ouattara S, Nikiema JB, Moret R, Zongo JD, Simpore J. Seroprevalence and incidence of transfusion-transmitted infectious diseases among blood donors from regional blood transfusion centres in Burkina Faso, West Africa. Trop Med Int Health. 2012 Feb; 17 (2):247-53 Epub 2011 Oct 12 PMID: 21988100 DOI: 10.1111/j.1365-3156.2011.02902.x
4. Linguissi LS, **Nagalo BM**, Bisseye C, Kagone TS, Sanou M, Tao I, Benao V, Simpore J, Kone B. Seroprevalence of toxoplasmosis and rubella in pregnant women attending antenatal private clinic at Ouagadougou, Burkina Faso. Asian Pac J Trop Med. 2012 Oct; 5 (10):810-3 PMID: 23043921 DOI: 10.1016/S1995-7645(12)60148-5
5. Linguissi LS, Bisseye C, Sagna T, **Nagalo BM**, Ouermi D, Djigma FW, Pignatelli S, Sia JD, Pietra V, Moret R, Nikiema JB, Simpore J. Efficiency of HAART in the prevention of mother to children HIV-1 transmission at Saint Camille medical centre in Burkina Faso, West Africa. Asian Pac J Trop Med. 2012 Dec; 5 (12):991-4 PMID: 23199720 DOI: 10.1016/S1995-7645(12)60188-6
6. Sanou M, Palenfo D, Bisseye C, **Nagalo BM**, Simpore J, Sangare L, Traore R. [Molecular diagnosis of bacterial meningitis in Burkina Faso]. Med Sante Trop. 2013 Jan-Mar; 23 (1):93-9 PMID: 23692955 DOI: 10.1684/mst.2013.0148
7. Bisseye C, Sanou M, **Nagalo BM**, Kiba A, Compaore TR, Tao I, Simpore J. Epidemiology of syphilis in regional blood transfusion centres in Burkina Faso, West Africa. Pan Afr Med J. 2013; 16:69 Epub 2013 Oct 28 PMID: 24711869 PMCID: 3976651 DOI: 10.11604/pamj.2013.16.69.2767
8. Tao I, Bisseye C, **Nagalo BM**, Sanou M, Kiba A, Surat G, Compaore TR, Traore L, Nikiema JB, Pietra V, Zongo JD, Simpore J. Screening of Hepatitis G and Epstein-Barr Viruses Among Voluntary non-Remunerated Blood Donors (VNRBD) in Burkina Faso, West Africa. Mediterr J Hematol Infect Dis. 2013; 5 (1):e2013053 Epub 2013 Sept 02 PMID: 24106603 PMCID: 3787664 DOI: 10.4084/MJHID.2013.053
9. Sanou M, Ky A, Ouangre E, Bisseye C, Sanou A, **Nagalo BM**, Sanou D, Simpore J, Sangare L, Traore R. [Characterization of bacterial flora in community peritonitis carried out in Burkina Faso]. Pan Afr Med J. 2014; 18:17 Epub 2014 May 05 PMID: 25360201 PMCID: 4213518 DOI: 10.11604/pamj.2014.18.17.3157
10. Zeba MT, Sanou M, Bisseye C, Kiba A, **Nagalo BM**, Djigma FW, Compaore TR, Nebie YK, Kienou K, Sagna T, Pietra V, Moret R, Simpore J. Characterisation of hepatitis C virus genotype among blood donors at the regional blood transfusion centre of Ouagadougou, Burkina Faso. Blood Transfus. 2014 Jan; 12 Suppl 1:s54-7 PMID: 24599906 PMCID: 3934227 DOI: 10.2450/2012.0089-12
11. Simpore A, Bisseye C, **Nagalo BM**, Sanou M, Nebie Y, Ghoma-Linguissi LS, Dahourou H, Sawadogo B, Djigma F, Ouattara S, Pietra V, Nichol J, Simpore J. Importance of extending the use of polymerase chain reaction in the diagnosis of venereal syphilis in a blood transfusion center in Burkina Faso, West Africa. Pan Afr Med J. 2014; 18:56 Epub 2014 May 15 PMID: 26113890 PMCID: 4473781 DOI: 10.11604/pamj.2014.18.56.3850
12. Sanou M, Soubeiga ST, Bationo F, Compaore TR, Zohoncon TM, Diatto GN, Ouedraogo P, Pietra V, **Nagalo BM**, Bisseye C, Traore RO, Simpore J. A decade of follow-up and therapeutic drug monitoring in HIV-2 immunocompromised patients at St Camille and General Lamizana Military Medical Centers, Burkina Faso, West Africa. Pak J Biol Sci. 2014 Dec; 17 (12):1219-24 PMID: 26027168
13. Sawadogo ML, **Nagalo BM**, Compaore RT, Baky J, Simpore J. Poultry farming challenges in Burkina Faso: improving zootechnical performance of local chickens by hybridization Global Journal for Research Analysis. 2014 Dec; 3(12):139-41.
14. Yokoda R, **Nagalo BM**, Arora M, Egan JB, Bogenberger JM, DeLeon TT, Zhou Y, Ahn DH, Borad MJ. Oncolytic virotherapy in upper gastrointestinal tract cancers. Oncolytic Virother. 2017; 7:13-24 Epub 2018 Mar 23 PMID: 29616200 PMCID: 5870634 DOI: 10.2147/OV.S161397
15. Yokoda R, **Nagalo BM**, Vernon B, Oklu R, Albadawi H, DeLeon TT, Zhou Y, Egan JB, Duda DG, Borad MJ. Oncolytic virus delivery: from nano-pharmacodynamics to enhanced oncolytic effect. Oncolytic Virother. 2017; 6:39-49 Epub 2017 Nov 08 PMID: 29184854 PMCID: 5687448 DOI: 10.2147/OV.S145262
16. Bisseye C, Ndong JMN, Matoumba AM, Bengone C, Migolet GM, **Nagalo BM**. Comparison of electrochemiluminescence and ELISA methods in the detection of blood borne pathogens in Gabon Asian Pacific Journal of Tropical Biomedicine.2017 Sep;7:(9):805808.
17. Sorgho PA, Martinson JJ, Djigma FW, Yonli AT, **Nagalo BM**, Compaore TR, Obiri-Yeboah D, Diarra B, Sombie HK, Zongo AW, Ouattara AK, Soubeiga STR, Traore L, Roberts LR, Simpore J. Insights into the Interplay between KIR Gene Frequencies and Chronic HBV Infection in Burkina Faso. Mediterr J Hematol

Infect Dis. 2018; 10 (1):e2018060 Epub 2018 Nov 01 PMID: 30416692 PMCID: 6223576 DOI: 10.4084/MJHID.2018.060

18. Diarra B, Yonli AT, Sorgho PA, Compaore TR, Ouattara AK, Zongo WA, Tao I, Traore L, Soubeiga ST, Djigma FW, Obiri-Yeboah D, **Nagalo BM**, Pietra V, Sanogo R, Simpore J. Occult Hepatitis B Virus Infection and Associated Genotypes among HBsAg-negative Subjects in Burkina Faso. Mediterr J Hematol Infect Dis. 2018; 10 (1):e2018007 Epub 2018 Jan 01 PMID: 29326804 PMCID: 5760064 DOI: 10.4084/MJHID.2018.007
19. Eko Mba JM, Bisseye C, Ntsame Ndong JM, Mombo LE, Bengone C, Mouelet Migolet G, M'batchi B, Kosiorek HE, Butterfield RJ, Roberts LR, Borad MJ, **Nagalo BM**. Prevalent hepatitis B surface antigen among first-time blood donors in Gabon. PLoS One. 2018; 13 (4):e0194285 Epub 2018 Apr 13 PMID: 29652917 PMCID: 5898709 DOI: 10.1371/journal.pone.0194285
20. Bisseye C, Mombo LE, Bie SMM, Edou A, Eko-Mba JM, Etho-Mengue JC, Mbacky K, Mongo-Delis A, M'batchi B, **Nagalo BM**. Trends of blood-borne infectious diseases in a rural blood donation center of southeast Gabon (Koula-Moutou). Pan Afr Med J. 2018; 31:81 Epub 2018 Oct 03 PMID: 31007828 PMCID: 6457734 DOI: 10.11604/pamj.2018.31.81.16331
21. Yokoda RT, **Nagalo BM**, Borad MJ. Oncolytic Adenoviruses in Gastrointestinal Cancers. Biomedicines. 2018 Mar 11; 6 (1) PMID: 29534501 PMCID: 5874690 DOI: 10.3390/biomedicines6010033
22. DeLeon TT, Zhou Y, **Nagalo BM**, Yokoda RT, Ahn DH, Ramanathan RK, Salomao MA, Aqel BA, Mahipal A, Bekaii-Saab TS, Borad MJ. Novel immunotherapy strategies for hepatobiliary cancers. Immunotherapy. 2018 Sep; 10 (12):1077-1091 PMID: 30185133 DOI: 10.2217/imt-2018-0024
23. Bisseye C, Eko Mba JM, Ntsame Ndong JM, Kosiorek HE, Butterfield RJ, Mombo LE, M'batchi B, Borad MJ, **Nagalo BM**, Allain JP. Decline in the seroprevalence of syphilis markers among first-time blood donors in Libreville (Gabon) between 2004 and 2016. BMC Public Health. 2019 Feb 8; 19 (1):167 Epub 2019 Feb 08 PMID: 30736765 PMCID: 6368695 DOI: 10.1186/s12889-019-6489-7
24. Eko Mba JM, Bisseye C, Mombo LE, Ntsame Ndong JM, Mbina Ekayeng SC, Bengone C, M'batchi B, **Nagalo BM**. Assessment of rapid diagnostic tests and fourth-generation Enzyme-Linked Immunosorbent Assays in the screening of Human Immunodeficiency and Hepatitis B virus infections among first-time blood donors in Libreville (Gabon). J Clin Lab Anal. 2019 Mar; 33 (3):e22824 Epub 2018 Nov 28 PMID: 30485543 DOI: 10.1002/jcla.22824

25 Sorgho PA, Djigma FW, Martinson JJ, Yonli AT, **Nagalo BM**, Compaore TR, Diarra B, Sombie HK, Simpore A, Zongo AW, Ouattara AK, Soubeiga STR, Traore L, Yelemkoure ET, Kiendrebeogo IT, Roberts LR, Simpore J. Role of Killer cell immunoglobulin-like receptors (KIR) genes in stages of HIV-1 infection among patients from Burkina Faso. Biomol Concepts. 2019 Dec 19; 10 (1):226-236 PMID: 31863692 DOI: 10.1515/bmc-2019-0024

26 Bisseye C, Ndong JMN, Mombo LE, Mamberi HCM, Migolet GM, Taty-Taty GC, Nagalo BM. Hemogram abnormalities in apparently healthy first-time blood donors in Libreville, Gabon. SJMS. 2019; 14 (3):103-15

Forthcoming

1. **Nagalo BM** et al, 2020. Efficacy of the hybrid vesicular stomatitis virus (VSV-FH) in the treatment of gastrointestinal tract cancers (Submitted) Molecular Therapy- MTO-D-20-00036 (2020 January).
2. Arora M et al, 2020. Preclinical Investigation of NUC1031 in Biliary Tract Cancers. Molecular Cancer Therapeutics. Submitted (2020 January)
3. Yonli AT et al, 2020. Comparison of Characteristics of Patients With Chronic Hepatitis B Virus Infection in Burkina Faso and in the REVEAL-HBV Taiwanese Cohort. Hepatology (HEP-19-1876). Response to Reviewers submitted (February 2020)

References

Lewis R. Roberts, M.B. Ch.B., Ph.D.
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EDUCATION

Doctor of Philosophy (PhD) 2015 Field: Nutritional Epidemiology
University of South Carolina, Arnold School of Public Health, Columbia, SC, U.S.
Dissertation: The relationship of the Mediterranean diet and the Dietary Approaches to Stop Hypertension (DASH) style diet with cardiometabolic health

Master of Science (MS) 2008 Field: Genetic Epidemiology
Washington University in St. Louis, School of Medicine, St. Louis, MO, U.S.
Thesis: Contribution of important candidate gene networks and inflammatory markers to metabolic syndrome

Doctor of Philosophy (PhD) 2005 Field: Preventive Medicine
The Catholic University of Korea, Graduate School, Seoul, South Korea
Dissertation: Clustering characteristics of risk variables of metabolic syndrome in Korean rural population

Master of Medical Science (MMSc) 1999 Field: Preventive Medicine
The Catholic University of Korea, Graduate School, Seoul, South Korea
Thesis: Incorrect disease coding in medical insurance claims and the effect of official intervention

Doctor of Medicine (MD) 1996 Field: Medicine
The Catholic University of Korea, College of Medicine, Seoul, South Korea

RESEARCH INTERESTS

Epidemiology of Cardiometabolic Disease including Obesity, Type 2 Diabetes, Hypertension and Metabolic Syndrome;

Nutritional Epidemiology; Cancer Epidemiology; Genetic Epidemiology; Environmental Epidemiology; Clinical Epidemiology; Disease Prevention

PROFESSIONAL EXPERIENCE

2015-Present Intramural Research Training Award (IRTA) Postdoctoral Fellow, Epidemiology Branch, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC, USA

2016-Present Adjunct Assistant Professor**,** Department of Preventive Medicine, College of Medicine, The Catholic University of Korea, Seoul, South Korea

2012-2015	Teaching/ Research Assistant, Department of Epidemiology and Biostatistics, Arnold School of Public Health; Department of Neuropsychiatry and Behavioral Science, School of Medicine, University of South Carolina, Columbia, SC, USA
2009	Research Associate, Division of Biostatistics, Washington University School of Medicine, St. Louis, MO, USA
2005-2013	Assistant/ Associate Professor**,** Department of Preventive Medicine, College of Medicine, The Catholic University of Korea, Seoul, South Korea
2003-2005	Instructor**,** Department of Preventive Medicine, College of Medicine, The Catholic University of Korea, Seoul, South Korea
2000-2003	Public Health Physician, Department of Health Services Management, Korea Health Industry Development Institute, Seoul, South Korea; Public Health Center, Damyang-gun (County), Chollanam-do (Province), South Korea
1997-2000	Residency/ Teaching Assistant, Department of Preventive Medicine, The Catholic University of Korea, Seoul, South Korea
1996-1997	Internship, St. Paul's Hospital, The Catholic Medical Center, The Catholic University of Korea, Seoul, South Korea

OTHER TRAINING

2019	American Association for Cancer Research (AACR) Integrative Molecular Epidemiology Workshop, Boston, MA, July 15-19, 2019
2018	Nutrigenetics, Nutrigenomics, & Precision Nutrition Workshop. University of North Carolina Nutrition Research Institute, Kannapolis, NC, June 4-7, 2018

HONORS & AWARDS

2019	Top Trainee Poster Award. *43rd Annual American Society of Preventive Oncology conference*. Tampa, FL USA, March 10-12, 2019
2018	Fellows Award for Research Excellence (FARE) 2019 Travel Award Competition winner, National Institutes of Health
2018	Travel Award (first place), Emerging Leaders in Nutrition Science Poster Competition, Aging and Chronic Disease Research Interest Section. *American Society for Nutrition Scientific Sessions: Nutrition 2018*. Boston, MA USA, June 9-12, 2018
2018	Scholarship, Nutrigenetics, Nutrigenomics, & Precision Nutrition Workshop. University of North Carolina Nutrition Research Institute. Kannapolis, NC USA, June 4-7, 2018
2017	Travel Award, Emerging Leaders in Nutrition Science Poster Competition, Diet and Cancer Research Interest Section. *American Society for Nutrition Scientific Sessions at Experimental Biology 2017*. Chicago, IL USA, April 20-26, 2017
2017	Mu Chapter, Delta Omega Honorary Society in Public Health, Arnold School of Public Health, University of South Carolina
2015	Early Investigator Travel Award, *American Heart Association (AHA) EPI/Lifestyle 2015 Scientific Sessions,* Baltimore, MD, USA, March 3-6, 2015.
2013-2015	Dean's student travel award, Arnold School of Public Health, University of South Carolina.
2013-2015	Arnold Doctoral Fellowship, Arnold School of Public Health, University of South Carolina

2008	Honorable Mention at the National DNA Day Symposium-Poster Session sponsored by The Genome Center at Washington University in St. Louis School of Medicine, MO, USA. April 25, Title: Identification of Metabolic Syndrome Candidate Genes
2007	Songeui Scholarship Award for junior faculty training program (Grant: $ 42,000) and Hwanju Scholarship Award for graduate study abroad program (Grant: $ 30,000), The Catholic University of Korea College of Medicine, South Korea
2005	Alumni Grant Award, The Catholic University of Korea College of Medicine, South Korea, Title: The association between Human Papillomavirus (HPV) infection and the abnormal results of Pap tests
2003-2004	Graduate Scholarship Award, The Catholic University of Korea Graduate School, South Korea
2003	Grant Award, Songeui Research Grant Program for Medical Science, The Catholic University of Korea, South Korea, Title: A study on public health doctors' participation in district public health program
1998	Grant Award, The Korean Medical Association, South Korea, Title: Incorrect disease coding in insurance claims and the effect of official intervention
1997-1999	Graduate Scholarship Award, The Catholic University of Korea Graduate School, South Korea

GRANT SUPPORT

Currently Active Grant

2018-	The NIH Office of Dietary Supplements Research Scholars Program. Total costs: $100,000 (Role: Principal Investigator) "The influence of β-carotene supplements, dietary and circulating carotenoids on oxidative stress, inflammation, and risk of postmenopausal breast cancer in the Sister Study"

Unfunded Grants

2016	1R03 DE026512-01 (PI: Merchant Anwar, Role: Key personnel) "Antibodies against periodontal microbes and mortality in NHANES III follow-up"
2015	The American Heart Association Predoctoral Fellowship (Role: Principal Investigator) "The relationship of the Mediterranean diet and the Dietary Approaches to Stop Hypertension (DASH) style diet with cardiometabolic health and mortality risk"

Past Grant History

2011-2013	Industry-Academic Cooperative Research Program, Sanofi-Aventis Korea (50,000,000 Korean Won ≈ $45,000, Role: Principal Investigator) "Prevalence and predictive factors of metabolically obese but normal weight (MONW) individuals in a non-diabetic Korean population"
2011-2012	Songeui Research Grant Program for Medical Science, Catholic Medical Center Research Foundation (50,000,000 Korean Won ≈ $45,000, Role: Principal Investigator) "Natural history and clinical characteristics of abnormal metabolic phenotypes"
2005-2006	2005 Korea Health Promotion Research Program, The Korea Institute for Health and Social Affairs (45,000,000 Korean Won ≈ $40,000, Role: Principal Investigator) "Development of community-based health promotion model considering the link between screening and follow-up of individuals with lifestyle-related chronic disease"
2005-2006	Research Support Program for Young Investigators, The Korea Research Foundation (5,000,000 Korean Won ≈ $4,500, Role: Principal Investigator)

"Factor analysis of metabolic syndrome in rural populations"

TEACHING & MENTORING

Teaching

2013-2015 Teaching Assistant, Department of Epidemiology and Biostatistics, Arnold School of Public Health, University of South Carolina, Columbia, SC, USA; Courses: "Principles of Epidemiology" for undergraduate students; "Concepts and Methods of Epidemiology" for master students; "Advanced Analytical Methods in Epidemiology" for doctoral students

2009-2012 Instructor, College of Medicine/ School of Medicine and Graduate School of Public Health, The Catholic University of Korea, Seoul, South Korea; intermediate and introductory level courses in epidemiology

2010-2012 Guest lecturer, Department of Medicine, The Yonsei University Graduate School, Seoul, South Korea; Course: "Genetics in a Cohort Study",

2003-2007 Instructor, College of Medicine and Graduate School of Public Health, The Catholic University of Korea, Seoul, South Korea; introductory level courses in epidemiology

Mentoring

NIEHS Summer interns

2017 Jamie Lo (Master student, Department of Epidemiology, Columbia Mailman School of Public Health); Association Between Meat Consumption and Risk of Breast Cancer (published in *Int J Cancer*); Co-mentor, provided day-to-day oversight
Current position: PhD student, Saw Swee Hock School of Public Health, National University of Singapore

2016 Joshua Petimar (Doctoral student, Department of Nutrition, Harvard T.H. Chan School of Public Health); A Prospective Study of Dietary Index Adherence and Invasive Breast Cancer Risk Among Women with a Family History of Breast Cancer (published in *Am J Clin Nutr*); Co-mentor, provided day-to-day oversight
Current position: Post-doctoral research fellow, Department of Epidemiology, Harvard TH Chan School of Public Health

Medical resident and Clinical fellow

2017-Present Moon Kyung Choi, MD (Department of Internal Medicine, Einstein Medical Center, Philadelphia, PA); Independent project: Dietary inflammatory potential, normal weight central obesity, and risk of mortality (under review in *Clin Nutr*)

2016-Present Hong Seok Lee, MD (Division of Cardiology, Department of Medicine, St. Bernadine Medical Center, University of California Riverside, CA); Independent projects: 1) Sex-specific association between asthma and hypertension in nationally representative young Korean adults (published in *Sci Rep*); 2) Obesity-related hypertension in Korea (under revision in *PLOS ONE*)

Masters students

2012 Sang-Gyu Lim (Graduate School of Public Health, The Catholic University of Korea)
Thesis: Association between Insulin Resistance and Periodontitis in Korean Adults (published in *J Clin Periodontol*)

2012 Sora Kim (Graduate School of Public Health, The Catholic University of Korea)
Thesis: Relationship between socioeconomic status and diabetes mellitus in Korean adults (published in *PLOS ONE*)

2011 Duk-Soon Lee (Graduate School of Public Health, The Catholic University of Korea) Thesis: Association between obesity and age-related cataracts in Korean adults (published in *PLOS ONE*)

2007 Sun-Young Lim (Graduate School of Public Health, The Catholic University of Korea) Thesis: Factors associated with insulin resistance in a middle-aged non-obese rural population: The Chungju Metabolic Disease Cohort (CMC) Study (published in *Epidemiol Health*)

2007 Ju-Young Shin (Graduate School of Public Health, The Catholic University of Korea) Thesis: Job Satisfaction of Clinical Research Coordinators in a University Hospital (published in *Journal of Clinical Pharmacology and Therapeutics, Currently Transl Clin Pharmacol*, Korean)

2006 Yong-Hwan Song (Graduate School of Public Health, The Catholic University of Korea) Thesis: Factors Related to Therapeutic Compliance of Hypertensive Patients at the Medical Outpatient Department in a Hospital (published in *Korean J Occup Health*, Korean)

Medical students

2009-2012 A mentor of group mentoring at the Catholic University of Korea College of Medicine/ School of Medicine (5 to 7 in each grade)

2012-2013 Yu-Mi Park (School of Medicine, The Catholic University of Korea) Independent project: Sarcopenia as a determinant of blood pressure in older Koreans (published in *PLOS ONE*)

2012-2013 Byung-Chul Kim (School of Medicine, The Catholic University of Korea) Independent project: Low muscle mass is associated with metabolic syndrome in non-obese young adults (published in *Nutrition Research*)

2011-2012 Hyun-Ah Kim (College of Medicine, The Catholic University of Korea) Independent project: Gender differences in the association of insulin resistance with metabolic risk factors among Korean adolescents (published in *Diabetes Res Clin Pract*)

2011-2012 Jin-Young Choi (College of Medicine, The Catholic University of Korea) Independent project: Characteristics of metabolically obese, normal-weight women differ by menopause status (published in *Menopause*)

2007-2009 Hong-Seok Lee (College of Medicine, The Catholic University of Korea) Independent projects: 1) Prevalence, awareness, treatment, and control of hypertension among people over 40 years old in a rural area of South Korea (published in *Clin Exp Hypertens)*; 2) Factors associated with the control of blood pressure among elderly people diagnosed with hypertension in a rural area of South Korea (published in *Blood Press)*

LEADERSHIP & SERVICE

Reviewer for Peer-Reviewed Journals

2020-Present Annals of Internal Medicine, British Journal of Nutrition, Cancer Medicine, Diabetes Research and Clinical Practice

2019 Annals of Internal Medicine, Diabetes Care, Cancer Research, British Journal of Cancer, Cancer Epidemiology, Biomarkers & Prevention, Journal of Nutrition, European Journal of Nutrition, Nutrients, Journal of Nutrition Education and Behavior, Public Health Nutrition, European Journal of Endocrinology, Diabetes/Metabolism Research and Reviews, Diabetes Obes Metab, Liver International, British Journal of Dermatology,

	Journal of the European Academy of Dermatology and Venereology, Movement Disorders, Bipolar Disorders, Scientific Reports
2018	Annals of Internal Medicine, Diabetes Care, PLOS Medicine, Nature Communications, European Journal of Nutrition (x2), Nutrients, Journal of the American College of Nutrition, Public Health Nutrition (x2), Annals of Nutrition and Metabolism, International Journal of Cardiology, Journal of Diabetes, Obesity Research & Clinical Practice, Aging, Ear and Hearing, Journal of Dermatology, Scientific Reports (x2), BMJ Open, PLOS ONE
2017	Diabetes Care, Cardiovascular Diabetology, Journal of the Endocrine Society, Endocrine Journal, Journal of Diabetes Investigation, Journal of Diabetes Research, Journal of the Academy of Nutrition and Dietetics, British Journal of Nutrition, International Journal of Cancer, Journal of Periodontology, Journal of Sport and Health Science, Journal of Pediatrics, Archives of Disease in Childhood, Scientific Reports, Medicine (x2)
2016	Diabetes Care, Metabolism, Endocrine Journal, Diabetes Research and Clinical Practice, Heart, International Journal of Cardiology, Journal of Nutrition, Journal of Sport and Health Science, Journal of Affective Disorders, Journal of Clinical Periodontology, Ophthalmic Epidemiology, Archives of Medical Research, Annals of Medicine, Korean J Internal Medicine, PLOS ONE (x2)
2015	Diabetes Care, Journal of Diabetes Investigation (x3), Diabetology & Metabolic Syndrome, Diabetes and Vascular Disease Research, American Journal of Hypertension, Annals of Nutrition and Metabolism (x2), Journal of Ophthalmology, Acta Paediatrica, Experimental and Therapeutic Medicine, Korean J Internal Medicine, BMC Public Health, PLOS ONE (x2)
Before 2015	Diabetes Care, Cardiovascular Diabetology, Diabetology & Metabolic Syndrome, Obesity, Obesity Epidemic (book), Annals of Nutrition and Metabolism, Journal of Nutrition and Metabolism, Digestive Diseases and Sciences, PLOS ONE, BMC Public Health, Ophthalmic Epidemiology, Experimental and Molecular Medicine, Blood Pressure, Tohoku Journal of Experimental Medicine, Korean Diabetes Journal, Korean Clinical Diabetes, Journal of the Korean Society of Endocrinology, Korean Journal of Occupational Health, Journal of Preventive Medicine and Public Health, J Korean Public Health Assoc, Korean Journal of Epidemiology, Epidemiology and Health

Grant Reviewer

2010-2011	Korea Centers for Disease Control and Prevention
2005-2007	'Health Promotion Research Program' of the Korea Institute for Health and Social Affairs; Korea Centers for Disease Control and Prevention

Professional Service

2019-Present	Review Editor on the Editorial Board of Nutrition and Metabolism, *Frontiers in Nutrition*
2019	Judge, Fellows Award for Research Excellence (FARE) 2020 Travel Award Competition, National Institutes of Health
2019	Abstract reviewer, Nutrition 2019 (American Society for Nutrition's flagship meeting and scientific sessions)
2017-Present	Statistical Advisor, *Endocrinology and Metabolism (Seoul)*
2010-Present	Statistical Advisor, *Diabetes & Metabolism Journal*
2009-Present	Member, Institutional Review Board, Catholic Medical Center at the Catholic University of Korea, Seoul, Korea

2017-2018	NIEHS Trainees' Assembly Steering Committee, Epidemiology Branch Representative
2017-2018	Lead Guest Editor, *Int J Endocrinol* (2016 Impact Factor 2.51), Special Issue on "Metabolic Health and Obesity Phenotype: From Determinants to Outcomes"
2010-2013	Member, Statistical Advisory Committee on the Korea National Health and Nutrition Examination Survey (KNHANES), Korea Centers for Disease Control and Prevention
2006	Statistical Advisor, Korean Journal of Endocrinology and Metabolism
2004-2007	Member, Committee on the Treatment of Diabetes Mellitus, Korean Diabetes Association
2002	Member, Ethics Commission, Gyeonggi-do (province) Medical Association, Korea

MEMBERSHIPS IN PROFESSIONAL SOCIETIES & ORGANIZATIONS

American Society for Nutrition
Society for Epidemiologic Research
American Society of Preventive Oncology
American Heart Association
American Diabetes Association
International Genetic Epidemiology Society
The Korean Society of Hypertension
The Korean Society of Endocrinology
The Korean Diabetes Association
The Korean Society of Preventive Medicine
The Korean Society of Epidemiology

CLINICAL CERTIFICATION & LICENSURE

2000	Board Certified in Preventive Medicine, Minister of Health and Welfare, South Korea
1996	Physician, Minister of Health and Welfare, South Korea

PUBLICATIONS

Note: * Shared first author, † Student under my supervision, § Shared senior author, ¶ Senior author

ORCID: http://orcid.org/0000-0002-5879-6879

PubMed Bibliography: https://www.ncbi.nlm.nih.gov/myncbi/yong-moon.park.1/bibliography/public/

A. Articles *published* and *in press* in Peer-Reviewed Journals

1. Lee JM, **Park YM**, Yun JS, Ahn YB, Lee KM, Kim DB, Kim JM, Han K, Ko SH. The Association between Nonalcoholic Fatty Liver Disease and Esophageal, Stomach, or Colorectal Cancer: National Population-Based Cohort Study. *PLOS ONE*. 2020;15(1):e0226351. 2020 Jan 24. doi:10.1371/journal.pone.0226351 PMID: 31978054
2. McWhorter KL, **Park YM,** Fang KB, Gaston SA, Sandler DP, Jackson CL. Multiple sleep dimensions and type 2 diabetes risk among women in the Sister Study: differences by race/ethnicity *BMJ Open Diabetes Res Care.* 2019 Sep 20;7(1):e000652. doi: 10.1136/bmjdrc-2019-000652. eCollection 2019. PMID:31641520

3. Qi J, Zihang Z, Zhang J, **Park YM**, Shrestha D, Jianling B, Merchant AT. Periodontal Antibodies and All-Cause, Cardiovascular Disease Mortality. *J Dent Res.* 2019 Oct 21:22034519884012. doi: 10.1177/0022034519884012. [Epub ahead of print] PMID:31634041

4. Mehta SS, Arroyave WD, Lunn RM, **Park YM,** Boyd WA, Sandler DP. A prospective analysis of red and processed meat consumption and risk of colorectal cancer in women. *Cancer Epidemiol Biomarkers Prev.* 2019 Oct 1. pii: cebp.0459.2019. doi: 10.1158/1055-9965.EPI-19-0459. [Epub ahead of print] PMID:31575555

5. Yun JS, **Park YM**, Han K, Cha SA, Ahn YB, Ko SH. Severe hypoglycemia and the risk of cardiovascular disease and mortality in type 2 diabetes: a nationwide population-based cohort study. *Cardiovasc Diabetol.* 2019 Aug 14;18(1):103. PMID:31412855

6. Kim MK, Han K, Kim HS, **Park YM**, Kwon HS, Yoon KH, Lee SH. HDL-cholesterol, its variability and the risk of diabetes: a nationwide population-based study. *J Clin Endocrinol Metab*. 2019 Aug 13. doi: 10.1210/jc.2019-01080. [Epub ahead of print] PMID: 31408161

7. Lo JJ †, **Park YM *** §, Sinha R, Sandler DP. Association between meat consumption and risk of breast cancer: Findings from the Sister Study. *Int J Cancer.* 2019 Aug 6. doi: 10.1002/ijc.32547. [Epub ahead of print] PMID: 31389007 (*Media Recognition: Altmetric Attention Score, 642 on January 1, 2020; #7 of 9,561 outputs from International Journal of Cancer, https://wiley.altmetric.com/details/64665358#score*)

8. Zhong Z, Jin Q, Zhang J, **Park YM**, Shrestha D, Bai J, Merchant AT. Serum IgG Antibodies against Periodontal Microbes and Cancer Mortality. *JDR Clin Trans Res*. 2019 Jul 5:2380084419859484. doi: 10.1177/2380084419859484. [Epub ahead of print] PMID: 31277564

9. **Park YM**, White AJ, Jackson CL, Weinberg CR, Sandler DP. Association of Exposure to Artificial Light at Night While Sleeping With Risk of Obesity in Women. *JAMA Intern Med.* 2019 Jun 10. doi: 10.1001/jamainternmed.2019.0571. [Epub ahead of print] PMID: 31180469 (*Media Recognition: Altmetric Attention Score, 1386 on January 1, 2020; #45 of 3,803 outputs from JAMA Internal Medicine, https://jamanetwork.altmetric.com/details/61877619#score*; selected as a *Paper of the Year for 2019* at NIEHS Intramural Research Division)

10. Kim MK, Han K, Kim HS, **Park YM,** Kwon HS, Yoon KH, Lee SH. Effects of Variability in Blood Pressure, Glucose and Cholesterol Concentrations, and Body Mass Index on End-stage Renal Disease in the General Population. *J Clin Med.* 2019 May 27;8(5). PMID: 31137866

11. Petimar JS †, **Park YM** §, Smith-Warner SA, Fung TT, Sandler DP. A Prospective Study of Dietary Index Adherence and Invasive Breast Cancer Risk Among Women with a Family History of Breast Cancer. *Am J Clin Nutr.* 2019 Apr 9. pii: nqy392. doi: 10.1093/ajcn/nqy392. [Epub ahead of print] PMID: 30968114

12. Guinter MA, **Park YM**, Steck SE, Sandler DP. Day-to-day regularity in breakfast consumption is associated with weight status in a prospective cohort of women. *Int J Obes.* 2020;44(1):186–194. PMID: 30926951

13. Gaston SA, **Park YM,** McWhorter KL, Sandler DP, Jackson CL. Poor Sleep and Metabolic Profiles Consistent with Metabolic Syndrome among White, Black, and Hispanic/Latina Women in the United States: Findings from the Sister Study. *Diabetol Metab Syndr*. 2019 Feb 14;11:17. doi: 10.1186/s13098-019-0413-2. PMID: 30815038

14. Nam GE, Kim DH, Heo Y, Han K, Park YK, **Park YM** §. Associations between breastfeeding and type 2 diabetes and glycemic control in parous Korean women: a nationwide, population-based study. *Diabetes Metab J.* 2019 Apr;43(2):236-241. Epub 2018 Dec 21. PMID: 30604596

15. Kim MK, Han K, **Park YM,** Kwon HS, Kang G, Yoo KH, Lee SH. Associations of Variability in

Blood Pressure, Glucose and Cholesterol Concentrations, and Body Mass Index with Mortality and Cardiovascular Outcomes in the General Population. *Circulation*. 2018 Dec 4;138(23):2627-2637. PMID: 30571256

16. Han K*, Yun JS*, **Park YM**, Ahn YB, Cho JH, Cha SA, Ko SH. Development and validation of a risk prediction model for severe hypoglycemia in adult patients with type 2 diabetes: a nationwide population-based cohort study. *Clin Epidemiol.* 2018;10:1545-1559. PMID: 30425585
17. Anderson C, **Park YM**, Stanczyk FZ, Sandler DP, Nichols HB. Dietary factors and serum Anti-Mullerian hormone concentrations in late premenopausal women. *Fertility and Sterility*. 2018 Nov;110(6):1145-1153. PMID: 30396559
18. Lee SH, Han K, Cho H, **Park YM,** Kwon HS, Kang G, Yoon KH, Kim MK. Variability in Metabolic Parameters and Risk of Dementia: A Nationwide Population-Based Study. *Alzheimers Res Ther*. 2018 Oct 27;10(1):110. PMID: 30368247
19. Yang Y, Lee EY, Cho JH, **Park YM,** Ko SH, Yoon KH, Kang MI, Cha BY, Lee SH. Cardiovascular Autonomic Neuropathy Predicts Higher HbA1c Variability in Subjects with Type 2 Diabetes. *Diabetes Metab J*. 2018; 42(6):496-512. PMID: 30302965
20. Anderson C, Nichols HB, Deal AM, **Park YM,** Sandler DP. Changes in cardiovascular disease risk and risk factors among women with and without breast cancer. *Cancer.* 2018 Dec 1;124(23):4512-4519. Epub 2018 Oct 6. PMID: 30291812
21. **Park YM**, Steck SE, Fung TT, Merchant AT, Sandler DP. Higher diet-dependent acid load is associated with risk of breast cancer: findings from the Sister Study. *Int J Cancer*. 2019; 144(8):1834-1843. Epub 2018 Dec 7. PMID: 30247761
22. Yun JS, **Park YM**, Cha SA, Ahn YB, Ko SH. Progression of Cardiovascular Autonomic Neuropathy and Cardiovascular Disease in Type 2 Diabetes. *Cardiovasc Diabetol*. 2018 Aug 2;17(1):109. PMID: 30071872
23. Cha SA, **Park YM**, Yun JS, Lee SH, Ahn YB, Kim SR, Ko SH. Time- and Frequency-domain Measures of Heart Rate Variability Predict Cardiovascular Outcome in Patients with Type 2 Diabetes. *Diabetes Res Clin Pract*. 2018 Sep;143:159-169. Epub 2018 Jul 10. PMID: 30006307
24. Anderson AP, **Park YM**, Shrestha D, Zhang J, Liu J, Merchant AT. Cross-sectional association of physical activity and periodontal antibodies. *J Periodont*. 2018 Dec;89(12):1400-1406. PMID: 29958328
25. Castañe O, Goday A, **Park YM**, Lee SH, Magkos F, Shiow STE, Schröder H. The gut microbiome profile in obesity: a systematic review. *Int J Endocrinol*. 2018 Mar 22;2018:4095789. PMID: 29849617
26. **Park YM**, Choi MK †, Lee SS, Shivappa N, Han K, Steck SE, Merchant AT, Hebert J, Sandler DP. Dietary inflammatory potential and risk of mortality in metabolically healthy and unhealthy phenotypes among overweight and obese U.S. adults. *Clin Nutr*. 2019 Apr;38(2):682-688. Epub 2018 Apr 16. PMID: 29705061
27. Yun JS, **Park YM**, Han K, Cha SA, Ahn YB, Ko SH. Association Between BMI and the Risk of Severe Hypoglycemia in Type 2 Diabetes. *Diabetes Metab*. 2019 Jan;45(1):19-25. Epub 2018 Apr 6. PMID: 29678506
28. Kim ES, Jeong JS, Han K, Kim MK, Lee SH, **Park YM,** Baek KH, Moon SD, Han JH, Song KH, Kwon HS. Impact of weight changes on the incidence of diabetes mellitus: a Korean nationwide cohort study. *Sci Rep*. 2018 Feb 27;8(1):3735. PMID: 29487293

29. Cho WK, Han K, An MB, **Park YM,** Seo BK, Jeong MH, Park YK. Metabolic risk factors in Korean adolescents with severe obesity: Results from the Korea National Health and Nutrition Examination Surveys (K-NHANES) 2007-2014. *Diabetes Res Clin Pract.* 2018 Apr;138:169-176. Epub 2018 Feb 8. PMID: 29427699

30. Anderson C, Milne GL, **Park YM,** Sandler DP, Nichols HB. Dietary glycemic index and glycemic load in relation to oxidative stress among premenopausal women. *J Nutr.* 2018 Jan 1;148(1):125-130. PMID: 29378036

31. Anderson C, Milne GL, **Park YM,** Sandler DP, Nichols HB. Cardiovascular disease risk factors and oxidative stress among premenopausal women. *Free Radic Biol Med.* 2018 Feb 1;115:246-251. Epub 2017 Dec 9. PMID: 29229550

32. Lee SH, Rhee M, Kwon HS, **Park YM,** Yoo KH. Serum Betatrophin Concentrations and the Risk of Incident Diabetes: A Nested Case-Control Study from Chungju Metabolic Disease Cohort. *Diabetes Metab J.* 2018 Feb;42(1):53-62. Epub 2017 Nov 3. PMID: 29199405

33. Ko SH, **Park YM**, Yun JS, Cha SA, Choi EK, Han K, Han E, Lee YH, Ahn YB. Severe Hypoglycemia is a Risk Factor for Atrial Fibrillation in Type 2 Diabetes: Nationwide Population-Based Cohort Study. *J Diabetes Complications.* 2018; 32(2):157-163 Epub 2017 Sep 19. PMID: 29196120

34. Lee HS †, **Park YM ***, Han K, Pekler G, Lee SS, Yoo SJ, Kim SR. Sex-specific association between asthma and hypertension in nationally representative young Korean adults. *Sci Rep.* 2017 Nov 15;7(1):15667. PMID: 29142269

35. Kim MK, Han K, Kim HS, **Park YM,** Kwon HS, Yoo KH, Lee SH. Cholesterol Variability and the Risk of Mortality, Myocardial Infarction and Stroke: A Nationwide Population-based Study. *Eur Heart J.* 2017 Dec 21;38(48):3560-3566. PMID: 29069458

36. Song IS, Han K, **Park YM**, Ryu JJ, Park JB. Type 2 diabetes as a risk indicator for dental caries in Korean adults: the 2011-2012 Korea national health and nutrition examination survey. *Community Dent Health.* 2017 Sep;34(3):169-175 PMID: 28872812

37. Kim MK, Han K, Koh ES, Kim HS, Kwon HS, **Park YM,** Yoo KH, Lee SH. Variability in total cholesterol is associated with the risk of end-stage renal disease: a nationwide population-based study. *Arterioscler Thromb Vasc Biol.* 2017 Oct;37(10):1963-1970. PMID: 28860222

38. White AJ, Weinberg CR, **Park YM**, D'Aloisio AA, Vogtmann E, Nichols HB, Sandler DP. Sleep characteristics, light at night and breast cancer risk in a prospective cohort. *Int J Cancer.* 2017 Dec 1;141(11):2204-2214. Epub 2017 Aug 22. PMID: 28791684

39. Han K, **Park YM**, Park JB. Evaluation of an association between long sleep duration and periodontal disease among men and women using nationally representative data. *Gaceta Sanitaria.* 2018;32(2):143-150 Epub 2017 May 31. PMID: 28576612

40. Kim ES, Han K, Kim MK, **Park YM,** Baek KH, Moon SD, Han JH, Song KH, Kwon HS. Impact of metabolic status on the incidence of psoriasis: a Korean nationwide cohort study. *Sci Rep.* 2017 May 16;7(1):1989. PMID: 28512338

41. Cha SA, **Park YM**, Yun JS, TS Lim, Song KH, Yoo KD, Ahn YB, Ko SH. A comparison of effects of DPP-4 inhibitor and SGLT2 inhibitor on lipid profile in patients with type 2 diabetes. *Lipids Health Dis.* 2017 Apr 13;16(1):58. PMID: 28403877

42. **Park YM**, Zhang J, Steck SE, Fung TT, Hazlett LJ, Merchant AT. Obesity Mediates the Association between Mediterranean Diet Consumption and Insulin Resistance and Inflammation in US Adults. *J Nutr.* 2017 Apr;147(4):563-571. Epub 2017 Mar 15. PMID: 28298537

43. **Park YM**, White AJ, Nichols HB, Weinberg CR, O'Brien KM, Sandler DP. The association between metabolic health, obese phenotype and the risk of breast cancer. *Int J Cancer.* 2017 Jun 15;140(12):2657-2666. Epub 2017 Mar 28. PMID: 28268252

44. **Park YM**, O'Brien KM, Zhao S, Baird D, Weinberg CR, Sandler DP. Gestational diabetes mellitus may be associated with the risk of breast cancer. *Br J Cancer.* 2017 Mar 28;116(7):960-963. Epub 2017 Feb 16. PMID: 28208154

45. Merchant AT, **Park YM**, Dodhia S, Shrestha D, Choi YH, Pitiphat W. Cross-Sectional Analysis of Alcohol Intake and Serum Antibodies to Oral Microorganisms. *JDR Clin Trans Res.* 2017;2(2):168-178. Epub 2016 Oct 29. PMID: 30931777

46. Kim HA, Han K, Lee YA, Choi JA, **Park YM** §. Differential Association of Metabolic Risk Factors with Open Angle Glaucoma according to Obesity in a Korean Population. *Sci Rep.* 2016 Dec 22;6:38283. PMID: 28004731

47. Yun JS, Lim TS, Cha SA, Ahn YB, Song KH, Choi JA, Kwon J, Jee D, Cho YK, **Park YM**, Ko SH. Clinical Course and Risk Factors of Diabetic Retinopathy in Patients with Type 2 Diabetes Mellitus in Korea. *Diabetes Metab J*. 2016 Dec;40(6):482-493. Epub 2016 Oct 5. PMID: 27766793.

48. Cha SA, Yun JS, Lim TS, Kang YG, Lee KM, Song KH, Yoo KD, **Park YM**, Ko SH, Ahn YB. Baseline-Corrected QT (QTc) Interval Is Associated with Prolongation of QTc during Severe Hypoglycemia in Patients with Type 2 Diabetes Mellitus. *Diabetes Metab J*. 2016 Dec;40(6):463-472. Epub 2016 Oct 5. PMID: 27766792

49. Lim TS, Yun JS, Cha SA, Song KH, Yoo KD, Ahn YB, **Park YM**, Ko SH. Elevated lipoprotein(a) levels predict cardiovascular disease in type 2 diabetes mellitus: a 10-year prospective cohort study. *Korean J Intern Med*. 2016; 31(6):1110-1119. PMID: 27756118

50. Cha SA, Yun JS, Song KH, Yoo KD, **Park YM**, Ahn YB, Ko SH. Diabetic Cardiovascular Autonomic Neuropathy Predicts Recurrent Cardiovascular Diseases in Patients with Type 2 diabetes. *PLOS ONE.* 2016 Oct 14;11(10):e0164807. PMID: 27741306

51. **Park YM**, Fung TT, Steck SE, Zhang J, Hazlett LJ, Han K, Merchant AT. Diet quality and mortality risk in Metabolically Obese Normal Weight adults. *Mayo Clin Proc.* 2016 Oct;91(10):1372-1383. PMID: 27712636

52. **Park YM**, Steck SE, Fung TT, Zhang J, Hazlett LJ, Han K, Merchant AT. Mediterranean diet, Dietary Approaches to Stop Hypertension (DASH) style diet, and metabolic health in U.S. adults. *Clin Nutr.* 2017 Oct;36(5):1301-1309. Epub 2016 Sep 8. PMID: 27665232

53. Song IS, Han K, **Park YM**, Ji S, Jun SH, Ryu JJ, Park JB. Severe Periodontitis is Associated with Insulin Resistance in Non-Abdominal Obese Adults. *J Clin Endocrinol Metab.* 2016 Nov;101(11):4251-4259. Epub 2016 Sep 6. PMID: 27598510

54. Yang HK, Han K, Kwon HS, **Park YM**, Cho JH, Yoon KH, Kang MI, Cha BY, Lee SH. Obesity, Metabolic Health and Mortality in Adults: A Nationwide Population-Based Study in Korea. *Sci Rep.* 2016 Jul 22;6:30329. PMID: 27445194

55. **Park YM**, Steck SE, Fung TT, Zhang J, Hazlett LJ, Han K, Merchant AT. Mediterranean diet and mortality risk in metabolically healthy obese and metabolically unhealthy obese phenotypes. *Int J Obes.* 2016 Oct;40(10):1541-1549. Epub 2016 Jun 24. PMID: 27339604

56. Kim TK, Won JW, Shin JA, **Park YM**, Yim HW, Park YH. The association of metabolic syndrome with diabetic retinopathy: The Korean National Health and Nutrition Examination Survey 2008-2012. *PLOS ONE.* 2016 Jun 8;11(6):e0157006. PMID: 27275953

57. Yun KJ, Han K, Kim MK, **Park YM,** Baek KH, Song KH, Kwon HS. Insulin Resistance Distribution and Cut-Off Value in Koreans from the 2008-2010 Korean National Health and Nutrition Examination Survey. *PLOS ONE*. 2016 Apr 29;11(4):e0154593. PMID: 27128847

58. Yun JS, Lim TS, Cha SA, Ahn YB, Song KH, Choi JA, Kwon J, Jee DH, Cho YK, **Park YM**, Ko SH. Lipoprotein(a) Predicts the Development of Diabetic Retinopathy in People with Type 2 Diabetes Mellitus. *J Clin Lipidol*. 2016 Mar-Apr;10(2):426-3 PMID: 27055974

59. Yun JS, Cha SA, Lim TS, Lee EY, Song KH, Ahn YB, Yoo KD, Kim JS, **Park YM**, Ko SH. Cardiovascular Autonomic Dysfunction Predicts Diabetic Foot Ulcers in Patients with Type 2 Diabetes without Diabetic Polyneuropathy. *Medicine*. 2016 Mar;95(12):e3128. PMID: 27015188

60. Yang HK, Ha HS, Rhee M, Lee JH, **Park YM**, Kwon HS, Yim HW, Kang MI, Lee WC, Son HY, Lee SH, Yoon KH. Predictive value of glucose parameters obtained from oral glucose tolerance tests in identifying individuals at high risk for the development of diabetes in Korean population. *Medicine*. 2016 Mar;95(10):e3053. PMID: 26962830

61. Kim HY, Kim CW, Park CH, Choi JY, Han K, Merchant AT, **Park YM ¶**. Low skeletal muscle mass is associated with non-alcoholic fatty liver disease in Korean adults: the Fifth Korea National Health and Nutrition Examination Survey. *Hepatobiliary Pancreat Dis Int*. 2016 Feb;15(1):39-47. PMID: 26818542

62. Kim BC †, Kim MK, Han K, Lee SY, Lee SH, Kwon HS, Merchant AT, Yim HW, Lee WC, Park YK, **Park YM ¶**. Low muscle mass is associated with metabolic syndrome in non-obese young adults: The Korea National Health and Nutrition Examination Survey (KNHANES) 2008-2010. *Nutr Res*. 2015 Dec;35(12):1070-8. PMID: 26602833

63. Yang HK, Han K, **Park YM**, Kwon HS, Yoon KH, Lee SH. Different effect of alcohol consumption on hypertension according to metabolic health status. *J Hum Hypertens*. 2016 Oct;30(10):591-8. Epub 2015 Oct 1. PMID: 26424100

64. Jerrell JM, Shuler CO, Tripathi A, Black GB, **Park YM**. Long-term Neurodevelopmental Outcomes in Children and Adolescents with Congenital Heart Disease. *Prim Care Companion CNS Disord*. 2015 Oct 22;17(5). PMID: 26835177

65. Lee SH, Yang HK, Ha HS, Lee JH, Kwon HS, **Park YM**, Yim HW, Kang MI, Lee WC, Son HY, Yoon KH. Changes in metabolic health status over time and risk of developing type 2 diabetes: a prospective cohort study. *Medicine*. 2015 Oct;94(40):e1705 PMID: 26448024

66. Yun JS, Ko SH, Ko SH, Song KH, Yoo KD, Yoon KH, **Park YM**, Ahn YB. Cardiovascular Disease Predicts Severe Hypoglycemia in Patients with Type 2 Diabetes. *Diabetes Metab J*. 2015 Dec;39(6):498-506. PMID: 26370882

67. Lee SH, Rhee M, Yang HK, Ha HS, Lee JH, Kwon HS, **Park YM**, Yim HW, Kang MI, Lee WC, Son HY, Yoon KH. Serum Preadipocyte Factor 1 Concentrations and Risk of Developing Diabetes: A Nested Case-Control Study. *Diabet Med*. 2016 May;33(5):631-8. Epub 2015 Oct 5. PMID: 26220259

68. Yun JS, Ahn YB, Song KH, Yoo KD, Yoon KH, **Park YM**, Ko SH. Lipoprotein(a) Predicts a New Onset of Chronic Kidney Disease in Patients with Type 2 Diabetes Mellitus. *Diabet Med*. 2016 May;33(5):639-43. Epub 2015 Sep 7. PMID: 26202453

69. Liu J, **Park YM ***, Berkowitz SA, Hu Q, Han K, Ortaglia A, Mckeown R, Liese A. Gender difference in the association between food insecurity and insulin resistance among U.S. adults: National Health and Nutrition Examination Survey, 2005-2010. *Ann Epidemiol*. 2015 Sep;25(9):643-8. PMID: 26189664

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C. Letters, Abstracts, Invited Commentaries, and Book Chapters

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D. Articles *under revision*

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E. Articles *under review*

1. **Park YM**, O'Brien KM, Jackson CL, Bookwalter DB, Weinberg CR, Sandler DP. Association of diabetes and use of metformin with risk of breast cancer. *Cancer*
2. **Park YM**, Shivappa N, Petimar J, Hodgson E, Steck SE, Hebert J, Sandler DP. Association between dietary inflammatory potential, oxidative balance score, and risk of breast cancer in women with a family history of breast cancer. *Int J Cancer*
3. Choi MK †, **Park YM ***, Lee SS, Shivappa N, Han K, Steck SE, Merchant AT, Hebert J, Sandler DP. Dietary inflammatory potential, normal weight central obesity, and risk of mortality. *Clinical Nutrition.*
4. Jayanama K, Theou O, Godin J, Cahill L, Shivappa N, Hébert JR, Wirth MD, **Park YM**, Fung TT, Rockwood K. Relationship between diet quality scores and the risk of frailty and mortality in adults with a wide age spectrum. *BMC Medicine*.
5. Ahn S, Han K, **Park YM**, Kim SU, Jeun SS, Yang SH. Cigarette smoking is associated with increased risk of malignant gliomas: A nationwide population-based cohort study. *Annals of Oncology*
6. Choi JA, **Park YM**, Han K, Lee J, Yin JS, Ko SH. Fasting Plasma Glucose Level and the Risk of Open Angle Glaucoma Risk: Nationwide Population-based Cohort Study in Korea. *Scientific Reports*.

F. Articles *in preparation*

1. **Park YM**, Jackson CL, Gaston SA, McWhorter KL, Weinberg CR, Sandler DP. Artificial nocturnal light exposure while sleeping and risk of type 2 diabetes and hypertension in women.
2. **Park YM**, Erve TV', O'Brien K, Nichols H, Weinberg C, Sandler D. Association of Dietary and Plasma Carotenoids with Urinary F2-isoprostanes.
3. **Park YM**, Koutros S, Sinha R, Freeman B, Lubin JH, Heltshe SL, Andreotti G, Barry KH, DellaValle CT, Hoppin JA, Lynch CF, Blair A, Alavanja MC, Sandler DP. Effect modification by dietary inflammatory potential and index-based healthy dietary patterns on the association between pesticides and prostate cancer risk.
4. **Park YM**, O'Brien KM, Tayler JA, Weinberg CR, Sandler DP. Genome-Wide Association Study of Plasma Carotenoids in US Women.

5. **Park YM**, Xu Z, Lee MK, Tayler JA, Sandler DP. Healthy dietary patterns and DNA methylation.
6. **Park YM**, Tooze J, Petimar J, Hodgson E, Fung TT, Sandler DP. Associations between different versions of Healthy Eating Index and risk of breast cancer.
7. **Park YM**, Shivappa N, Petimar J, Hodgson E, Steck SE, Hebert J, Sandler DP. Association between dietary inflammatory potential and risk of hypertension.
8. **Park YM**, White A, Niehoff N, O'Brien K, Sandler D. Association Between Organic Food Consumption and Breast Cancer Risk
9. Kim SH, Han K, Bertrand KA, Sandler DP, Park YK, **Park YM** §. Mammographic breast density and subsequent risk of breast cancer: a nationwide, population-based cohort study from Korea.

G. Scientific Presentations (limited to presenting author at international conference; poster presentations listed unless otherwise indicated)

1. **Park YM**, Shivappa N, Petimar JS, Hodgson E, Steck ES, Hébert JR, Sandler DP. Dietary inflammatory potential, oxidative balance score, and risk of breast cancer. *43rd Annual American Society of Preventive Oncology*. Tampa, FL USA, March 10-12, 2019 (Top Trainee Poster Award)
2. **Park YM**, Shivappa N, Petimar J, Hodgson ME, Steck ES, Hébert JR, Sandler DP. Association between dietary inflammatory potential and risk of hypertension: findings from the Sister Study. *American Society for Nutrition Scientific Sessions: Nutrition 2018*. Boston, MA USA, June 9-12, 2018 (Travel Award (first place), Emerging Leaders in Nutrition Science Poster Competition)
3. **Park YM**, Tooze JA, Petimar J, Hodgson ME, Fung TT, Sandler DP. Associations between different versions of Healthy Eating Index and risk of breast cancer: findings from the Sister Study. *American Society for Nutrition Scientific Sessions: Nutrition 2018*. Boston, MA USA, June 9-12, 2018 (Finalist, Emerging Leaders in Nutrition Science Poster Competition)
4. **Park YM**, Steck ES, Fung TT, Merchant AT, Sandler DP. High dietary acid load is associated with risk of breast cancer: findings from the Sister Study. *American Society for Nutrition Scientific Sessions at Experimental Biology 2017*. Chicago, IL USA, April 20-26, 2017 (Oral & Poster; Travel Award, Emerging Leaders in Nutrition Science Poster Competition)
5. **Park YM**, Shivappa N, Petimar JS, Hodgson E, Steck ES, Hébert JR, Sandler DP. Association between dietary inflammatory potential and risk of breast cancer: findings from the Sister Study. *American Society for Nutrition Scientific Sessions at Experimental Biology 2017*. Chicago, IL USA, April 20-26, 2017 (Oral & Poster; Travel Award, Emerging Leaders in Nutrition Science Poster Competition)
6. **Park YM**, White AJ, Nichols HB, Weinberg CR, O'Brien KM, Sandler DP. The association between metabolic health and the risk of breast cancer differs by menopausal status at diagnosis. *Epidemiology Congress of the Americas, Society for Epidemiologic Research*. Miami, FL, USA, June 21-24, 2016
7. **Park YM**, Han K, Fung TT, Steck SE, Zhang J, Hazlett LJ, Merchant AT. Association between Mediterranean Diet, Metabolic Health, and Obesity among U.S. Adults. 75*th Scientific Sessions, American Diabetes Association (ADA)*. Boston, MA, USA, June 5-9, 2015
8. **Park YM**, Sui X, Liu J, Zhou H, Kokkinos PK, Lavie CJ, Blair SN. Age-related Trajectories Of Lipids And Lipoproteins: The Impact Of Cardiorespiratory Fitness. *American Heart Association (AHA) EPI/Lifestyle 2015 Scientific Sessions,* Baltimore, MD, USA, March 3-6, 2015 (Early Investigator Travel Award)

9. **Park YM**, Liu J, Berkowitz S, Hu Q, Han K, Ortaglia A, Liese A, Mckeown R. Gender Difference In The Association Between Food Insecurity And Insulin Resistance Among U.S. Adults: NHANES, 2005-2010. 74*th Scientific Sessions, American Diabetes Association (ADA)*. San Francisco, USA, June 13-17, 2014
10. Kwon HS, Lee SH, Yim HW, Yoo KH, Lee WC Cha BY, Son HY, **Park YM ¶**. Age- and sex-specific cutoff values of body mass index and waist circumference reflecting insulin resistance in nationally representative Korean adults. 72*th Scientific Sessions, American Diabetes Association (ADA)*. Philadelphia, USA, June 8-12, 2012.
11. Ko SH, Yoo KD, Song KH, Ahn YB, Yoon KH, Yim HW, Lee WC, **Park YM ¶**. Long-term changes of the prevalence and control rate of hypertension among Korean adults with diagnosed diabetes: 1998-2008 Korean National Health and Nutrition Examination Survey (KNHANES). 72*th Scientific Sessions, American Diabetes Association (ADA)*. Philadelphia, USA, June 8-12, 2012.
12. Lee HS, Hwang IY, Ha HS, Yoon SH, Yim HW, Lee WC, **Park YM ¶**. Hypertension Prevalence, Awareness, Treatment, and Control in a Diabetic Population: 2007 and 2008 Korean National Health and Nutrition Examination Survey (KNHANES). *8th International Diabetes Federation Western Pacific Region (IDF WPR) Congress*. Busan, Korea, October 17-20, 2010.
13. **Park YM**, Kwon HS, Ha HS, Lee SH, Lee JH, Yim HW, Yoon KH, Kang MI, Son HY, Lee WC. Optimal waist circumference cutoff value predicting incident type 2 diabetes as a diagnostic criterion of metabolic syndrome in a Korean population: the Chungju Metabolic disease Cohort (CMC) study. *The European Association for the Study of Diabetes. 46th Annual Meeting*, Stockholm, Sweden, September 20-24, 2010.
14. **Park YM**, Province MA, Gao X, Feitosa M, Wu J, Ma D, Rao DC, Kraja AT. Association of Longitudinal Metabolic Syndrome with 550K SNPs in the Framingham Heart Study. *Genetic Analysis Workshop 16*. Saint Louis, MO, USA, September 17-20, 2008.
15. **Park YM**, Kraja AT, Province MA, Rao DC. Identification of Metabolic Syndrome Candidate Genes. The National DNA Day Symposium at Washington University School of Medicine. Saint Louis, MO, USA, April 25, 2008.
16. **Park YM**, Ahn YB, Song KH, Yoo KD, Yoon KH, Cha BY, Son HY, Ko SH. Progression of Cardiovascular Autonomic Neuropathy and Cardiovascular Events in Type 2 Diabetic Patients. *67th Scientific Sessions, American Diabetes Association (ADA)*. Chicago, USA, June 22, 2007
17. **Park YM**, Kwon HS, Lim SY, Lee JH, Ha HS, Kim SR, Yoon KH, Cha BY, Son HY, Kim DS, Yim HW, Lee WC. Characteristics of impaired fasting glucose by two different diagnostic criteria in Korean rural population: the Chungju Metabolic disease Cohort (CMC) study. *The 2nd International Congress on "Prediabetes" and the metabolic syndrome*. Barcelona, Spain, April 25-28, 2007.
18. **Park YM**, Kwon HS, Lim SY, Lee JH, Lee SH, Park YJ, Kim JH, Kim SR, Yoon KH, Cha BY, Son HY, Jang YR, Ahn MS, Kim DS, Yim HW, Lee WC. Community based diabetes screening model in Korea: the Chungju Metabolic disease Cohort (CMC) study. *The 2nd International Congress on "Prediabetes" and the metabolic syndrome*. Barcelona, Spain, April 25-28, 2007.
19. Park YJ, **Park YM ¶**, Kwon HS, Lim SY, Lee JH, Yoon KH, Cha BY, Son HY, Kim DS, Yim HY, Lee WC. BMI (body mass index) as an indirect diagnostic tool of metabolic syndrome: CMS (Chungju Metabolic Syndrome) study. *The 2nd International Congress on "Prediabetes" and the metabolic syndrome*. Barcelona, Spain, April 25-28, 2007.

20. **Park YM**, Kwon HS, Lim SY, Lee JH, Kim SR, Yoon KH, Cha BY, Son HY, Kim DS, Yim HW, Meng KH, Lee WC. Factor analysis of metabolic syndrome in Korean rural population: the Chungju Metabolic disease Cohort (CMC) study. The 4th Asia-Oceania *Conference on Obesity,* Seoul, Korea, Feb 9, 2007.
21. **Park YM**, Kwon HS, Lim SY, Kim SR, Yoon KH, Cha BY, Son HY, Kim DS, Lee WC. Optimal cut off value of waist circumference reflecting insulin resistance as diagnostic criteria of metabolic syndrome in nondiabetic Korean population: from CMS (Chungju Metabolic Syndrome) Study. *The European Association for the Study of Diabetes. 42nd Annual Meeting*, Copenhagen-Malmoe, Denmark, September 14-17, 2006.
22. **Park YM**, Lee WC, Kim YE, Bae JI, Kang SY, Shin SC, Meng K. Long term exposure of smoking (over 20 years) is associated with stomach cancer in Korean male population: The Health insurance and Life insurance network in Korea (HILINK) study. *18th Asian Pacific Cancer Conference*, Seoul, Korea, September 7, 2005
23. **Park YM**, Kwon HS, Lee HJ, Lee JH, Choi YH, Kim SR, Yoon KH, Cha BY, Son HY, Kang SK, Lim SY, Lee WC, Meng K, An MS, Noh JH, Kang JM, Kim DS. Clustering characteristics of risk variables of metabolic syndrome in middle-aged Korean adults. *1st International Congress on "Prediabetes" and the metabolic syndrome*. Berlin, Germany, April 13, 2005.
24. **Park YM**, Lee WC, Yum GS, Koo JW, Yim HW, Lee KS, Kim HK. Analysis of Cancer Screening Recommendations by Physicians for Various Types of Cancer. *The first Asian Pacific Organization of Cancer Prevention (APOCP) Conference*. Nagoya, Japan, October 1, 2002 (Oral)

INVITED TALKS & SEMINARS

β-carotene Supplements, Dietary and Circulating Carotenoids and Oxidative Stress in Relation to Postmenopausal Breast Cancer: Preliminary Results from the Sister Study. *Office of Dietary Supplements Scholars Symposium, The NIH Office of Dietary Supplements.* Rockville, MD, USA. January 2019.

Diet Quality and Metabolic Health. *Epidemiology Branch Seminar, National Institute of Environmental Health Sciences.* Research Triangle Park, NC, USA. July 2015.

Obesity and Hypertension: A Growing Health Concern in Korea. *Annual meeting of the Korean Society for the Study of Obesity.* Seoul, Korea, April 2012.

Overview of ChungJu Metabolic disease Cohort (CMC) Study. *Annual meeting of the Korean Society of Hypertension.* Seoul, Korea, May 2011.

Application of Cohort Studies. *Annual meeting of the Korean Endocrinologic Society.* Seoul, Korea, April 2010.

Contribution of Important Candidate Gene Networks and Inflammatory Markers to Metabolic Syndrome. *Study Group on Genetics of Diabetes, the Korean Diabetes Association*. Seoul, Korea, July 2010; *Center for Genome Science, Korea Centers for Disease Control and Prevention.* Seoul, Korea, August 2010.

National Health Screening Program in Korea. *Korea National Health Insurance Corporation*. Seoul, Korea, April 2006.

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EDUCATION

2013	**Ph.D.** Biotechnology; Biological Sciences Division, **Indian Statistical Institute**, **University of Calcutta**, India.
2006	**M.Sc. (MS)** Zoology with Cytogenetics and Molecular Biology, **University of Calcutta**, India.
2004	**B.Sc. (BS)** Zoology (Advanced) with Chemistry and Botany, **University of Calcutta**, India

ACADEMIC AND INDUSTRIAL RESEARCH EXPERIENCE

September 2016-Present	**Research Associate**, Biochemistry & Molecular Biology, College of Medicine, **University of Arkansas for Medical Sciences**, AR, USA.

- Determining the role of epigenetic regulatory mechanisms of gene function in human cancers.
- Design and targeting epigenome modifying synthetic protein (CRISPR/TAL based) tools for theragnostic purposes.
- Studying epigenetic cancer biomarkers on genomic and proteomic platforms.

June 2013-August, 2016	**Postdoctoral Research Assistant**, Department of Agricultural & Biological Engineering, **Purdue University**, IN, USA.

- Site specific epigenetic editing with synthetic biology tools including optogenetic, TAL/TALEN or CRISPR/CAS9 based fusion constructs.
- Screening of epigenetic biomarkers in different cancer.
- Determining epigenomic toxicity of chemical compounds and engineered nanomaterials.

November 2006-December, 2009	**Industrial Research Trainee** in Molecular Biology and Bio-instrumentation, **Labeast Instruments**, Kolkata, India.

- Investigating quality and stability of several custom-made nanomaterials.
- Involved in optimization of laboratory-ready protocol for several molecular and pathological screening assays.

February-October, 2008	**Research Trainee,** Department of Bacteriology, **National Institute of Cholera & Enteric Diseases**, Indian Council of Medical Research, India.

- Comprehensive profiling of antibiotic resistance in gut derived *E. coli* from neonates with special reference to Extended Spectrum β-lactamase (ESBL) producing strains.

SCHOLARSHIPS, AWARDS AND HONORS

2018	**Active Motif, Inc. Travel Grant** to present at **AACR** (American Association for Cancer Research) annual meeting, 2018, IL, Chicago, USA.
2013-2016	**Postdoctoral Fellowship from W.M KECK Foundation grant** at **Purdue University,** Prof. Joseph Irudayaraj laboratory, IN, USA.
2013	**Postdoctoral Fellowship in Nano Science & Technology**, Department of Science and Technology (**DST**), Govt. of India. (gratefully declined)
2013	**DS Kothari Postdoctoral Fellowship Award,** University Grant Commission (**UGC**), Govt. of India. (gratefully declined)
2012-2013	**Senior Research Fellowship Award**, Council of Scientific and Industrial Research (**CSIR**), Govt. of India.
2010-2012	**Senior Research Fellowship Award**, National Agricultural Innovative Project & Indian Council of Agricultural Research (**NAIP-ICAR**), Govt. of India.
2011	**Best Scientist award in Biotechnology**, The 18th State Science & Technology

Congress, West Bengal Science & Technology Council and Department. West Bengal Govt., India.

2009-2010 **Project linked personnel grant**, Indian Statistical Institute (ISI) Kolkata, Govt. of India.

PUBLICATIONS

(*† Corresponding author, * Equal contribution*)

Communicated/ In preparation

1. Koss B, Shields BD, Taylor EM, Storey AJ, Byrum SD, Gies AJ, Washam CL, **Roy Choudhury S**, Ahn JH, Williams JB, Krager KJ, Chaing TC, Mackintosh SG, Edmonson RD, Gajewski TF, Aykin-Burns N, Wang GG, Tackett AJ (communicated) Epigenetic control of Cdkn2aArf protects tumor-infiltrating lymphocytes from metabolic-exhaustion.

2. Schinke C, Boyle EM, Ashby CA, Wang Y, Lyzogubov V, Wardell C, Qu P, Deshpande S, Ryan K, Thanendrarajan S, Mohan M, Yarlagadda N, Khan M, **Roy Choudhury S**, Zangari M, VanRhee F, Davies F, Barlogie B, Morgan M, Walker B (communicated) Genomic Analysis of Primary Plasma Cell Leukemia reveals complex Structural Alterations and High Risk Mutational Patterns.

3. **Roy Choudhury S†**, Macleod V, Ashby C, Wang Y, Tackett AJ, VanRhee F (in preparation) Epigenetic regulatory network at body impacts aberrant overexpression of integrin β-7 in multiple myeloma.

4. **Roy Choudhury S,** Tiang E, VanRhee F, Sawyer J, Zangari M (in preparation) Differential methylation signature in multiple myeloma patients containing 1q amplification correlates to their survival outcome.

Accepted/ Published

5. **Roy Choudhury S**, Ashby C, Tytarenko R, Wang Y, Deshpande S, Dent J, Schinke C, Zangari M, Thanendrarajan S, Davies FE, VanRhee F, Morgan GJ, Walker BA (**In press**) The Functional Epigenetic Landscape of Aberrant Gene Expression in Molecular Subgroups Of Newly Diagnosed Multiple Myeloma. ***Journal of Hematology & Oncology,*** (IF: 8.731)

6. Lo CL*, **Roy Choudhury S*,** Irudayaraj J, Zhou F (2017) Epigenetic editing of *Ascl1* gene in neural stem cells by optogenetics. ***Scientific Reports***, 7:42047; DOI: 10.1038/srep42047 (IF: 4.847). (***Highlighted in Purdue University News*****/ Indiana University of Health News/** ***Indiana CTSI***)
   Functional products: DNMT3ACD-CRY2-EGFP (Addgene #82556) and TET1CD-CRY2-EGFP (Addgene #82555)

7. **Roy Choudhury S**, Lo CL, Ordaz J, Damayanti NP, Zhou F, Irudayaraj J (2017) ZnO nanoparticles induced reactive oxygen species promotes multimodal cyto- and epigenetic toxicity. ***Toxicological Sciences***, 156(1): 261-274; DOI: 10.1093/toxsci/kfw252 (IF: 4.371). (***Selected among the cover articles in Toxicological Sciences***)

8. **Roy Choudhury S,** Cui Y, Narayanan A, Gilley D, Huda N, Lo CL, Zhou F, Yernool D, Irudayaraj J (2016) Optogenetic regulation of site-specific subtelomeric DNA-methylation. ***Oncotarget***, 7(31): 50380-50391; DOI: 10.18632/oncotarget.10394 (IF: 5.415)
   Functional products: ECON (DNMT3AFL-CRY2-mCherry (Addgene #82553)

9. **Roy Choudhury S,** Lubecka-Pietruszewska *K,* Cui Y, *Stefanska* B, Irudayaraj J (2016) CRISPR-dCAS9 based selective demethylation at *BRCA1* promoter increases expression of the gene. ***Oncotarget***, 7(29): 46545-46556; DOI: 10.18632/oncotarget.10234 (IF: 5.415) (***Highlighted in NSF-University of Maryland Consortium of IGTRCN Research Coordination Network News***)

10. **Roy Choudhury S,** Cui Y, Milton J, Li J, Irudayaraj J (2015) Selective increase in subtelomeric DNA methylation: an epigenetic biomarker for malignant glioma. ***Clinical Epigenetics***, 7: 107; DOI: 10.1186/s13148-015-0140-y (IF: 5.709)

11. Cui Y, **Roy Choudhury S,** Irudayaraj J (2015) Epigenetic toxicity of trichloroethylene: as single-molecule perspective. ***Toxicology Research***, 5:641-650; DOI: 10.1039/C5TX00454C (IF: 1.969)

12. Chowdhury B, Mc.Govern A, Cui Y, **Roy Choudhury S**, Cho IL, Cooper B, Chevassut T, Lossie AC, Irudayaraj J (2015) The hypomethylating agent decitabin causes a paradoxical increase in 5-hydroxymethylcytosine in human leukemia cells. ***Scientific Reports***, 5: 9281; DOI: 10.1038/srep09281 (IF: 4.847) (***Highlighted in Purdue University Agriculture News***)

13. Cui Y, **Roy Choudhury S**, Irudayaraj J (2014) Quantitative real-time kinetics of optogenetic proteins CRY2 and CIB1/N using single molecule tools. ***Analytical Biochemistry***, 458: 58-60; DOI.org/10.1016/j.ab.2014.04.023 (IF: 2.308)

14. **Roy Choudhury S†,** Mandal A, Ghosh M, Basu S, Chakravorty D, Goswami A (2013) Inspection of antimicrobial physiology of orthorhombic and monoclinic nanoallotropes of sulfur at the interface of transcriptome and metabolome, ***Applied Microbiology and Biotechnology*****,** 97(13): 5965-5978; DOI:10.1007/s00253-013-4789-x (IF: 3.420)

15. **Roy Choudhury S†,** Mandal A, Chakravorty D, Gopal M, Goswami A (2013) Evaluation of physicochemical properties, and antimicrobial efficacy of monoclinic sulfur nanocolloid, ***Journal of Nanoparticle Research,*** 15(4): 1-11; DOI:10.1007/s11051-013-1491-y (IF: 2.205)

16. **Roy Choudhury S†,** Goswami A (2013) Supramolecular reactive sulfur nanoparticles: a novel and efficient antimicrobial agent. ***Journal of Applied Microbiology***, 114(1): 1-10; DOI:10.1111/j.1365-2672.2012.05422.x (review article) (IF: 2.099)

17. **Roy Choudhury S†,** Basu A, Nag T, Sengupta K, Bhowmik M, Goswami A (2013) Expedition of in-vitro dissolution and in-vivo pharmacokinetic profiling of sulfur nanoparticles based antimicrobials, ***Environmental Toxicology and Pharmacology,*** 36(2): 675-679; DOI.org/10.1016/j.etap.2013.06.014 (IF: 2.405)

18. Pradhan S, Roy I, Lodh G, Patra P. **Roy Choudhury S**, Samanta A, Goswami A (2013) Entomotoxicity and biosafety assessment of PEGylated acephate nanoparticles: a biologically safe alternative to neurotoxic pesticides. ***Journal of Environmental Science and Health; Part-B,*** 48: 559-569; DOI.org/10.1080/03601234.2013.774891 (IF: 1.362)

19. Gogoi R, Singh PK, Kumar R, Nair KK, Alam I, Srivastava C, Yadav S, Gopal M, **Roy Choudhury S**, Goswami A (2013) Suitability of nano-sulfur for biorational management of powdery mildew of Okra (*Abelmoschus esculentus* Moench) caused by *Erysiphe cichoracearum*. ***Journal of Plant Pathology and Microbiology***.4(4):1-4; DOI:10.4172/2157-7471.1000171 (IF: 2.13)

20. **Roy Choudhury S**, Roy S, Goswami A, Basu S (2012) Polyethylene glycol-stabilized sulfur nanoparticles: an effective antimicrobial agent against multidrug-resistant bacteria, ***Journal of Antimicrobial Chemotherapy,*** 67: 1134-1137; DOI: 10.1093/jac/dkr591 (IF: 5.173)

21. **Roy Choudhury S†,** Ghosh M, Goswami A (2012) Inhibitory effect of sulfur nanoparticles on membrane lipids of *Aspergillus niger*: a novel route of fungistasis. ***Current Microbiology***, 65(1): 91-97; DOI:10.1007/s00284-012-0130-7 (IF: 1.312)

22. **Roy Choudhury S**, Ghosh M, Mandal A, Chakrovarty D, Pal M, Pradhan S, Goswami A (2011) Surface modified sulfur nanoparticles: an effective antifungal agent against

Aspergillus niger and *Fusarium oxysporum*. ***Applied Microbiology and Biotechnology***, 90: 733–743; DOI:10.1007/s00253-011-3142-5 (IF: 3.420)

23. Seth D, **Roy Choudhury S†**, Pradhan S, Gupta S, Palit D, Das S, Debnath N, Goswami A (2011) Nature-inspired Novel Drug Design Paradigm Using Nanosilver: Efficacy on Multi-Drug-Resistant Clinical Isolates of Tuberculosis. ***Current Microbiology***, 62(3): 715-726; DOI:10.1007/s00284-010-9770-7 (IF: 1.312)

24. **Roy Choudhury S†**, Pradhan S, Goswami A (2012) Preparation and Characterization of Acephate Nano-encapsulated Complex. ***Journal of Experimental Nanoscience (Formerly known as Nanoscience Methods)***, 1:9-15; DOI: 10.1080/17458080.2010.533443

25. **Roy Choudhury S†,** Dey KK, Bera S, Goswami A (2012) Colloidal stability and coagulation kinetics study of different sized sulfur nanoparticles. ***Journal of Experimental Nanoscience***, 8(3): 267-272; DOI.org/10.1080/17458080.2012.667161 (IF: 0.863)

26. Kumar R, Nair KK, Alam MI, Gogoi R, Singh PK, Srivastava C, Yadav S, Gopal M, **Roy Choudhury S**, Pradhan S, Goswami A (2011) A simple method for estimation of sulfur in nanoformulations by UV spectrometry. ***Current Science,*** 100 (10): 1542-1546; Article Link (IF: 0.926)

27. **Roy Choudhury S†,** Basu A, Dey KK, Nag T, Goswami A (2014) Toxicological evaluation of antimicrobially potent sulfur nanoparticles against biochemical, histopathological, and behavioural properties of mice. ***Proceedings of the Zoological Society***, 68(1): 64-73; DOI:10.1007/s12595-014-0098-3 (IF: 0.312)

28. **Roy Choudhury S**, Nair KK, Kumar R, Gogoi R, Srivastava C, Gopal M, Subhramanyam BS, Devakumar C, Goswami A (2010) Nanosulfur: a potent fungicide against food pathogen *Aspergillus niger*. ***AIP Conference Proceedings,*** 1276(1): 154-157; DOI.org/10.1063/1.3504287.

Patents

1. Gopal M, **Roy Choudhury S**, Roy I, Pradhan S, Devakumar C, R, Kumar R, Gogoi R, subhramanyam BS, Srivastava C, Goswami A (2013) Nanoencapsulated Hexaconazole: A novel fungicide and the process for making the same. **Patent filed through ITMU, Indian Agricultural Research Institute, New Delhi, Govt. of India** (Patent application number-2051/DEL/2011; dated 07.21.2011; **Patent number: 292080, granted dated-01.24.2018**).

2. Gopal M, **Roy Choudhury S**, Ghose M, Dasgupta R, Devakumar C, Kumar R, Gogoi R, subhramanyam BS, Srivastava C, Goswami A (2016) A process for preparation of polymer encapsulated nano sulfur fungicide. **Patent filed through ITMU, Indian Agricultural Research Institute, New Delhi, Govt. of India** (Patent application number-1599/DEL/2011, dated 06.07.2011; **Patent number: 277235, granted dated-11.16.2016**).

Edited Books

1. **Roy Choudhury S**, Goswami A (2017) Nanobiotechnology: Basic and Applied Aspects. **Union Bridge Books, India** & **Wimbledon Publishing Company Limited. United Kingdom**. ISBN-13: 978-1783087372; ISBN-10: 1783087374.

2. **Roy Choudhury S** (2010) Antibiotic Resistance in *Escherichia coli* & *Klebsiella pneumoniae* Spells Neonatal Death; Basics, Clinical Data and Methods: **Lap-lambert publishing House, Germany**. ISBN-13: 978-3838336084, ISBN-10: 3838336089.

Book Chapters

1. Thapa M, **Roy Choudhury†** (In preparation) Dynamic physiochemical properties of green-synthesized nanomaterials and their antimicrobial potential. In: Verma SK., Das AK. (eds) ***Biosynthesized Nanomaterials***, Elsevier

2. **Roy Choudhury S**, Irudayaraj J (2020) (**in press**) Optogenetically equipped molecular tools based on CRISPR or TALE for locus specific epigenetic editing, Site Specific and Global Epigenomic Editing. In: Zhou F (eds.) ***Site specific and global epigenomic editing, Translational Epigenetics Series***, Elsevier, vol.19, chapter-2.

3. **Roy Choudhury S.,** Walker B.A. (2019) Aberrant Epigenomic Regulatory Networks in Multiple Myeloma and Strategies for Their Targeted Reversal. In: Jurga S., Barciszewski J. (eds.) ***The DNA, RNA, and Histone Methylomes. RNA Technologies***. Springer, Cham, pp: 543-572, https://doi.org/10.1007/978-3-030-14792-1_22.

4. **Roy Choudhury S†** (2019) Genome-wide alterations of epigenomic landscape in plants by engineered nanomaterial toxicants. In: Verma SK., Das AK. (eds) Analysis, fate, and toxicity of engineered nanomaterials in plants***, Series: Comprehensive Analytical Chemistry***, Elsevier, vol. 84, chapter 7; pp: 199-223.

5. **Roy Choudhury S** and Walker BA (2018) A Rapid and Robust Protocol for Reduced Representation Bisulfite Sequencing in Multiple Myeloma. In: Heuck C., Weinhold N.

(eds.) Multiple Myeloma. ***Methods in Molecular Biology***, Humana Press, New York, NY, vol. 1792, chapter 13; pp: 179-191, doi: 10.1007/978-1-4939-7865-6_13.

6. **Roy Choudhury S** and Goswami A (2017) Non-metallic nanoparticles and their biological implications, Nanobiotechnology: Basic and Applied Aspects. Anthem Press, Vol.1, chapter 4; pp: 61-74

7. **Roy Choudhury S** and Goswami A (2013) Novel nanocides for Indian industries, **Advances in *Horticulture Biotechnology: Nanotechnology in Agriculture***. Westville Publishing House, Vol. 6, chapter 17; pp: 227-235.

8. Patra P, **Roy Choudhury S**, Mandal S, Basu A, Goswami A, Gogoi R, Srivastava C, Kumar K, Gopal M (2013) Effect of sulfur and ZnO nanoparticles on stress physiology and plant (*Vigna radiata*) nutrition. ***Springer proceedings in Physics,*** 143: pp: 301-309; DOI. 10.1007/978-3-642-34216-5_31

Other Scholarly Publications

1. **Roy Choudhury S**, Goswami A (2015) Surface modified sulfur nanoparticles can escape the glutathione reductase mediated detoxification system in fungi. ***arXiv.org>q-bio, Cornell University Library,*** arXiv:1501.02409

2. Kumar R, Nair KK, Verma S, Gogoi R, Singh PK, Srivastava C, Alpana, Gopal M, **Roy Choudhury S**, Goswami A (2012) Developing nanosulphur for mitigation of agricultural pests and better crop health: Nanosulphur for better crop health management. ***International Journal of Applied Agricultural Research***, 7 (2): 87-90; Article Link

PRESENTATIONS

Invited Talks in Research Institute/ Universities.

1. Targeted epigenetic editing in human cancers, host PI: Trygve O Tollefsbol, **The University of Alabama at Brimingham, AL, USA** (03.01.2019)
2. Aberrant epigenomic landscape in human cancers and their targeted reversal with synthetic protein tools, host PI: Miklos Toth, **Weill Cornell Medicine, Cornell University, NY, USA** (01.09.2019)
3. Site-specific Epigenomic Engineering for Next Generation Therapeutic Interventions. Myeloma Institute, host PI: Brian A Walker, **University of Arkansas for Medical Sciences, AR, USA** (07.26.2016)

4. Nano-particulate therapeutics for the acute lowering of LDL in hyperlipidemia and a preventive measure against dyslipidemia induced multiple carcinomas. Department of Biological Sciences, host PI: Ignacio Camarillo, **Purdue University, IN, USA** (09.30.2013)

CONFERENCE/SEMINAR/SYMPOSIUM/ WORKSHOP

1. Brian Koss, Bradley D. Shields, Erin M. Taylor, Aaron J. Storey, Stephanie D. Byrum, Allen J. Gies, Charity L. Washam, **Roy Choudhury S** et al. (2020) Epigenetic control of tumor-infiltrating lymphocyte metabolic-exhaustion. American Association for Cancer Research (**AACR**) Annual Meeting, San Diego, USA (**Cancer Research)**
2. **Roy Choudhury S**, Ashby C, Tytarenko R, Wang Y, Patel PH, Rose KR, Dent J, Davies FE, Morgan GJ, Walker BA (**2018**) Global 3D-epigenetic dysregulation of cyclin D1 and D2 actively controls their expression pattern in multiple myeloma. American Society of Hematology, San Diego, USA (**Blood,** 132:3904; http://www.bloodjournal.org/content/132/Suppl_1/3904?sso-checked=true)
3. Rasche L, Kumar M, Gershner G, McDonald JE, **Roy Choudhury S**, Van Helmert RL et al. (2018) lack of a spleen signal on diffusion weighted MRI is associated with high tumor burden and Poor Prognosis in Multiple Myeloma. American Society of Hematology, San Diego, USA (**Blood,** 132:4471; http://www.bloodjournal.org/content/132/Suppl_1/4471?sso-checked=true)
4. **Roy Choudhury S**, Ashby C, Tytarenko R, Wang Y, Patel PH, Mikulasova A, Bauer M, Deshpande S, Davies FE, Morgan GJ, Walker BA (**2018**) Intragenic DNA-hypomethylation promotes overexpression of *ITGB7* in MF subgroup of Multiple Myeloma. American Association for Cancer Research (**AACR**) Annual Meeting, Chicago, USA (**Cancer Research;** DOI: 10.1158/1538-7445.AM2018-5324)
5. Mikulasova A, Ashby CT, Tytarenko RG, Deshpande S, Stephens OW, Tian E, Patel PH, Wardell CP, **Roy Choudhury S**, Jackson GH, Davies FE, Morgan GJ, Walker BA (**2017**) The spectrum of MYC translocations and their effect on gene upregulation in a dataset of 527 multiple myeloma patients. American Society of Human Genetics, Orlando, Florida, USA. (**abstract published**)
6. Mikulasova A, Ashby CT, Tytarenko RG, Stephens OW, Tian E, Patel PH, Stein CK, Wardell CP, **Roy Choudhury S**, Davies FE, Morgan GJ, Walker BA (**2017**) Complex chromosome translocations as a driving eventof MYC upregulation in multiple myeloma. European Society of Human Genetics, Copenhagen, Denmark. (**abstract published**)
7. Lo CL, Resendiz M, Chen S, **Roy Choudhury S**, Irudayaraj J, Zhou FC (**2016**) Epigenetic mechanism of alcohol on neural development demonstrated in a site specific manner. ISBRA symposium on neuroimaging mechanisms of change in psychotherapy for addictive

behaviors, San Antonio, Texas, USA (**abstract published in Alcoholism, clinical and experimental research**; http://onlinelibrary.wiley.com/doi/10.1111/acer.13085/epdf)

8. **Roy Choudhury S**, Lo CL, Zhou F, Irudayaraj J (**2015**) Optogenetic control of endogenous neuronal commitment and differentiation. International Conference on Protein Engineering, Omics group conferences, Chicago, USA. (**abstract published in Journal of Proteomics & Bioinformatics**; http://dx.doi.org/10.4172/0974-276X.C1.079) **(Young Researchers Forum speech).**
9. **Roy Choudhury S**, Cui Y, Irudayaraj J (**2015**) Molecular tools for loci-specific epigenetic regulation. Purdue Cancer Center Research (PCCR) annual scientific retreat, Purdue University, Indiana, USA. (**abstract published**)
10. **Roy Choudhury S**, Cui Y, Irudayaraj J (**2014**) Optogenetic tools to regulate the aberrant epigenetic status: A novel paradigm in cancer therapeutics. Purdue Cancer Center Research (PCCR) annual scientific retreat, Purdue University, Indiana, USA. (**abstract published**)
11. **Roy Choudhury S**, Goswami A (**2013**) Surface functionalized sulfur nanoparticles escape the glutathione reductase mediated elemental sulfur detoxification system in fungi. 5th Congress of European Microbiologists, (FEMS) Federation of European Microbiological Societies, Leipzig, Germany. (**abstract published**)
12. Bera S, Dey KK, **Roy Choudhury S**, Goswami A (**2012**) Hierarchical clustering analysis of Aspergillus niger transcriptome data after treatment with sulfur nanoallotropes. International Conference on Nanoscience and Technology, Hyderabad, India.
13. **Roy Choudhury S**, Goswami A (**2011**) Sulfur nanoparticles: an Efficacious Novel Fungicide for Agro-medical Sectors. The 18th State Science & Technology Congress, West Bengal Science & Technology Council and Department, West Bengal Government, India. (**abstract published**)
14. **Roy Choudhury S**, Dey KK, Bera S, Goswami A (**2011**) Colloidal stability and coagulation kinetics study of different sized Sulphur nanoparticles, International Conference on Advanced Nanomaterials and Nanotechnology, Assam, India
15. **Roy Choudhury S (2011)** Two (2) workshop on Nanocomputing and Biochips, Department of Advanced Computing and Microelectronics Unit, Indian Statistical Institute, West Bengal, India.
16. **Roy Choudhury S**, Pradhan S, Katakia K, Barik S, Goswami A (**2010**) Surface reactive nanosulfur: A brand new fungicide in Indian Agriculture. International Conference on frontiers in biological sciences, Department of Life Sciences, National Institute of Technology, Rourkela, Orissa, India. (**abstract published**)
17. Pradhan S, **Roy Choudhury S**, Barik S, Goswami A (**2010**) A novel approach to organophosphate insecticide: Acephate. International Conference on frontiers in biological sciences, Department of Life Sciences, National Institute of Technology, Rourkela, Orissa, India. (**abstract published**)

18. Kumar R, Nair KK, Alam MI, Gogoi R, Singh PK, Srivastava C, Yadav S, Niwas R, Gopal M, **Roy Choudhury S**, Pradhan S, Goswami A (**2010**). Protocol for synthesis and quality control of a nanofungicide. International Interdisciplinary Science conference, on Nanobiotechnology: An interphase between physics and biology. Jamia Milia Islamia, New Delhi, India. (**abstract published**)
19. **Roy Choudhury S**, Pradhan S, Roy I, Goswami A (**2010**) Evaluation of bactericidal efficacy of sulfur nanoparticles (SNPs) against multidrug resistant isolates of *Escherichia coli* and *Klebsiella pneumonia.* International Conference on Fundamental and Applications on Nanoscience & Technology, School of Materials Science & Nanotechnology, Jadavpur University, India. (**abstract published**)
20. **Roy Choudhury S**, Roy I, Pradhan S, Goswami A (**2010**) Size controlled synthesis of monoclinic sulfur nanoparticles via water in oil microemulsion technique. International Symposium on Advances in Nanomaterials, Central Glass & Ceramic Research Institute, Kolkata, India. (**abstract published**)
21. **Roy Choudhury S**, Goswami A (**2010**) Geochemical Profiling of Sulfur Nanoparticles (SNPs) in Edaphic Matrix. Indo-US bilateral workshop, Physics and Applied Mathematics Unit, Indian Statistical Institute, Kolkata, India. (**abstract published**)

EDITORIAL BOARD MEMBER

Epigenomics and Epigenetics: Frontiers in Biology (2019-present)

PEER-REVIEWED JOURNALS: AD-HOC REFEREE

Total Reviewed Articles to Date: 41

1. Current Drug Targets (IF: 3.029): 2016-Present.
2. Current Drug Delivery (IF: 1.446): 2016-Present.
3. RSC Advances (IF: 3.108): 2017-Present.
4. Journal of Material Chemistry C (IF: 5.256): 2018-present
5. Micro & Nano Letters (IF: 0.853): 2016-Present.
6. Molecular Biotechnology (IF: 1.893): 2017-Present.
7. Plasma Chemistry and Plasma Processing (IF: 2.355): 2017-Present.
8. Miscellaneous: 2013-Present.

MEMBERSHIP IN SCIENTIFIC ORGANIZATION

1. American Association for Cancer Research (AACR): Associate Membership. Member ID: **409103** (September, 2017-Present).
2. Cancer Epigenetics Society (CES): Invited Professional Assistant Membership. Member ID: **303** (February, 2017-Present).
3. American Association for the Advancement of Science (AAAS): Postdoctoral Membership. Member ID: **41521066** (September, 2016-Present).

EXPERIMENTAL EXPERTISE

- **Epigenetic methods**. Genome-wide DNA methylation and hydroxymethylation (such as RRBS, RRHP, TAB sequencing etc.) on Next-generation sequencing platforms, Pyrosequencing, ChIP-sequencing, ATAC-Seq, HiC.
- **Synthetic protein tool construction.** Designing and construction of synthetic fusion protein tools such Transcription Activator like Elements (TALE), CRISPR-CAS9 and optogenetic (light inducible protein based) proteins, to epigenetic modifiers for selective epigenetic editing.
- **Standard molecular biology tools.** PCR, RT-PCR, q-PCR, Western Blot, ChIP, Co-IP, electrophoresis, mammalian cell culture, transfection, Flow cytometry and FACS data analysis, ELISA, Immunobloting, lipid isolation and characterization, FAME, TLC, GC.
- **Nanoparticle research.** Synthesis of nanoparticles through several wet chemical methods such as liquid phase precipitation, water in oil microemulsion, nanoencapsulation etc. Handling and operating of instruments like TEM, Zetasizer, and FT-IR. Physicochemical characterization of the synthesized nanoparticles.
- **Microbiological methods.** Handling cultures of bacteria and fungi, antibacterial and antifungal screening.
- **Animal study.** Handling and dissection of laboratory animals such as mice and rat.

GUIDANCE OF DISSERTATIONS TO UNDERGRADUATE/ GRADUATE STUDENTS DURING POSTDOCTORAL AND DOCTORAL RESEARCH (SELECTED)

1. **Jacob R Milton, Purdue University Interdisciplinary Life Science Program (PULSe) student, Purdue University, USA** (2015); **Project:** Investigation of subtelomeric methylation status in glioblastoma multiforme from the clinical resources.
2. **Anirban Basu, M. Pharm, Himalayan Pharmacy Institute, India** (2012); **Project:** Preparation, characterization and pharmacokinetic profiling of sulfur nanoallotropes

3. **Sabyasachi Bera, M. Stat, Indian Statistical Institute, India** (2011); **Project:** Hierarchical clustering analysis of *Aspergillus niger* transcriptome data after treatment with sulfur nanoallotropes
4. **Kushal Kr. Dey, M. Stat, Indian Statistical Institute, India** (2011); **Project:** Colloidal stability and coagulation kinetics study of size different sulfur nanoparticles
5. **Anurima Gupta, M.Sc in Industrial Biotechnology, Majhighariani Institute of Technology & Science, Rayagada, India** (2010); **Project:** study of natural and chemically synthesized nanoparticles and their characterization with special reference to the effect of sulfur nano particles on the fungi *(Aspergillus niger)*.
6. **Rochishnu Dutta, M.Sc in Forestry, Forest Research Institute University, Dehradun, India** (2009); **Project:** Study of natural plant nanoparticles with special reference to foxtail grass (*Alopecurus sp,* Poaceae family) and their characterization by dynamic light scattering analysis, scanning electron microscopy and energy dispersive x-ray analysis.

PROFESSIONAL REFERENCES

Prof. Alan J Tackett
Scharlau Family Endowed Chair in Cancer Research
Department of Biochemistry & Molecular Biology
Winthrop P. Rockefeller Cancer Institute
University of Arkansas for Medical Sciences
Little Rock, AR 72205, USA
E-mail: AJTackett@uams.edu

Prof. Joseph MK Irudayaraj
Founder Professor in Bioengineering
Biomedical Research Center
3rd Floor Mills Breast Cancer Institute, Carle Foundation Hospital
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E-mail: jirudaya@illinois.edu

Prof. Feng C Zhou

Professor Emeritus of Anatomy & Cell Biology
Stark Neurosciences Research Institute
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Samrat Roy Choudhury

Samrat Roy Choudhury

Place: AR, USA

Year: 2020

(Last Updated: 02/29/2020)

Curriculum Vitae

PERSONAL

Name: **Adam Ross Wolfe MD, PhD**

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EDUCATION

MD, **Doctor of Medicine**, 2016, University of Texas McGovern Medical School, Houston Texas

Ph.D., **Cancer Biology**, 2015, University of Texas MD Anderson Cancer Center, Houston, Texas.

Thesis: Investigating the role of cholesterol metabolism and synthesis in metastasis and radiation response in aggressive subtypes of breast cancer (Advisor: Wendy Woodward MD, PhD).

B.S., **Cell and Molecular Biology**, 2009, Texas Tech University, Lubbock, Texas.

POSTDOCTORAL TRAINING

Intern, Transitional Year, 2016-2017, Wayne State University, Detroit, Michigan

Resident, Radiation Oncology, 2017-present, Ohio State University, Columbus, Ohio

PROFESSIONAL EXPERIENCE

2016 – Present. **Postdoctoral Clinical Research Fellow**. American Board of Radiology Holman Research Pathway, Department of Radiation Oncology, Ohio State University, Columbus, Ohio. (Advisor: Terence Williams MD, PhD).

2009 – 2016. **Graduate Research Assistant**, The University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, Houston, Texas.

2009 – 2015. **MD/PhD student**, The University of Texas Medical Scientist Training Program at Houston and UTHealth Graduate School of Biomedical Sciences at MD Anderson Cancer Center, Houston, Texas.

2006 – 2009. **Undergraduate Research Scholar**, Fellowship, Howard Hughes Medical Institute, Texas Tech Health Sciences Center, Lubbock, Texas.

OTHER EXPERIENCES

Current -	**Chief Resident**, Radiation Oncology, Ohio State University.
Current-	**AdHoc Resident Radiation and Cancer Biology Editor**: RadOncQuestions.com
July 2019	**Invited Young Investigator**: AACR Molecular Biology in Clinical Oncology Workshop (Sponsored by Ohio State University), Snowmass, CO.
Current-	**AdHoc Journal reviewer**: International Journal of Cancer, Cellular Physiology and Biochemistry

PROFESSIONAL MEMBERSHIPS

Current- American Board of Radiology

Current- American Society for Radiation Oncology

Current- Radiologic Society of North America

Current- American Society of Clinical Oncology

Current- American Association for Cancer Research

CLINICAL INTERESTS

I am interested in delivering comprehensive radiation oncology treatments to cancer patients employing advanced techniques that truly impact survival and therapy response. During my medical residency training at the 3rd largest comprehensive cancer center in the country, I have seen a broad and diverse spectrum of disease presentations and large number of cancer patients – over 150 treatment simulations per year. I am especially passionate for treating the cancers of the GI system and have experience in most state-of-the-art treatment modalities. My training experience includes the following technologies: Varian TrueBeam Accelerator, Intensity Modulated Radiation Therapy (IMRT), Stereotactic Body Radiation Therapy (SBRT), Image-Guided Radiation Therapy (IGRT), Stereotactic Radiosurgery (SRS) and Fractionated Stereotactic Radiotherapy (FSRT), Image-Guided Brachytherapy including high-dose-rate (HDR) implants, low-dose-rate (LDR) implants, Intraoperative Radiation Therapy (IORT), and Vision RT. I am well familiarized with Eclipse and Pinnacle planning systems as well. I am strongly trained in image-guided therapy planning, including the use of high and ultrahigh field MRI to aid in fine segmentation of soft-tissues and invasive cancers. I have been a team member in a number of clinical trials and am well versed in measuring and understanding significant clinical outcomes. In summary, I am passionate for clinical practice of Radiation Oncology and am interested in joining an active clinical Radiation Oncology team.

RESEARCH INTERESTS

I have passionately studied the molecular intricacies of DNA repair signaling in cancer tissues using advanced translational models and quantitative biology. I have worked with vast dedication to pursue a solid track record of publications that will serve as robust basis for the further development of my diverse medical radiation sciences research program. My independent research program will integrate the unique training experiences I have in a highly translational design centered on understanding DNA repair to genotoxic therapeutics and molecular mechanisms of cellular phenotypic radioresistance in cancer using engineered mouse models and therapy-mimetic radiation delivery systems. This will include analyzing the role of the DNA repair signaling protein RAD18 in recruiting DNA repair proteins that we have recently elucidated as driving mechanism of radioresistance in aggressive pancreatic cancers. I will also utilize unbiased approaches to discover alternative mechanisms of cellular plasticity and their role in chemo- and radioresistance. In parallel, I would like to assemble and interrogate a unified large dataset of pancreatic and lung/ cancer patients treated with radiotherapy that incorporates clinical,

pathological, genomic and molecular characterization with clinical outcomes. The dataset would allow for hypothesis generation on determinants of essential radiation outcomes using actual patient outcome, to be validated and mechanistically explored using in vitro and in vivo preclinical models. Overall, this work will provide basic and clinical insights that can be translated into clinical trials and ultimately improve patient care. With expertise in preclinical models, molecular cellular biology, and DNA repair signaling, I am well positioned to design, execute, and lead a team to pursue mechanistic research on unexplored targeted therapeutics with the goal of advancing the use of radiation therapy as an effective genotoxic therapy tool, ultimately aiming to improve disease-free survival our patients.

HONORS AND AWARDS (SELECTED)

2019 – Award: Condos International Radiation Oncology Experience Travel Award

2019 – Fellowship: The B. Leonard Holman Research Fellowship: Mentor Dr. Terence Williams, Radiation Oncology.

2016 – Invited Speaker: 2018 International Conference for Inflammatory Breast Cancer, Boston MA

2015 – Issue Highlight (Peer-reviewed Manuscript): The International Journal of Radiation Oncology. April 1, 2015 Volume 91, Issue 5, Pages A15–A16.

2014 – Award: AACR Scholar-in-Training Award 2014 San Antonio Breast Cancer Symposium (SABCS)

2014 – Award: Experimental Radiation Oncology Graduate Student of the Year Award

2009 – Graduation Distinction, Texas Tech University: *summa cum laude.*

FUNDING

ONGOING RESEARCH SUPPORT

Radiation Oncology Institute's (ROI) Research Grant	$50,000	07/2019-06/2021
Development of a miRNA Signature to Personalize Radiation Therapy in PDAC		
RSNA Research & Education Foundation Grant	$25,000	07/2019-06/2020
Elucidating and Targeting BRAFV600E Mediated Radioresistance in Anaplastic Thyroid Cancer		
Ohio State Radiation Oncology Translational Award	$15,000	07/2019-06/2020
Utilizing microRNAs as Radiosensitizers for Pancreatic Cancer		

COMPLETED RESEARCH SUPPORT

Ohio State Gastrointestinal Development Award	$22,000	12/2018-05/2019
Discovery of Novel Prognostic and Predictive miRNA Signatures to Guide Neoadjuvant Therapies in Pancreatic Adenocarcinoma		
The NIH CTSA TL1 Training Grant	$30,000	01/2012-06/2013
Statins inhibit the tumor associated macrophage inflammatory response making tumor-initiating cells more radiosensitive		

CLINICAL AND ACADEMIC MENTORING

Name	Position, Awards achieved under mentorship	Years
Megan Halloran	Undergraduate Student, Pelotonia Undergraduate Research Award	2018-present
Jennifer Matsui	Medical Student, Medical Student Research Scholarship (MDSRS)	2019-present
Andrew Hu	Medical Student, Ohio State Undergraduate Pelotonia Scholarship	2019-present
Ansel Nalin	Medical Student, MD/PhD Student Ohio State	2017-present
Kevin Liu	Medical Student, ASTRO medical student award	2018-present

PUBLICATIONS

Peer-reviewed manuscripts

1. **Adam R. Wolfe**, Beth Cureton, Vedat Yildiz et al. (2020) Bremsstrahlung SPECT Based RadiationTumor Dosimetry Predicts for Tumor Control in Patients Treated with Yttrium-90 Radioembolization for Liver Metastases from Colorectal Cancer. Under Review at Practical Radiation Oncology
2. **Adam R. Wolfe**, Ryan Robb, Ahmed Hagazi et al. (2020) Gemcitabine and Nab-paclitaxel Scheduling Improves Therapeutic Efficacy Compared to the Standard Concurrent Regimen in Pre-clinical Models of Pancreatic Cancer. Under Review at Clincal Cancer Research.
3. **Wolfe, A.R.**, Prabhakar, D, Yildiz V, et al. Neoadjuvant Modified FOLFIRINOX versus Nab-Paclitaxel plus Gemcitabine for Borderline Resectable or Locally Advanced Pancreatic Cancer Patients who Achieved Surgical Resection. Cancer Medicine. 2020.
4. **Wolfe, A. R.,** Wald P, Webb A, Robb R, Dillhoff M, Kwon W, Williams TM (2020). "A microRNA-based signature predicts local-regional failure and overall survival after pancreatic cancer resection." Oncotarget **11**(10): 913-923. 2020
5. Beckham, T.H., Barney, C., Healy, E., **Wolfe, A.R**., Branstetter, A., Yaney, A., Riaz, N., McBride, S.M., Tsai, C.J., Kang, J., Yu, Y., Chen, L., Sherman, E., Dunn, L., Pfister, D.G., Tan, J., Rupert, R., Bonomi, M., Zhang, Z., Lobaugh, S.M., Grecula, J.C., Mitchell, D.L., Wobb, J.L., Miller, E.D., Blakaj, D.M., Diavolitsis, V.M., Lee, N. and Bhatt, A.D. (2020), Platinum-based regimens versus cetuximab in definitive chemoradiation for human papillomavirus-unrelated head and neck cancer. Int. J. Cancer. doi: 10.1002/ijc.32736
6. Robb, R., Yang, L., Shen, C., **Wolfe, A. R**., Webb, A., Zhang, X., Williams, T. M. (2019). Inhibiting BRAF Oncogene-Mediated Radioresistance Effectively Radiosensitizes BRAF(V600E)-Mutant Thyroid Cancer Cells by Constraining DNA Double-Strand Break Repair. Clin Cancer Res, 25(15), 4749-4760. doi: 10.1158/1078-0432.CCR-18-3625

7. **Wolfe, A. R.,** Grecula, J. C., Blakaj, D., Weald, P., Carlson, M., Woods, K., Shabsigh, A. (2019). Robotic-assisted Intraoperative High-dose Rate Remote Brachytherapy Following Laparoscopic Robotic-assisted Resection of Pelvic Recurrence of Urethral Carcinoma. Advances in Radiation Oncology, 4(3), 443-446. doi:10.1016/j.adro.2019.03.006
8. **Wolfe, A.R.,** et al., Clinical Outcomes and Multidisciplinary Patterns of Failure for Olfactory Neuroblastoma: The Ohio State Experience. J Neurol Surg B, (2019 EFirst).
9. **Wolfe, AR**., Jain R, Pawlik T, Walker J, Williams TM, et al., Radiation-induced Colitis in a Pancreatic Cancer Patient with a Germline BRCA2 Mutation: A Case Report. Advances in Radiation Oncology. DOI: 10.1016/j.adro.2018.08.025
10. **Wolfe, A.R.** and T.M. Williams, Altering the response to radiation: radiosensitizers and targeted therapies in pancreatic ductal adenocarcinoma: preclinical and emerging clinical evidence. Annals of Pancreatic Cancer, 2018. 1(8). DOI: 10.21037/apc.2018.08.02
11. Rahal OM, **Wolfe AR**, Mandal PK, Larson R, Tin S, Jimenez C, Zhang D, Horton J, Reuben JM, McMurray JS, Woodward WA. Blocking Interleukin (IL)4- and IL13-Mediated Phosphorylation of STAT6 (Tyr641) Decreases M2 Polarization of Macrophages and Protects Against Macrophage-Mediated Radioresistance of Inflammatory Breast Cancer. Int J Radiat Oncol Biol Phys. 2018 Mar 15;100(4):1034-1043. doi: 10.1016/j.ijrobp.2017.11.043. Epub 2017 Dec 7.
12. Stecklein SR, Reddy JP, **Wolfe AR**, Lopez MS, Fouad TM, Debeb BG, Ueno NT, Brewster AM, Woodward WA. Lack of Breastfeeding History in Parous Women with Inflammatory Breast Cancer Predicts Poor Disease-Free Survival. J Cancer. 2017 Jul 1;8(10):1726-1732. doi: 10.7150/jca.20095. eCollection 2017.
13. **Wolfe AR**, Trenton NJ, Debeb BG, Larson R, Ruffell B, Chu K, Hittelman W, Diehl M, Reuben JM, Ueno NT, Woodward WA. Mesenchymal stem cells and macrophages interact through IL-6 to promote inflammatory breast cancer in pre-clinical models. Oncotarget. 2016 Dec 13;7(50):82482-82492. doi: 10.18632/oncotarget.12694
14. Debeb BG, Lacerda L, Anfossi S, Diagaradjane P, Chu K, Bambhroliya A, Huo L, Wei C, Larson RA, **Wolfe AR**, Xu W, Smith DL, Li L, Ivan C, Allen PK, Wu W, Calin GA, Krishnamurthy S, Zhang XH, Buchholz TA, Ueno NT, Reuben JM, Woodward WA. miR-141-Mediated Regulation of Brain Metastasis From Breast Cancer. J Natl Cancer Inst. 2016 Apr 13;108(8). doi: 10.1093/jnci/djw026. Print 2016 Aug.
15. Debeb BG, Lacerda L, Larson R, **Wolfe AR**, Krishnamurthy S, Reuben JM, Ueno NT, Gilcrease M, Woodward WA. Histone deacetylase inhibitor-induced cancer stem cells exhibit high pentose phosphate pathway metabolism. 2016 May 10;7(19):28329-39. doi: 10.18632/oncotarget.8631.
16. **Wolfe, A.R**., A. Bambhroliya, J.P. Reddy, B.G. Debeb, L. Huo, R. Larson, L. Li, N.T. Ueno, and W.A. Woodward, MiR-33a Decreases High-Density Lipoprotein-Induced Radiation Sensitivity in Breast

Cancer. Int J Radiat Oncol Biol 2016 Jun 1;95(2):791-9. doi: 10.1016/j.ijrobp.2016.01.025. Epub 2016 Jan 22.

17. **Wolfe, A.R**., B.G. Debeb, L. Lacerda, R. Larson, A. Bambhroliya, X. Huang, F. Bertucci, P. Finetti, D. Birnbaum, S. Van Laere, P. Diagaradjan, B. Ruffell, N.J. Trenton, K. Chu, W. Hittelman, M. Diehl, I. Levental, N.T. Ueno, and W.A. Woodward, Simvastatin prevents triple-negative breast cancer metastasis in pre-clinical models through regulation of FOXO3a. Breast Cancer Res Treat, 2015. 154(3): p. 495-508.
18. **Wolfe, A. R**., R. L. Atkinson, J. P. Reddy, B. G. Debeb, R. Larson, L. Li, H. Masuda, T. Brewer, B. J. Atkinson, A. Brewster, N. T. Ueno and W. A. Woodward (2015). "High-Density and Very-Low-Density Lipoprotein Have Opposing Roles in Regulating Tumor-Initiating Cells and Sensitivity to Radiation in Inflammatory Breast Cancer." International Journal of Radiation Oncology*Biology*Physics 91(5): 1072-1080.
19. **Wolfe, A.R**. and W.A. Woodward, Breast Cancer Stem Cell Correlates as Predicative Factors for Radiation Therapy. Semin Radiat Oncol, 2015. 25(4): p. 251-9.
20. Farshid Dayyani, Nila U. Parikh, Andreas S. Varkaris, Jian H. Song, Shhyam Moorthy1,Tanushree Chatterji, Sankar N. Maity, **Adam R. Wolfe** et al. Combined Inhibition of IGF-1R/IR and Src Family Kinases Enhances Antitumor Effects in Prostate Cancer by Decreasing Activated Survival Pathways. PLOS ONE. December 2012. Volume 7. Issue 12

Presentations (oral, posters and seminars)

1. **Wolfe, AR**, Yang L, Robb R, Shen C, Williams TM. A KRAS-RAD18-miR-296-3p Regulated Network Mediates Radioresistance in Pancreatic Cancer Through Homologous Recombination. 2020 ASTRO Annual Meeting. Miami FL. Oral Presentation
2. **Wolfe, AR** et al. Optimization of biologic scheduling of gemcitabine and abraxane improves treatment response compared to the standard concurrent regimen in preclinical models of pancreatic cancer. 2020. AACR Pancreaetic Cancer: Advances in Science and Clinical Care. Boston, MA
3. **Wolfe, A.R**. et al. Bremsstrahlung SPECT Based Radiation Tumor Dosimetry Predicts for Tumor Control in Patients Treated with Yttrium-90 Radioembolization for Hepatic Metastases from Colorectal Cancer. 2019 ASTRO Annual Meeting. Chicago, IL
4. **Wolfe, A.R**., et al., Neoadjuvant FOLFIRINOX versus adjuvant gemcitabine in pancreatic cancer. ASCO Annual Meeting 2019. Chicago, IL
5. **A.R. Wolfe**, Klamer B, Prevedello L, Carrau R, Blakaj D. The Impact of Adjuvant Radiation Therapy in Early Stage/Low Hyams Grade and Elective Nodal Irradiation for Advanced Stage/High Hyams Grade Esthesioneuroblastoma October 22, 2018, 2018 ASTRO Annual Meeting. San Antonio, TX
6. **A.R. Wolfe**, P.J. Chuba, E.W. Schervish, J.R. Frontera, S. Szpunar, A.M. Aref. Utilizing Prostate Biopsy Tumor Involvement as a Novel Predictor for Non-metastatic Prostate Cancer Outcomes October 01, 2017 2017 ASTRO Annual Meeting. San Diego, CA

7. **Wolfe, A**. Bambhroliya, J. Reddy, B.G. Debeb, W.A. Woodward MiR-33a Regulates Radiation Sensitivity to High Density Lipoprotein in Breast Cancer November 01, 2015 ASTRO Annual Meeting. San Antonio, Texas
8. **Wolfe, R**. Atkinson, J. Reddy, A. Brewster, N. Ueno, W. A. Woodward. Lipoproteins HDL And VLDL Have Opposing Roles In Regulating Sensitivity To Radiation In Vitro And Predict For Overall Survival In Patients With Inflammatory Breast Cancer. ASTRO Annual Meeting. September 2014. San Francisco, CA.-**Oral Presentation**
9. **Adam R. Wolfe**. Mesenchymal stem cells and macrophage interactions promote inflammatory breast cancer cell invasion and self-renewal. 2014 San Antonio Breast Cancer Symposium, December 9- 13, 2014, San Antonio, Texas
10. **A. Wolfe**, W. Woodward. Targeting Radiation-Resistant Breast Cancer Stem Cells With the Combination Erlotinib and Simvastatin. 1 October 2013. ASTRO Annual Meeting. September 2013. Atlanta, GA.
11. **Adam R. Wolfe**, Lara Lacerda, Naoto T. Ueno, Wendy A. Woodward. Simvastatin targets breast cancer stem-like cells by inhibiting intracellular signaling pathways. American Association for Cancer Research (AACR) Annual Meeting. April 2013. Washington D.C

HOBBIES AND OUTSIDE INTERESTS:

Traveling, CrossFit, College Football, History

Edward T.H. Yeh, M.D.

Present Positions:

Director, Center for Precision Medicine
Frances T. McAndrew Chair in Oncology
University of Missouri, School of Medicine

Home Address:

2503 Chelan Circle, Columbia MO 65203

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dredyeh@gmail.com; 573-639-3461

Education and Training:

1973-1976:	B.A. in Biochemistry, University of California, Berkeley
1976-1980:	M.D., University of California, Davis
1980-1982:	Resident in Medicine, Children's Hospital, San Francisco
1982-1983:	Resident in Medicine, Boston VA Medical Center, Boston
1983-1986:	Research Fellow in Immunology (Chairman, Baruj Benacerraf), Harvard Medical School, Boston
1986-1987:	Clinical Fellow in Rheumatology (Chief, Stephen M. Krane), Massachusetts General Hospital, Boston
1992-1995:	Clinical Fellow in Cardiology (Chairman, James T. Willerson), The University of Texas Health Science Center at Houston
1996-1997:	Managing Health Care Operations, Center for Executive Development, University of Houston

Academic Appointments:

1987-1992:	Assistant Professor of Medicine, Harvard Medical School
1992-1998:	Associate Professor of Medicine, University of Texas Health Science Center, Houston, Texas
1998-2000:	Professor of Medicine, University of Texas Health Science Center, Houston, Texas
2000-2016:	Professor and Chairman, Department of Cardiology, University of Texas MD Anderson Cancer Center, Houston, Texas
2016-2019:	Chairman, Department of Medicine, University of Missouri, School of Medicine, Columbia MO
2016-	Director, Center for Precision Medicine, Department of Medicine, University of Missouri, School of Medicine, Columbia MO

Honors and Awards:

1987-1990:	Investigator Award, Arthritis Foundation
1987-1990:	Upjohn/Massachusetts General Hospital Scholar Award
1992-1999:	Established Investigator, American Heart Association
1993:	American Society of Clinical Investigation
2000:	Association of American Physicians
2001:	Distinguished Alumnus Award, U.C. Davis Medical School
2005:	Outstanding Advocate Award, American Heart Association-Houston
2006:	Academician, Academia Sinica
2007:	America's Top Cardiologists
2007:	Best Doctors in America
2008:	McNair Scholar, Texas Heart Institute

2011: Heart Ball Medical Honoree, American Heart Association-Houston
2012: Lifetime Achievement Award, Society of Chinese Bioscientists in America, Texas Chapter
2016: American Association for the Advancement of Science Fellow
2019: Association of University Cardiologists

Licensure:
Missouri, Texas, California

Certification:
Internal Medicine (1983-unlimited), Cardiovascular Diseases (1995-2025), Nuclear Cardiology (1999-2019), Rheumatology (1993-2002)

Professional Organizations:
American Association for the Advancement of Science
American College of Cardiology, Fellow
American Heart Association

Editorial Board:
Circulation, Associate Editor (1996-2004)
Texas Heart Institute Journal, Editorial Board Member (2008-present)
Circulation, Editorial Board Member (2004-2016)
Circulation, "From Bench to Bedside" Section Editor (1995-2004)
Journal of Biological Chemistry, Editorial Board Member (2009-2014)
Journal of American College of Cardiology, Section Editor (2018-present)

Journal Reviews (selected):
Science
Cell, Developmental Cell, Molecular Cell
Nature, Nature Cell Biology, Nature Reviews
Circulation, Circulation Research, JACC
Journal of Clinical Investigation
New England Journal of Medicine

Massachusetts General Hospital:
Subcommittee on Review of Research Proposals, MGH (1987-1992)
Committee on Research, MGH (1990-1992)

The University of Texas Health Science Center at Houston:
1996-1997: Business Development Committee
1996-1997: Committee for the Protection of Human Subjects
1997-1999: Intellectual Property Committee
1997-2000: M.D. / Ph.D. Committee
1997-2000: Research Committee
1999-2000: Faculty Senate

The University of Texas M. D. Anderson Cancer Center:
Member, Clinical Faculty Review Committee (2000)
Member, Search Committee: Chair, Department of Critical Care (2001)
Chairman, Search Committee: Chair, Dept. of Endocrine and Neoplasia (2003-2004)
Member, Promotion and Tenure Committee (2005-2008)

Member, Endowed Positions and Awards Committee (2005-2008)
Member, Multidisciplinary Research Advisory Committee (2006-2009)
Co-Director, Center for Biological Pathways, Institute for Basic Science (2008-2015)
Co-Leader, Cell Biology and Signal Transduction Program (2008-2015)
Member, Embryonic & Induced Pluripotent Stem Cell Research Oversight Committee (2011-2016)
Member, Search Committee: Division Head of Cancer Medicine (2014)
External Reviewer, Sabin Family Foundation Fellowship Award (2017-2019)

National Grant Review Panels:

Immunologic Science Study Section, Ad Hoc Committee, NIH (1991)
Program Project Study Section, Site Visit Committee, NHLBI (1993)
Arthritis Foundation Research Committee, Study Section (1991-1994)
AHA, Texas Affiliate Grant Review Committee (1996-1998)
AHA, Western Affiliate Grant Review Committee (1999-2000)
Hematology II, Study Section, Ad Hoc Member, NIH (2000)
AHA, Western Affiliate Grant Review Committee, Vice-chair IIIA (2001)
Cardiovascular Sciences Special Emphasis Panel, Atherosclerosis, NIH (2004)
SCCOR in Cardiac Dysfunction and Disease, NIH (2004)
Program Project Grant, Special Review Committee, NIH (2007)
Intramural site visit, Laboratory of Protein Dynamics and Signaling, NCI (2009)
Special Emphasis Panel/Scientific Review Group ZCA1 SRB-1 (J1), NIH/NCI (2016)
Cardiac contractility, hypertrophy, and failure study section, regular member, NIH (2016-2022), Chair (10/2020-6/2022)

American Heart Association:

Cardiac Imaging Committee, Clinical Cardiology Council, 1999-2001
Houston Cardiology Society, Executive Committee 2000-2001
Houston Cardiology Society, Vice President 2001-2002
Houston Cardiology Society, President 2002-2003
Research Allocations and Advisory Committee, Member 2002-2005
American Heart Association, Houston Chapter, President, 2004-2005
American Heart Association, Executive Board, Member, 2005-
American Heart Association, State Advocacy Committee, 2006-
American Heart Association, Affiliate Board of Directors, 2006-2007
American Heart Association, South Central Affiliate Board, 2007-2009

Society of Chinese Bioscientists of America:

Texas Chapter, Vice-President, 1998-1999
Texas Chapter, President, 1999-2000
Nomination Committee, Member, 2008-2009

Academia Sinica, Taiwan:

External Review Committee, Junior Research Award, 2006-present
External Reviewer, Promotion and Tenure of Research Fellows, 2006-present
External Review Committee, Institute of Biomedical Science, 2007
Advisory Council Member, Institute of Biomedical Sciences, 2007-present

National Health Research Institutes, Taiwan:

Member, Scientific Review Committee 1 (1998-present)
Member, Scientific Council Committee (2004-present)

Chairman, Scientific Review Committee 1 (2006-present)
Chairman, Joint Scientific Review of research units (2008 and 2011)
Member, Advisory Board, (2009-present)

National Science Council, Taiwan:

Frontiers in Sciences Program
Life Sciences Selection Committee, Presidential Science Prize of Taiwan (2007, 2009, 2011)

International Grant Review Panels:

International Human Frontier Science Program
Israel Science Foundation
National University of Singapore
Ministry of Education, Academic Award, Taiwan
Vietnam Educational Foundation

International Award Selection Committee:

Tang Prize in Biopharmaceutical Science (2016, 2018)

Invited Lectures (Selected)

1988-Genentech, San Francisco
1990-Arthritis Grand Round, University of Pennsylvania, Philadelphia
1990-Arthritis Grand Round, Massachusetts General Hospital
1991-Roche Institute of Molecular Biology, Nutley
1991-Dept. of Nutrition, Harvard School of Public Health, Boston
1991-Immunology Seminar, New York University Medical School, New York
1991-Gordon Conference on Glycoproteins and Glycolipids
1991-Chairman, Workshop on GPI Anchor Biosynthesis, American Society for Biochemistry and Molecular Biology, Fall Symposium
1991-Hematology/Oncology Grand Round, Massachusetts General Hospital
1991-MGH Cancer Center Seminar, Massachusetts General Hospital
1992-Medical Grand Round, Massachusetts General Hospital
1992-Seminar in Membrane Biology, Harvard Medical School
1992-Dept. of Pharmacology, University of Virginia, Charlottesville
1992-Dept. of Pharmacology, University of Massachusetts, Worcester
1993-Roche Symposium on the GPI Anchor and its Potential for Drug Development
1993-International workshop in paroxysmal nocturnal hemoglobinuria, Hamburg
1993-Glycobiology Seminar Series, University of California, San Diego
1995-Ischemia-Reperfusion Injury Meeting, New Orleans
1995-Division of Cardiology, The University of Texas Medical Branch at Galveston
1996-American Heart Association conference on the molecular biology of the normal, hypertrophied, and failing heart, Colorado
1997-Onassis Cardiac Surgery Center, Athens, Greece
1998-GU Oncology Research Seminar, MD Anderson Cancer Center
1998-Immunotherapy Research Seminar, MD Anderson Cancer Center
1998-Symposium, Society of Chinese Bioscientists of America
1998-Cardiology Fiesta, American College of Cardiology, San Antonio
1998-Division of Cardiology, Baylor College of Medicine, Houston
1998-Division of Cardiology, Cedar Sinai Medical Center, Los Angeles
1999-Department of Human Biological Chemistry and Genetics, The University of Texas Medical Branch at Galveston
1999-Cardiology Symposium, Mercy Heart Institute, Sacramento

1999-FASEB Summer Research Conference on Ubiquitin and Intracellular Protein Degradation, Saxtons River, Vermont
2000-National Institute of Health, Bethesda
2000-University of California, Irvine
2000-Harbor General, University of California, Los Angeles
2001-University of Virginia, Charlottesville
2001-European Society of Atherosclerosis, Geneva
2001-FASEB Summer Research Conference on Ubiquitin and Intracellular Protein Degradation, Saxtons River, Vermont
2002-First International Conference on Ubiquitin, Ubiquitin-Like Proteins, and Cancer, M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston
2002-Advances in Cardiovascular Medicine and Surgery Symposium, Texas Heart Institute, Houston
2002-Fu Wai Hospital, Peking Union Medical College, Beijing, China
2002-4th Military Medical University, Xian, China
2002-Fudan University Cancer Hospital, Shanghai, China
2002-Samsung Medical Center, Seoul, Korea
2002-Faculty of Medicine, Thammasat University, Bangkok, Thailand
2002-Vascular Effects of Statins Consultation Meeting, "Inflammation, Immunity, and Statins", Berlin, Germany
2002-Vascular Biology Working Group European Chapter, "Inflammatory Properties of C-Reactive Protein", Berlin, Germany
2002-The Ubiquitin-Proteasome System: evolving importance in human disease, International Scientific Symposium, Charite University Medical Center, "The Ubiquitin conjugation system: regulation, specificity, substrate recognition", Berlin, Germany
2002-Canadian Cardiovascular Congress, CRP & Atherosclerosis-The Emerging Link, "Inflammation and Atherosclerosis: The New Paradigm", Edmonton, Canada
2002-American Heart Association, Scientific Sessions, "C-Reactive Protein and Atherothrombosis. Is there a direct role of CRP in Atherothrombosis?" Chicago
2002-American Heart Association Satellite Symposium, New Evidence in Atherosclerosis: Understanding the Role of Vascular Inflammation and Endothelial Dysfunction, "CRP and PPAR Agonists in Inflammation and Cardiovascular Disease", Chicago, Illinois
2002-Best of Scientific Sessions 2002, American Heart Association, "Is There a Direct Role of CRP in Atherothrombosis?" taped interview, Chicago, Illinois
2002-The 4th Vulnerable Plaque Symposium, via satellite, Scientific Session II Chairman, Chicago, Illinois
2003-Texas Heart Institute, Houston, Texas
2003-Dept of Cardiology, The University of Texas-Houston Health Science Center
2003-Dept. of Physiology, The University of Texas Southwestern Medical Center, Dallas, TX
2003-Dept. of Pathology, New York University Medical Center, NY, NY
2003-Canadian Society of Vascular Biology Workshop, Vancouver, BC
2003-13th Annual Cardiology Symposium, Mercy Heart Institute, Sacramento, CA
2003-American Heart Association, Scientific Sessions, Orlando
2003-ACCEL interview, American College of Cardiology
2004-The Second International Conference on Ubiquitin, Ubiquitin-Like Proteins, and Cancer M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston, TX
2004-American College of Cardiology 53rd Annual Scientific Session, New Orleans, LA

2004-William Beaumont Army Medical Center Grand Rounds, El Paso, TX
2004-Northwestern University Feinberg School of Medicine Grand Rounds, Chicago, IL
2004-MDACC 45th Annual Clinical Conference, Multidisciplinary Care: The Present and Future, panel participant, Houston, TX
2004-The Fifth Annual Texas Update in Cardiovascular Advancements, "C-Reactive Protein: Should it be Measured in Everyone with Cardiovascular Disease and should it be a Target for Treatment", Dallas, TX
2004-The University of North Carolina at Chapel Hill School of Medicine, Medicine/ Pediatrics Grand Rounds "C-Reactive Protein, Metabolic Syndrome and the Prevention of Coronary Artery Disease" and Carolina Cardiovascular Biology Seminar "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Chapel Hill, NC
2004-Stem Cell Symposium, Chinese Academy of Medical Sciences, Beijing, China
2004-The University of Alabama at Birmingham, School of Medicine, Vascular Biology and Hypertension Seminar "C-Reactive Protein, Metabolic Syndrome, and the Prevention of Coronary Disease", Birmingham, Alabama
2004-The 57th Annual Symposium on Fundamental Cancer Research-Signal Transduction: From Pathways to Networks; MDACC Organizing Committee Member, Houston
2004-MDACC Blood and Bone Marrow Transplant Research Conference presentation, Houston, TX
2004-The 3rd International Congress on Cardiovascular Disease, "Early Detection of ACS" and "The Role Anti-inflammatory Rx in the Prevention and Treatment of ACS", Taipei, Taiwan
2004-Renaissance Institute "Renaissance Weekend", Charleston, SC
2005-Combined NIH Atherosclerosis Training Grant Conference and the Baylor Atherosclerosis Conference series, Houston, TX
2005-U.T. Molecular Medicine Symposium Translating Discoveries into Health presentation "Role of Sumoylation in the Development of Prostate Cancer", Houston, TX
2005-Texas Heart Institute Basic Science Continuing Education Conference, Houston, TX
2005-Texas Heart Institute Cardiology Grand Rounds, Houston, TX
2005-The University of Texas Institute of Molecular Medicine Seminar, Houston, TX
2005-15th Annual Cleveland Review of Rheumatic Diseases Symposium, "A Tale of Two Diseases: Atherosclerosis and Rheumatoid Arthritis", Cleveland, Ohio
2005-Visiting Professor, Shanghai Second Medical University, Department of Cell Biology, Shanghai, China
2005-Visiting Professor, Nanjing Medical University, Nanjing, China
2005-Plenary session speaker, The 1st World Medicine Summit, "To Mend a Broken Heart: Stem Cells for Myocardial Regeneration, Shanghai, China
2005-Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan
2005-The 1st China Symposium on Stem Cell Transplantation in Cardiovascular Diseases, Shanghai, China
2005-Anderson Network 17th Annual Living Fully With Cancer Conference, Life is a Gift…Unwrap it! Cardiovascular Complications presentation, Houston, TX
2005-The University of Texas Health Science Center M.D. /Ph.D. program lectures (Nov. 2 and 9), Houston, Texas
2005-The University of Texas Health Science Center Medical School Lab seminar, Houston, Texas
2005-Renaissance Institute "Renaissance Weekend", Charleston, SC

2006-St. Anne's College, University of Oxford, National Translational Cancer Research Network UK-Texas Bioscience Collaboration Workshop, "Role of Sumoylation in the Development of Prostate Cancer", Oxford, England
2006- MDACC PIKNIC (Partners in Knowledge, News in Cancer) presentation "Cardiovascular Complications of Cancer Therapy: Diagnosis, Pathogenesis & Management", Houston, Texas
2006-The Third International Conference on Ubiquitin, Ubiquitin-Like Proteins, and Cancer, M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston, Texas
2006-Advances in Oncology M. D. Anderson Institutional Grand Rounds, "Role of Sumoylation in cancer and development", Houston, Texas
2006-The Methodist Hospital Cardiology Grand Rounds lecture "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Houston, Texas
2006-Texas Heart Institute 6th Texas Update in Cardiovascular Advancements, Stem Cell Biology presentation, Houston, Texas
2006-MDACC Department of Blood & Marrow Transplantation External Advisory Board presentation "Status of Stem Cell Transplantation in Myocardial Repair", Houston, Texas
2006-Distinguished Visiting Professor, Heart & Stroke/Richard Lewar Centre of Excellence, University of Toronto, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Toronto, Canada
2006-Visiting Professor, Sunnybrook Medical Centre, "C reactive Protein, the Metabolic Syndrome and Coronary Artery Disease", Toronto, Canada
2006-Visiting Professor, Ontario Cancer Institute, "The Role of De-Sumoylation in Cancer and Development", Toronto, Canada
2006-Baylor College of Medicine, Department of Molecular and Cellular Biology seminar presentation "Role of De-sumoylation in Cancer and Development", Houston, Texas
2006-Robinson College, Stem Cells: From Tissue Engineering and Regenerative Medicine to Policy symposium, "Use of Stem Cells in Cardiac Repair", Cambridge, UK
2006-Visiting Professor, Fujen University, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Taipei, Taiwan.
2006-The University of Texas-Houston Health Science Center, Department of Cardiology, Grand Rounds Cardiovascular Medicine lecture "To Mend a Broken Heart: Stem Cells for Myocardial Regeneration", Houston, Texas
2007-Texas Heart Institute and Brigham & Women's Hospital, Inflammation and Atherosclerosis: *Thirty Years of Exploration in Basic and Clinical Science*, "Adult Stem Cell for Cardiac Regeneration", Boston, MA
2007-Academia Sinica, Symposium on Recent Advances in Biomedical Sciences, "Regulation of the Hypoxic Response by SUMO-specific Protease1", Taipei, Taiwan
2007-American Heart Association-Texas Affiliate Board of Directors presentation "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Houston, Texas
2007-Allegheny General Hospital, Cardiology Grand Rounds, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Pittsburgh, Pennsylvania
2007-Case Western Reserve University, School of Medicine, Department of Biochemistry, "Role of De-SUMOylation in Cancer and Development", Cleveland, Ohio
2007-Novartis Institutes for BioMedical Research Protease Platform Seminar "Ubiquitin-like proteins and cancer", Basel, Switzerland

2007-XIX World Congress of the International Society for Heart Research "CRP as a marker and mediator in acute coronary syndromes", Bologna, Italy
2007-4th Annual Symposium of the American Heart Association Council on Basic Cardiovascular Sciences "Differentiation and Cardiac Repair", Keystone, Colorado
2007-Wu Ta-You Science Camp, "Ubiquitin, SUMO, and the Hypoxic Response", Hsitou, Taiwan
2007-Chinese Medical University, "Adult Stem Cell for Cardiac Repair", Taichung, Taiwan
2007-Texas Heart Institute 6th Texas Update in Cardiovascular Advancements, Stem Cell Biology presentation, Houston, Texas
2007-Keynote Speaker, UC Davis Cancer Center, 13th Annual Cancer Research Symposium, "Regulation of the Hypoxic Response by De-SUMOylation", Sacramento, California
2007-National Health Forum 2007, "Treating Heart Disease in Cancer Patients", Houston, Texas
2007-American Heart Association, Scientific Sessions, "The Cancer Survivor and Heart Disease", Orlando, Florida
2007-Keynote Speaker, Academia Sinica, Symposium of Protein Modification by SUMO, Ubiquitin and Nedd8, "Regulation of the Hypoxic Response by De-SUMOylation", Taipei, Taiwan
2008-The Fourth International Conference on Ubiquitin, Ubiquitin-Like Proteins, and Cancer, M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston, Texas
2008-Massachusetts General Hospital, Cardiovascular Research Center, "Regulation of the Hypoxic Response by De-SUMOylation", Boston, MA
2008-Massachusetts General Hospital, Cardiology Grand Rounds, "Adult Stem Cells for Cardiac Repair", Boston, MA
2008-Keynote speaker, Wang Ying-Lai Memorial Symposium, "Regulation of the Hypoxic Response by De-SUMOylation", The University of Texas Medical Branch, Galveston, TX
2008-Texas Heart Institute Grand Rounds Lecture "Adult Stem Cells for Cardiac Repair", Houston, TX
2008-MDACC Centers for Targeted Therapy and Biological Pathways Retreat, "Sentrin/SUMO-specific Protease 1 as a Target for Cancer Therapy", Houston, TX
2008-Federation of American Societies for Experimental Biology (FASEB) Summer Research Conference on Ubiquitin and Cellular Regulation , "Reversal of SUMOylation by the Sentrin/SUMO-specific Protease (SENPs)", Saxtons River, VA
2008-Symposium for the Newly Elected Academicians in the Life Sciences Division of Academia Sinica, "SUMOylation and De-SUMOylation: Wrestling with Life's Processes", Taipei, Taiwan
2008-Keynote speaker, Biomedical Research Symposium, National Health Research Institute, Taiwan, "SUMOylation and De-SUMOylation: Wrestling with Life's Processes", Zhunan, Taiwan
2008-Texas Heart Institute 8th Texas Update in Cardiovascular Advancements, "Stem Cell Biology", Houston, Texas
2008-Centre Leon Bernard grand rounds lecture "SUMOylation in the Pathogenesis of Cancer", Lyon, France
2008-Stem Cell Symposium, National Health Research Institute, Taiwan, "Adult Stem Cells for Cardiac Repair," Zhunan, Taiwan
2008-Texas Heart Institute Satellite Symposium, Future Direction of Stem Cells in Cardiovascular Disease, "Adult Stem Cells for Cardiac Repair", New Orleans, LA

2008-AHA Scientific Sessions 2008 - New Insights into Sumo-Dependent Modifications in Vascular Development, “De-SUMOylation and the Hypoxic Response”, New Orleans, LA
2008-Keynote speaker, International Symposium on Cell Signaling and Gene Regulation, National Cheng Kung University, “De-SUMOylation and the Hypoxic Response”, Tainan City, Taiwan
2008-Invited seminar speaker, Burnham Institute for Medical Research, “De-SUMOylation and the Hypoxic Response”, La Jolla, CA
2008-MDACC Internal Medicine and Cancer Survivorship Grand Rounds, “SUMOylation and De-SUMOylation: Wrestling with Life’s Processes”, Houston, TX
2008-Invited speaker, Seventh Annual Gilbert W. Beebe Symposium, The National Academies of Science, “Cardiovascular Toxicity of Radiation Therapy”, Washington, DC
2009-Invited speaker, Keystone Symposia on Molecular and Cellular Biology, The Many Faces of Ubiquitin, “Role of Sentrin/SUMO-Specific Protease 1 (SENP1) Angiogenesis”, Copper Mountain, Colorado
2009-Invited speaker, Vascular Cell Biology Gordon Conference, “HIF stabilization”, Ventura, CA
2009-Invited speaker, Baxter BioScience, Symposium titled Selected CD34+ and other Stem Cell Types; Mechanism of Action in Acute and Chronic Ischemic Clinical Conditions, “CD34+ Stem Cells-understanding origin, function, mechanism of action in oncology and in cardiac repair”, Deerfield, IL
2009-Texas Heart Institute Satellite Symposium, Future Direction of Stem Cells in Cardiovascular Disease, “Adult Stem Cells for Cardiac Repair”, Orlando, FL
2009-American College of Cardiology 58th Annual Scientific Session, Session Co-Chair of “Mechanisms, Monitoring and Treatment of Chemotherapy-Related Heart Failure”, Orlando, FL
2009-Visiting professor, Yale University Pathology Research Seminar, “SUMOylation and De-SUMOylation: Wrestling with Life’s Processes”, New Haven, CT
2009-Invited speaker, Millennium: The Takeda Oncology Company, “SUMOylation and De-SUMOylation: Wrestling with Life’s Processes”, Cambridge, MA
2009-Visiting professor, Shanghai Jia-Tong University Medical School, “SUMOylation and De-SUMOylation: Wrestling with Life’s Processes”, Shanghai, China
2009- Visiting professor, Peking Union Medical School, “SUMOylation and De-SUMOylation: Wrestling with Life’s Processes”, Peking, China
2009-Opponent, Thesis Defense of Helder Andre, Karolinska Institute, Stockholm, Sweden
2009-Chung Mei Cultural Forum, “Seven Habits of Heart Healthy People,” Houston, Texas
2009-THI-MDACC-UT Cardiovascular Seminar Series, “Adult Stem Cells for Cardiac Repair”, Texas Heart Institute, Houston, TX
2009-Moderator, Cardiology & Oncology Partnership: Cardioncology 2009, “Cardiotoxicity: Insights from immunology, molecular and cell biology”, European Institute of Oncology, Milan, Italy
2009- Keynote speaker, Taipei Veteran Administration General Hospital 50th Anniversary Convocation, “Stem cells for cardiac repair”, Taipei, Taiwan.
2009-Texas Heart Institute Satellite Symposium, Future Direction of Stem Cells in Cardiovascular Disease, “Adult Stem Cells for Cardiac Repair”, Orlando, FL
2009-Invited speaker, 9th Texas Update in Cardiovascular Advancements, “Stem Cell Biology”, Texas Heart Institute, Houston, TX

2010-The Fifth International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston, TX
2010-Advances in Oncology M. D. Anderson Institutional Grand Rounds, "SUMO, NEED8, Ubiquitin: Targets for cancer therapy overview", Houston, TX
2010-Invited speaker, Biology of the Ubiquitin and the Ubiquitin-like Systems Joint Research Conference of the Institute for Advanced Studies, the Israel Science Foundation and RUBICON-EU Ubiquitin Network of Excellence, "SUMO- Specific Protease is Essential for Suppression of Polycomb Group Protein-Mediated Gene Silencing During Embryonic Development", The Hebrew University of Jerusalem, Jerusalem, Israel.
2010- MDACC Internal Medicine and Cancer Survivorship Grand Rounds, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Houston, TX
2010-Invited speaker, "Cardiotoxicity of Cancer Therapy", Spanish Heart Failure Society, Barcelona, Spain.
2010-Visiting Professor, "SUMOylation and De-SUMOylation: Epigenetics and DNA repair." Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan.
2010-MDACC Center for Cancer Epigenetics Seminar, "SUMOylation and De-SUMOylation: Epigenetics and DNA Repair", Houston, TX
2010-MDACC Stem Cell Transplantation and Cellular Therapy Department, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Houston, TX
2010-Texas Heart Institute Cardiology Grand Rounds, "To Mend a Broken Heart: Stem Cell for Myocardial Regeneration", Houston, TX
2010-The First International Conference Cancer and the Heart, Chairman of the Organizing Committee, MD Anderson Cancer Center, Houston, TX
2010-Vascular Biology Working Group Global Chapter Meeting, "Human CD34+ Cells in Experimental Myocardial Infarction: Mechanisms Underlying Long-Term Functional Improvement", Chicago, IL
2010-Texas Heart Institute Satellite Symposium, Future Direction of Stem Cells in Cardiovascular Disease, "Adult Stem Cells for Cardiac Repair", Chicago, IL
2010-Invited speaker, 10th Texas Update in Cardiovascular Advancements, "Stem Cell Biology", Texas Heart Institute, Houston, TX
2011-Visiting Professor, City of Hope, Developmental Cancer Therapeutics, "SUMOylation and De-SUMOylation: Wrestling with Life's Processes", Los Angeles, CA
2011- Texas Heart Institute Satellite Symposium, Future Direction of Stem Cells in Cardiovascular Disease, "Adult Stem Cells for Cardiac Repair", New Orleans, LA
2011-Invited speaker, "Cardiovascular Complications of Cancer Therapy: Diagnosis, Pathogenesis, and Management", Combined Cardiology and Medicine Grand Rounds, St. Luke's-Roosevelt Hospital Center, New York, NY
2011-Visiting Professor, University of Pittsburgh, Pharmacology & Chemical Biology seminar, "SUMOylation and De-SUMOylation: Wrestling with Life's Processes", Pittsburgh, PA
2011-Visiting Professor, "SUMO: Implications for hypoxia, angiogenesis, and cancer," National Taiwan University Hospital and Medical School, Taiwan
2011-Invited speaker, "SUMO and DNA repair", International Symposium in Chromatin Changes in Differentiation and Malignancy", Giessen, Germany
2011-Invited speaker, "SUMOylation and De-SUMOylation in cardiac development and pathology", North American Vascular Biology Association, 2011 workshops in vascular biology, Cape Cod, MA

2012-The Sixth International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, M.D. Anderson Cancer Center, Chairman of the Organizing Committee, Houston, TX
2012-Chair, "Cardiotoxicity of Cancer Therapy," American College of Cardiology, Annual Meeting, Chicago, IL
2012-Visiting Professor, "SUMO: From Mechanisms to Diseases," Taipei Medical University, Taipei, Taiwan
2012-Visiting Professor, "SUMO: From Mechanisms to Diseases," Aab Cardiovascular Research Center, University of Rochester, Rochester, NY
2012-The Society of Chinese Bioscientists in America, Texas Chapter, Annual Symposium Achievement Award Lecture, "SUMO: From Mechanisms to Human Diseases," Baylor College of Medicine, Houston, TX
2012-MDACC Internal Medicine and Cancer Survivorship Grand Rounds, "Doxorubicin-induced cardiotoxicity: Paradigm Lost and Regained", Houston, TX
2012-THI/UT/MDACC Basic Science Seminar, "Doxorubicin-induced Cardiotoxicity: Paradigm Lost and Regained", Texas Heart Institute, Houston, TX
2012-Invited Speaker, 9th Annual Oregon Cardiovascular Symposium, "Cardiovascular Effects of Cancer Therapy: The Culprits and New Screening Approaches", Portland, OR
2012-Invited Speaker, Molecular Pathology Seminar, "SUMOylation: From mechanisms to diseases", Johns Hopkins University, Baltimore, Maryland
2012-Invited Speaker, Toronto Heart Summit, "The Heart & Cancer", Toronto, Canada
2012-Invited Speaker, Laboratory Medicine & Pathobiology, University of Toronto, "SUMOylation: From Mechanisms to Diseases", Toronto, Canada
2012-Invited Speaker, MDACC, The Center for Biological Pathways and Radiation Oncology Joint Retreat, "The Molecular Basis of Doxorubicin-induced Cardiotoxicity", Houston, TX
2012-Visiting Professor, Hospital Saint Louis, Leukemia and Tumor Biology Seminar, "SUMOylation: From mechanisms to diseases", Paris, France.
2012-MDACC PIKNIC (Partners in Knowledge, News in Cancer) presentation "Heart Disease and Cancer", Houston, TX
2012-Visiting Professor, Shanghai Jiao Tong University School of Medicine, 3rd International Meeting of Association of Academic Health Centers International, "Identification of the molecular basis of doxorubicin-induced cardiotoxicity", Shanghai, China
2012-The Second International Conference Cancer and the Heart, Chairman of the Organizing Committee, MD Anderson Cancer Center, Houston, TX
2012-Co-Chair of Transatlantic Science Week 2012, Hypoxia and Cancer Workshop, Houston, TX
2012-Invited Speaker, Transatlantic Science Week 2012, "SUMOylation and the Hypoxic Response", Houston, TX
2012-MDACC Cancer Survivorship Research Advisory Workgroup presentation, "Elimination of Anthracycline-induced Cardiotoxicity", Houston, TX
2013-Invited Speaker, First International Symposium on Cardio-Oncology, "Molecular target of doxorubicin-induced cardiotoxicity", University of Florence, Florence, Italy
2013-MDACC Sarcoma Medical Oncology Grand Rounds, "Molecular Basis of Doxorubicin-Induced Cardiotoxicity", Houston, TX
2013-MDACC Department of Cardiology Grand Rounds, "Molecular Basis of Doxorubicin-induced Cardiotoxicity", Houston, TX
2013-MDACC Division of Cancer Medicine Grand Rounds, "The Molecular Basis of Doxorubicin-induced Cardiotoxicity", Houston, TX

2013-MDACC Advances in Oncology Institutional Grand Rounds, "Elimination of Doxorubicin-induced Heart Failure", Houston, TX
2013-Cardiovascular Research Institute Symposium, "Doxorubicin-induced Cardiotoxicity: A Paradigm Shift", Baylor College of Medicine, Houston, TX
2013-Co-Chair, American College of Cardiology 2013 Scientific Sessions "Cardio-Oncology: The Evolving Science", San Francisco, CA
2013-National Cancer Institute Workshop-Cancer Treatment Related Cardiotoxicity: Understanding the current state of knowledge and developing future research priorities, "The Molecular Basis of Doxorubicin-Induced Cardiotoxicity", Bethesda, Maryland
2013-Vascular Biology/Cardiology Research Seminar, "SUMO, Seizure, and Sudden Death", Yale University School of Medicine, New Haven, CT
2013-Cardiovascular Medicine Grand Rounds, "Molecular Basis of Doxorubicin-induced Cardiotoxicity", Yale University School of Medicine, New Haven, CT
2013-Frontier in Cardiovascular Science Seminar, "Molecular Basis of Doxorubicin-induced Cardiotoxicity", Department of Medicine, Harvard Medical School, Boston, MA
2013-Invited Speaker, 3rd Annual Canadian Cardiac Oncology Network Conference, "Identification of the molecular basis of doxorubicin induced cardiotoxicity", The Canadian Cardiac Oncology Network, Ottawa, Canada
2013-Invited Speaker, International Symposium on Supportive Care in Cancer, "Molecular basis of doxorubicin-induced cardiotoxicity", Berlin, Germany
2013-Invited Speaker, The Twenty-Eighth Aspen Cancer Conference: Mechanisms of Toxicity, Carcinogenesis, Cancer Prevention and Cancer Therapy, "SUMO and Topoisomerase 2β Degradation: Eradication of Doxorubicin-induced Cardiotoxicity", Aspen, CO
2013-AACC/CSCC Annual Meeting and Clinical Lab Expo 2013, Laboratory Approaches in Monitoring Chemotherapy-Induced Organ Injury: "Molecular Target of Doxorubicin-induced Cardiotoxicity", Houston, TX
2013-MDACC Department of Leukemia Research Meeting presentation "The Molecular Basis of Doxorubicin-induced Cardiotoxicity", Houston, TX
2013-Invited Speaker, 17th Annual Scientific Heart Failure Society of America Meeting, "Anthracycline-Induced Heart Failure: Mechanisms, Prevention, and Treatment", Orlando, FL
2013-Molecular Medicine Research Seminar, "SUMO, Seizure, and Sudden Death", University of Pittsburgh School of Medicine, Pittsburgh, PA
2013-Kreg Anderson Workshop on Prevention of Chemotherapy-induced Cardiotoxicity, Chairman of Organizing Committee, MD Anderson Cancer Center, Houston, TX
2013-AHA Scientific Sessions 2013, "Molecular Basis for Chemotherapy Induced Cardiomyopathy-Emerging Evidence and Evolving Perspective", Dallas, TX
2013-James T. Willerson Cardiovascular Seminars, "SUMO, Seizure, and Sudden Death", Texas Heart Institute, Houston, TX
2014-Session Co-Chair, "What is cardiotoxicity", International Colloquium on Cardio-Oncology, University Campus Bio-Medico, Rome, Italy
2014-Invited Speaker, Riley Heart Research Center at the Wells Center for Pediatric Research, Indiana University School of Medicine, "The Molecular Basis of Anthracycline-induced Cardiotoxicity", Indianapolis, IN
2014-ACCEL interview, American College of Cardiology, Washington, DC
2014-American College of Cardiology 63rd Annual Scientific Session & Expo, "Cardiomyopathies Related to Cancer Therapies", Washington, DC

2014-MDACC Department of Experimental Therapeutics Seminar Series, "The Molecular Basis of Doxorubicin-induced Cardiotoxicity", Houston, TX
2014-The Seventh International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, Shanghai Jiao Tong University School of Medicine & MD Anderson Cancer Center, Chairman of the Organizing Committee, Shanghai, China
2014-"SUMO: Implications for Human Diseases", The Seventh International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, Shanghai Jiao Tong University School of Medicine, Shanghai, China
2014-Master Lecture, The 44th Annual Convention & Scientific Session of the Taiwan Society of Cardiology, 2014 Annual Meeting, "Onco-Cardiology: A Brave New World", Taipei, Taiwan
2014-Keynote Speaker, The Second National Congress Italian Association of Cardioncology, "Anthracycline cardiotoxicity: from research to clinical practice", Naples, Italy
2014-Invited Speaker, Gordon Research Conference, DNA Topoisomerases in Biology & Medicine, "Anthracycline-Induced Cardiotoxicity: Role of Topoisomerase 2β", Newry, Maine
2014-MDACC Department of Cardiology Grand Rounds, "SUMO, Seizure, and Sudden Death", Houston, Texas
2014-Invited Speaker, 18th Annual Scientific Heart Failure Society of America Meeting, "Molecular Mechanisms of Cardiotoxicity", Las Vegas, NV
2014-Visiting Professor, Washington University in St. Louis School of Medicine, "Onco-Cardiology: A New Frontier", St. Louis, Missouri
2014-Visiting Professor, Wayne State University, "SUMO, Seizure, and Sudden Death", Detroit, MI
2014-Visiting Professor, University of Michigan, "Onco-Cardiology: A New Frontier", Ann Arbor, MI
2014-Visiting Professor, Baylor College of Medicine Cardiology Fellowship Program, CHI St. Luke's Health, "Onco-Cardiology: A New Frontier", Houston, TX
2014-Invited Speaker, SUMO, Seizures, and Sudden Death, EMBO-CONICET, Ubiquitin & ubiquitin-like proteins: At the crossroads from chromatin to protein, Buenos Aires, Argentina
2014-Third International Conference Cancer and the Heart, Chairman of the Organizing Committee, MD Anderson Cancer Center, Houston, TX
2014-"Mechanism of Anthracycline-induced Cardiotoxicity", Third International Conference Cancer and the Heart, MD Anderson Cancer Center, Houston, TX
2014-Panel Discussion: Cancer Therapy-related Cardiotoxicity: Current NIH Research Funding and Future Directions, Third International Conference Cancer and the Heart, MD Anderson Cancer Center, Houston, TX
2014-Panel Discussion: Prevention of Cardiotoxicity, Third International Conference Cancer and the Heart, MD Anderson Cancer Center, Houston, TX
2014-Invited Speaker, 24th Beckman Symposium, New Horizons on Oncogenesis: From Basic Science to Translational Medicine, "Doxorubicin-induced Cardiotoxicity: SUMO, Ubiquitin, and Topoisomerase 2β", City of Hope, Duarte, CA
2014-American Heart Association, Scientific Sessions, "Long-Term Cancer Care and Cardiomyopathies", Chicago, IL
2014-Visiting Professor, Cardiovascular Science Conference Series, "SUMO, Seizures and Sudden Death", University of San Diego, San Diego, CA
2015-Invited Speaker, 13th Annual Conference "Evidence Based Management of Common Cancers in India", Tata Memorial Hospital, Mumbai, India

2015-Invited Speaker, Cancer Science Institute of Singapore, National University of Singapore, "The Molecular Basis of Anthracycline-induced Cardiotoxicity", Singapore, Singapore
2015-Invited Speaker, Pharmacy School at Charles University, "The Molecular Basis of Anthracycline-induced Cardiotoxicity", Prague, CZ
2015-Invited Speaker, Cardio-Oncology retreat, UCSD, San Diego, CA
2015-Invited Speaker, Controversies in Cardio-Oncology, 19th Annual Scientific Meeting, Heart Failure Society of America, Washington DC
2015-Invited Speaker, Classification of Type I and Type II Cardiotoxicity: Is it Still Valid and Should There be Different Management?, American Heart Association Scientific Sessions, Orlando, FL.
2015-Chair of the organizing committee, Boot Camp in Onco-Cardiology, Houston, TX
2015-Invited speaker, Cardio-Oncology, ACC Cardiovascular Symposium, NY, NY
2016-Invited speaker, Cardiovascular Research Center Symposium, Baylor College of Medicine, Houston, TX
2016-Invited speaker, "The molecular basis of anthracycline-induced cardiotoxicity," Tulane Medical School, New Orleans
2016-Medical Grand Round, "New Insights into an Old Problem: Adriamycin Cardiac Toxicity," Memorial Sloan Kettering Cancer Center, New York, NY
2016-Research Seminar, "SUMO, Seizure, and Sudden Death," Mt. Sinai Medical Center, New York, NY
2016-Cardiology Grand Round, "Molecular Basis of Anthracycline-induced Cardiotoxicity," University of Illinois at Chicago, Chicago, IL
2016-Medicine Grand Round, "Molecular Basis of Anthracycline-induced Cardiotoxicity," MD Anderson Cancer Center, Houston, TX
2016-The Eight International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, Shanghai Jiao Tong University School of Medicine, Chairman of the Organizing Committee, Shanghai, China
2016-Inaugural Edward TH Yeh, MD Lectureship in Onco-Cardiology, "Onco-Cardiology: Past, Present, and the Future, MD Anderson Cancer Center, Houston, TX
2016-Chinese American Heart Association, 4th Bernard Lown Lectureship, "Onco-Cardiology: Past, Present, and Future." New Orleans, LA
2017-Texas Heart Institute, JT Willerson CV research seminar, "SUMO in 20 years: from mechanism to clinical implications," Houston, TX
2017-UC San Diego, CV research seminar, "SUMO in 20 years: from mechanism to clinical implications," San Diego, CA
2017-Texas Heart Institute/Baylor College of Medicine, CV Grand Round, "Onco-Cardiology: Past, Present, and Future," Houston, TX
2017-Department of Biochemistry, University of Missouri, "SUMO in 20 years: from mechanism to clinical implications," Columbia, MO
2018-January 25, Borun Visiting Professor, "Molecular basis of doxorubicin-induced cardiotoxicity," Division of Cardiology, UCLA, Los Angeles, CA
2018-May 3, Invited speaker, Anthracycline-induced cardiotoxicity: Mechanism, Prediction, and Prevention," International Colloquium on Cardio-Oncology, Krakow, Poland
2018-August 14, Visiting Professor, "Saving the heart, while curing cancer," National Taiwan University, Taipei, Taiwan
2018-September 7, 4th Pacific NW Cardiovascular Summit, "Cardiology: the intersection of cancer and the heart," Portland, OR
2019-September 16, Cardio-oncology session moderator, Heart Failure Society of American, Philadelphia, PA

2019-November 17, Invited speaker, Cardiotoxicity in cancer patients: beyond anthracyclines, American Heart Association Scientific Session, Philadelphia, PA
2019-Novermber 18, Invited speaker, Cardiotoxic effects of chemotherapeutic agents and immune modulators, American Heart Association Scientific Session, Philadelphia, PA

Research Highlights:

1. Discovery of Sentrin/SUMO in 1996
2. Discovery of NEDD8 in 1997
3. Discovery of the molecular of basis of anthracycline cardiotoxicity in 2012
4. Adult stem cell in cardiac repair
5. Glycosyl-phosphatidylinositol anchor and paroxysmal nocturnal hemoglobinuria

Grant Support:

Current

Principal Investigator, Doxorubicin-induced Cardiotoxicity: Role of Topoisomerase 2ßß, 1-R01-HL126916-01, NIH/NHLBI, $1,600,000, 4/1/2015−8/31/2020

Pending

Co-Investigator, Prevention of doxorubicin-induced heart failure by early administration of dexrazoxane, 1RO1-HL151993-01, NIH/NHLBI, $3,522,286, 4/1/2020-3/31/2025 (7 percentiles, 10/2019 scientific review)
Principal Investigator, Regulation of TRAF6 activation and atherosclerosis development by sNASP, 1-RO1-HL151191, NIH/NHLBI, $1,882,500, 9/1/2010-8/31/2025

Past

Arthritis Foundation, Arthritis Investigator, 1987-1990.
NIH PO1 AR03564, Genetic Approach to T-Cell Activation, 1/89-12/93.
Disaster Relief Emergency Medical Services, U.S. Army, 11/97-10/99
Mechanisms of Cell Adhesion and Reperfusion Injury.
Disaster Relief Emergency Medical Services, U.S. Army, 11/97-10/99
Role of Sentrin in Apoptosis.
NIH RO1 HL 45851, Pathobiology of Paroxysmal Nocturnal Hemoglobinuria, $1,181,605 direct cost, 2/91-8/99.
American Heart Association, Established Investigator, Genetic Approach to Mammalian GPI Anchor Biosynthesis, $265,000 direct cost, 7/92-6/99.
Disaster Relief Emergency Medical Services, 3A, U.S. Army, Homing of Inflammatory Cells to the Atherosclerotic Plaque, $94,442 direct cost, 1/1/00-3/1/01.
NIH R21 GM 57502, Studies of the Sentrin Family of Ubiquitin-like Proteins, $140,000 direct cost, 9/99-8/01.
Disaster Relief Emergency Medical Services, 3A, U.S. Army, Induction of Chemokine Expression in Human Endothelial Cells by C-Reactive Protein, $134,739 direct cost, 9/15/01-9/14/04.
UTMDACC Prostate Cancer Research Program, Role of SENP1 in Prostate Cancer Development, $30,000, 5/3/04-5/2/05.
NIH RO1 CA 80089, Pathobiochemistry of Acute Promyelocytic Leukemia, $909,925 direct cost, 2/1/00-1/31/06.
UTMDACC Prostate Cancer Development Award, Role of SENP1 in Prostate Cancer Development, $40,000, 9/1/06-12/31/06.
Department of Defense-CDMRP PC040121, Role of SENP1 in Prostate Cancer Development, $566,250, 10/1/04-9/30/08.
Principal Investigator, UTMDACC Multidisciplinary Research Program, Cardiovascular Complications of Cancer Therapy, $500,000, 5/1/05-5/1/09.

Principal Investigator, Advances in Atorvastatin Research Group-Pfizer Study, Modulation of CRP production in non-hepatic sources by statins, $125,000, 4/1/06-4/1/09.
Co-Principal Investigator, NIH RO1, HL086983-01A1, Molecular Imaging of Stem Cell Transplantation in the Heart, $1,540,239, 8/15/07-4/30/11.
Principal Investigator, NIH/NHLBI, 2UM1HL087318-06, Cardiovascular Cell Therapy Research Network-Data Coordinating Center, Subaward, $33,095, 9/1/2012-2/28/2013.
Principal Investigator, UTMDACC Knowledge Gap Award, Eradication of Doxorubicin-induced Cardiotoxicity through Molecular Targeting, $100,000, 9/1/2013-8/31/2014.
Principal Investigator, NIH RO1, CA239520-01, De-SUMOylation and the hypoxic response, $1,540,000, 3/01/2009-12/31/2014.
Principal Investigator, Cancer Prevention Research Institute of Texas, RP110486-P1, Identification of Topoisomerase-IIβ as the primary target of Doxorubicin-induced Cardiotoxicity and defining the mechanisms of action, $1,842,105, 7/1/2011-12/31/2016.
Principal Investigator, Multicenter Automatic Defibrillator Trial: Chemotherapy Induced Cardiomyopathy, 15019907, Boston Scientific, $49,800, 7/1/2014−3/31/2016.

Training of Postdoctoral Fellows and Students (in academic positions):

Taine Pechet, MD, 1987-1988, Honor Thesis (Magna Cum Laude, Harvard College). Current: Vice Chair, Thoracic Surgery, University of Pennsylvania.
Toufic Renno, PhD. 1987-1988, Current, Research Director, Laboratory of Genetics and Cancer (CNRS-UNR 5201), French National Institute for Health and Medical Research, Lyon, France
Alain Cantagrel, 1988-1989, M.D., Postdoctoral Fellow, Current: Professor of Medicine, Toulouse, France.
Eiji Sugiyama, M.D., Ph.D., 1987-1990, Postdoctoral Fellow, Current: Professor of Medicine, Hiroshima University, Hiroshima, Japan.
Frances Stafford, M.D., 1987-1990, Postdoctoral Fellow. Current: Practicing in Ireland
Masaharu Urakaze, M.D., Ph.D, 1989-1992, Postdoctoral Fellow, Current: Associate Professor of Medicine, Toyama Medical and Pharmaceutical University.
Tetsu Kamitani, M.D., Ph.D, 1991-1993, Postdoctoral Fellow, Current: Professor of Medicine, Medical College of Georgia.
Takafumi Okura, M.D., Ph.D., 1993-1995, Current: Associate Professor of Medicine, Ehime University School of Medicine, Ehime, Japan.
Izumi Okura, M.D., 1993-1995, Current: Assistant Professor of Medicine, Ehime University School of Medicine, Ehime, Japan.
Kenichi Fujise, M.D., 1993-1996, Current: Professor and Chief of Cardiology, the University of Texas Medical Branch at Galveston.
Katsumi Kito, M.D., Ph.D., 1996-1998, Current: Assistant Professor of Pathology, Ehime University School of Medicine, Ehime, Japan.
Vincenzo Pasceri, M.D., 1998-2002, Professor, Rome, Italy.
Masahiro Matsumoto, M.D., 2000-2002. Current: Asst. Professor of Anesthesia, Japan.
Dachun Wang, M.D., Ph.D., 2002-2004. Current: Assistant Professor, UTHSC-IMM.
Paolo Calabro, M.D., 2002-2005, Current: Professor, University of Naples “Federico II”, Naples.
Sui Zhang, Ph.D., M.D., 2002-2005. Current: Assistant Professor, U.T. M. D. Anderson Cancer Center.
Jinke Cheng, Ph.D., 2003-2005. Current: Professor and Dean, College of Basic Medical Sciences, Shanghai Jiao-Tong University Medical School
Tasneem Bawa-Khalfe, Ph.D., 2003-2009. Current: Assistant Professor, University of Houston

Hong Dou, Ph.D., 2005-2007. Assistant Professor, U.T. MD Anderson Cancer Center
Xunlei Kang, M.D., 2005-2007, Current: Assistant Professor, University of Missouri, MO
Jingxiong Wang, M.D., Ph.D., 2005-2010. Current: Assistant Professor, University of Missouri, MO
Thang V. Nguyen, Ph.D. student, 2007-2011; Current: Assistant Professor, University of Missouri
Xiao-Bing Liu, M.D., Ph.D., post-doctoral fellow, 2010-2012, Current: Associate Professor, Ninth People's Hospital, Shanghai Jiao-Tong University School of Medicine
Yong Zuo, PhD, post-doctoral fellow, 2010-2012, Current: Associate Professor, Shanghai Jiao-Tong University School of Medicine
Chao Huang, Ph.D., post-doctoral fellow, 2008-2013; Current: Assistant Professor, Shanghai Jiao-Tong University School of Medicine
Yitao Qi, Ph.D., post-doctoral fellow, 2007-2015, Current: Professor, Xian Normal University, Xian, China
Feng-Ming Yang, Ph.D., post-doctoral fellow, 2012-2017; Current: Assistant Professor, Taipei Medical University
Xuwei Hou, MD, Ph.D., post-doctoral fellow, 2019-present

Graduate School of Biomedical Sciences Educational Activities

Chair of Supervisory Committee
Thang V. Nguyen, Ph.D. student, 2007-2011
Joan Ritho, Ph.D. student, 2011-2015
Member of Supervisory Committee
Ying-Wen Su, Ph.D. student, 2008-2011
Eun Young Kim, Ph.D. student, 2009-2013

Publications:

A. Original Articles (H-index 80, Google Scholar)

1. Yeh, E.T., Benacerraf, B., Rock, K.L. (1984). Analysis of thymocyte MHC specificity with thymocyte hybridomas. **Journal of Experimental Medicine**, 160:799-813.
2. Rock, K.L., Yeh, E.T., Benacerraf, B. (1984) Selection of thymocyte MHC restriction specificity in vitro. **Journal of Molecular and Cellular Immunology**, 1:311-320.
3. Rock, K.L., Yeh, E.T., Gramm, C.F., Haber, S.I., Reiser, H., Benacerraf, B. (1986). TAP, a novel T cell activating protein involved in the stimulation of MHC restricted T lymphocytes. **Journal of Experimental Medicine**, 163:315-333.
4. Yeh, E.T., Reiser, H., Benacerraf, B., Rock, K.L. (1986). The expression, function, and ontogeny of a novel T cell activating protein, TAP, in the thymus. **Journal of Immunology**, 137:1232-1238.
5. Reiser, H., Yeh, E.T., Gramm, C.F., Benacerraf, B., Rock, K.L. (1986). The genes encoding TAP and TAPa map to the Ly-6 locus. **Proceedings of National Academy of Science USA**, 83:2954-2958.
6. Yeh, E.T., Reiser, H., Benacerraf, B., Rock, K.L. (1986). The expression of TAP, T cell activating protein, in peripheral lymphocyte subsets. **Proceedings of National Academy of Science USA**, 83:7424-7428.
7. Reiser, H., Oettgen, H., Yeh, E.T., Terhorst, C., Low, M.G., Benacerraf, B., Rock, K.L. (1986). Structural characterization of the TAP molecule: a phosphatidylinositol linked glycoprotein distinct from the T cell receptor/T3 complex and Thy-1. **Cell**, 47:365-370.
8. Weston, K.M., Yeh, E.T., Sy, M.S. (1987). Autoreactivity accelerates the development of autoimmunity and lymphoproliferation in MRL/MP-lpr/lpr mice. **Journal of Immunology**, 139:734-742.

9. Yeh, E.T., Reiser, H., Daley, J., Rock, K.L. (1987). Stimulation of T cells via the TAP molecule, a member in a family of activating proteins encoded by the Ly-6 locus. **Journal of Immunology**, 138:91-97.
10. Sy, M.S., Wang, P.T.H., Weston, K.M., Alarcon, B., Terhorst, C., Yeh, E.T. (1988). Abnormal T cells from MRL-lpr/lpr mice do not respond to anti-T cell receptor antibody or tumor promoter and calcium ionophore A23187 despite the presence of the T cell receptor/T3 complex and functional protein kinase C. **Cellular Immunology**, 113:82-94.
11. Yeh, E.T., Reiser, H., Bamezai, A., Rock, K.L. (1988). TAP transcription and phosphatidylinositol linkage mutants are defective in activation through the T cell receptor. **Cell**, 52:665-674.
12. Stafford-Brady, F., Sugiyama, E., Sy, M.S., Robinson, D., Bonventre, J., and Yeh, E.T. (1989). Signal transduction defects in the CD4- CD8- T cells of the lpr mice. **Cellular Immunology**, 123:396-404.
13. Reno, T., Ley, S., Sugiyama, E., Cantagrel, A., Blumberg, R., Bonventre, J., Terhorst, C., and Yeh, E.T. (1990). Defects in signal transduction caused by a T cell receptor β chain substitution. **European Journal of Immunology**, 20:1417-1422.
14. Sugiyama, E., Cantagrel, A., Reno, T., Stafford-Brady, F., Yeh, E.T. and Bonventre, J. (1990). Selection of T-cell receptor expression mutants through the functionally-linked Ly-6A. **Cellular Immunology**, 130:271-280.
15. DeGasperi, R., Thomas, L., Sugiyama, E., Chang, H.M., Beck, P.J., Orlean, P., Albright, C., Waneck, G., Sambrook, J., Warren, C., and Yeh, E.T. (1990). Correction of a defect in mammalian GPI anchor biosynthesis by a transfected yeast gene. **Science (Wash. D.C.)**, 250:988-991.
16. Zeitman, A.L., Sugiyama, E., Ramsay, J. R., Silobrcic, V., Yeh, E.T., Sedlacek, R.S., Suit, H.D. (1991). A comparative study on the xenotransplantability of human solid tumors into mice with different genetic immune deficiencies. **International Journal of Cancer**, 47:755-759.
17. Sugiyama, E., DeGasperi, R., Urakaze, M., Chang, H.M., Thomas, L., Hyman, R., Warren, D., and Yeh, E.T. (1991). Identification of the defects in GPI anchor biosynthesis in the Thy-1 expression mutants. **Journal of Biological Chemistry (Communication)**, 266:12119-12122.
18. Thomas, L., DeGasperi, R., Sugiyama, E., Chang, H.M., Beck, P.J., Orlean, P., Urakaze, M., Kamitani, T., Sambrook, J., Warren, C., and Yeh, E.T. (1991). Functional analysis of T-cell mutants defective in the biosynthesis of glycosylphosphatidylinositol anchor. Relative importance of glycosylphosphatidylinositol anchor vs. N-linked glycosylation in T-cell activation**. Journal of Biological Chemistry**, 266:23175-23184.
19. Mahoney, J.F., Urakaze, M., Hall, S., DeGasperi, R., Chang, H.M., Sugiyama, E., Warren, C.D., Nicholson-Weller, A., Borowitz, M., Rosse, W.F, Yeh, E.T. (1992). Defective glycosylphosphatidylinositol anchor synthesis in paroxysmal nocturnal hemoglobinuria (PNH) granulocytes. **Blood**, 79:1400-1403.
20. Urakaze, M., Kamitani, T., DeGasperi, R., Sugiyama, E., Chang, H.M., Warren, C.D., Yeh, E.T. (1992). Identification of a missing link in glycosylphosphatidylinositol anchor biosynthesis in mammalian cells. **Journal of Biological Chemistry (Communication)**, 267:6459-6462.
21. Thomas, L.J., Urakaze, M., DeGasperi, R., Kamitani, T., Sugiyama, E., Chang, H.M., Warren, C.D, Yeh, E.T. (1992). Differential expression of glycosylphosphatidylinositol-anchored proteins in a T-cell hybridoma mutant producing limiting amounts of the glycolipid core. Implication for Paroxysmal Nocturnal Hemoglobinuria. **Journal of Clinical Investigation**, 89:1172-1177.
22. Kodukula, K., Mathauer, R., Cines, D., Yeh, E.T., Brink, L., Thomas, L., Udenfriend, S. (1992). Biosynthesis of phosphatidylinositol-glycan (PI-G)-anchored membrane proteins

in cell-free systems: PI-G is an obligatory cosubstrate for COOH-terminal processing of nascent proteins. **Proceedings of National Academy of Science USA**, 89:4982-4985.

23. Pan, Y.T., Kamitani, T., Bhuvaneswaran, C., Hallaq, Y., Warren, C.D., Yeh, E.T., Elbein, A.D. (1992). Inhibition of glycosylphosphatidylinositol anchor formation by mannosamine. **Journal of Biological Chemistry**, 267:21250-21255.
24. Kamitani, T., Menon, A.K., Hallaq, Y., Warren, C.D., Yeh, E.T. (1992). Complexity of ethanolamine phosphate addition in the biosynthesis of glycosylphosphatidylinositol anchors in mammalian cells. **Journal of Biological Chemistry**, 267:24611-9.
25. Kamitani, T., Chang, H.M., Rollins, C., Waneck, G., Yeh, E.T. (1993). Correction of the class H defect in glycosylphosphatidylinositol anchor biosynthesis in Ltk$^-$ cells by a human cDNA clone. **Journal of Biological Chemistry (Communication)**, 268:20733-20736.
26. Norris, J., Hoffman, S., Ware, R., Kamitani, T., Chang, H.M., Yeh, E.T., Rosse, W.F. (1994). Glycosylphosphatidylinositol anchor synthesis in paroxysmal nocturnal hemoglobinuria: Partial or complete defect in an early step. **Blood**, 83:816-821.
27. Ware, R., Howard, T.A., Kamitani, T., Chang, H.M., Yeh, E.T., Seldin, M.F. (1994). Chromosomal assignment of genes involved in glycosylphosphatidylinositol anchor biosynthesis: Implications for the pathogenesis of paroxysmal nocturnal hemoglobinuria. **Blood**, 83:3753-3757.
28. Robinson, D.R., Urakaze, M., Huang, R., Taki, H., Sugiyama, E., Knoell, C.T., Xu, L., Yeh, E.T., Auron, P.E. (1996). Dietary marine lipids suppress continuous expression of interleukin-1B gene transcription. **Lipids**, 31:S23-31.
29. Chang, H.M., Wang, L., Zhang, X.P., Yeh, E.T., (1996). Modulation of substance P release in primary sensory neurons by misoprostol and prostaglandins. **American Journal of Therapeutics**, 3:276-279.
30. Okura, T., Gong, L., Kamitani, T., Wada, T., Okura, I., C.F. Wei, Chang, H.M., and Yeh, E.T. (1996). Protection against Fas/APO-1- and tumor necrosis factor-mediated cell death by a novel protein, Sentrin. **Journal of Immunology (Cutting Edge)**, 157:4277-4281.
31. Fujise, K., Revelle, B.M., Stacy, L., Madison, EL, Yeh, E.T., Willerson, J.T., Beck, P.J. (1997). A Tissue Plasminogen Activator/P-Selectin fusion protein is an effective thrombolytic agent. **Circulation**, 95:715-722.
32. Vanderslice, P., Ren, K., Revelle, J. Kim, D., Scott, D., Bjercke, R., Yeh, E.T., Beck, P.J., Kogan, T. (1997). A cyclic hexapeptide is a potent antagonist of α4 integrins. **Journal of Immunology**, 158:1710-1718.
33. Higuchi, M., Aggarwal, B.B., Yeh, E.T. (1997). Activation of CPP32-like protease in TNF-induced apoptosis is dependent in mitochondrial function. **Journal of Clinical Investigation**, 99:1751-1758.
34. Kamitani, T., Nguyen, H.P., Yeh, E.T. (1997). Preferential modification of nuclear proteins by a novel ubiquitin-like molecule. **Journal of Biological Chemistry (Communication)**, 272:14001-14004.
35. Kamitani, T., Nguyen, H.P., Yeh, E.T. (1997). Activation-induced aggregation and processing of the human Fas antigen. Detection with cytoplasmic domain specific antibodies. **Journal of Biological Chemistry**, 272:22307-22329.
36. Fujise, K., Stacy, L., Beck, P., Yeh, E.T., Chuang, A., Brock, T., Willerson, J.T. (1997). Differential effects of endothelin receptor activation on cyclic flow variations in rat mesenteric arteries. **Circulation**, 96:3641-3646.
37. Gong, L., Kamitani, T., Fujise, K., Caskey, L., and Yeh, E.T. (1997). Preferential interaction of sentrin with an ubiquitin-conjugating enzyme, Ubc9. **Journal of Biological Chemistry (Communication)**, 272:28198-28201.

38. Kamitani, T., Kito, K., Nguyen, H.P., Yeh, E.T. (1997). Characterization of NEDD8, a developmentally down-regulated ubiquitin-like protein. **Journal of Biological Chemistry**, 272:28557-28562.
39. Patel, S., Thiagarajan, R., Willerson, J.T., Yeh, E.T. (1998). Inhibition of α_4 integrin and ICAM-1 markedly attenuate macrophage homing to the atherosclerotic plaques in apo-E deficient mice. **Circulation**, 97:75-81.
40. Kamitani, T, Kito, K., Nguyen, H.P., Wada H., Fukuda-Kamitani, T., Yeh, E.T. (1998). Covalent modification of PML by the sentrin family of ubiquitin-like proteins. **Journal of Biological Chemistry (Communication)**, 273:3117-3120.
41. Kamitani, T., Kito, K., Nguyen, H.P. Fukuda-Kamitani, T., Yeh, E.T. (1998). Characterization of a second member of the sentrin family of ubiquitin-like proteins. **Journal of Biological Chemistry**, 273:11349-11353.
42. Higuchi, M., Honda, T., Proske, R., Yeh, E.T. (1998). Regulation of reactive oxygen-species-induced apoptosis and necrosis by Caspase3-like proteases. **Oncogene**, 17:2753-2760.
43. Kamitani, T., Kito, K., Nguyen, H.P., Wada H., Fukuda-Kamitani, T., Yeh, E.T. (1998). Identification of three major sentrinization sites in PML. **Journal of Biological Chemistry**, 273:26675-26682.
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B. Invited Articles

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Related Heart Disease: Current Knowledge and Future Prospects. **Int. J. Radiation Oncology Biol.**, 76(3):656-665.

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47. Lin, F., Yeh, E.T. (2011). Keeping balance during development: Lessons from a SUMO-less SF-1. **Developmental Cell**, 21:191-192.
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53. Yeh, E.T., Cheng, H.M. (2017). Cancer and Clot: Between a rock and a hard place. **Journal of the American College of Cardiology**. 70:939-941.

Book Chapters:

1. Ewer, M.S., Benjamin, R.S., and Yeh, E.T. Cardiac Complications. In Holland J.F., Frei III E., Bast R.C., Kufe D.W., Pollack R.E., Gansler T.S., and Weichselbaum R.R. (Vol. Ed.), *Cancer Medicine*, 2003, (6th ed., pp. 2525-41), Ontario: B.C. Decker, Inc.
2. Yeh, E.T. "Ubiquitin-Like Proteins," Encyclopedia of Biological Chemistry, Volume 4, 2004, p. 304-7, Elsevier Inc.
3. Calabro, P. and Yeh, E.T. Inflammatory Vascular Markers in Atherosclerosis. In: Geng YJ, ed. Current Topics in Atherosclerosis Research, 2005, p. 49-65, New York:Nova Science Publishers, Inc.
4. Yusuf, S.W. and Yeh, E.T. Acute Coronary Syndrome in Cancer Patients. In: Shaw AD, Riedel BJ, Burton AW, Fields AI and Feeley TW. Acute Care of the Cancer Patient, 2005, pp.567-578, Taylor & Francis Group, LLC.
5. Calabro, P. and Yeh, E.T. Cardiovascular biology, physiology, and malignancy. In: Ewer MS and Yeh ETH. Cancer and the Heart, 2006, p 1-7, Ontario: B.C. Decker, Inc.
6. Yeh, E.T. and Ewer, M.S., eds. Cancer and the Heart, 2006, Ontario: B.C. Decker, Inc.
7. Calabro, P, Willerson, J.T. and Yeh, E.T. Inflammation, C-Reactive Protein and Vulnerable Plaques. In: Willerson JT, Cohn JN, Wellens HJJ, Holmes DR., ed. Cardiovascular Medicine 3rd Edition, 2007, p. 611-620, Springer London.
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9. Yeh, E.T., Ewer, M.S. and Lenihan, D.J. The Diagnosis and Management of Cardiovascular Diseases in Cancer Patients. In Fuster V, O'Rourke R, Walsh R, Poole-Wilson P et al (Vol. Ed), *Hurst's the Heart* (12th ed.), 2008, p. 2053-2072, McGraw-Hill.
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11. Bawa-Khalfe, T. and Yeh, E.T. The In Vivo Functions of Desumoylating Enzymes. In: Groettrup M, ed. Conjugation and Deconjugation of Ubiquitin Family Modifiers, Subcellular Biochemistry, Volume 54, 2010, p. 170-183, Landes Bioscience and Springer Science, LLC.
12. Lu, L.S., Yeh, E.T. "Ubiquitin-Like Proteins," Encyclopedia of Biological Chemistry (2nd edition), Elsevier Inc., Oxford UK.
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14. Dou, H. and Yeh, E.T. SENP1 and SENP2 peptidases, in Neil Rawlings and Guy Salvesen, Handbook of Proteolytic Enzymes, third edition, 2011, Elsevier Inc, Oxford, UK.
15. Lu, L.S. and Yeh, E.T. SENP3 and SENP5 peptidases, in Neil Rawlings and Guy Salvesen, Handbook of Proteolytic Enzymes, third edition, 2011, Elsevier Inc., Oxford, UK.
16. Yeh, E.T. and Ewer, M.S., eds. Cancer and the Heart, second edition, 2013, People's Medical Publishing House-USA.
17. Yeh, E.T., editor, MD Anderson Practices in Onco-Cardiology, 2016, MD Anderson Cancer Center, Houston, USA

Patent Awarded:

1. Yeh, E.T., Gong, L. Composition and methods relating to SENP1-a sentrin-specific protease. U.S. Patent No. 6,596,527; July 22, 2003.
2. Yeh, E.T., Pasceri, V., Willerson, J.T. Inhibitors of C-reactive protein induced inflammation. U.S. Patent No. 6,764,826; July 20, 2004.
3. Yeh, E.T. Compositions and uses for a novel cell-death protecting protein. U.S. Patent No. 7,179,650; February 20, 2007.
4. Yeh, E.T. SENP1 as a marker of cancer development and target for cancer therapy. U.S. Patent No. 7,579,152; August 25, 2009.
5. Fujise, K., and Yeh, E.T. Methods and compositions relating to fortilin, an anti-apoptotic molecule, and modulators of fortilin. United States Patent 7,691,567; April 6, 2010.
6. Yeh, E.T. "Topoisomerase 2β as a predictor of susceptibility to anthracycline-induced cardiotoxicity." United States Patent 9169509; October 27, 2015.

Updated 1/23/2020

APPENDIX B

Curricula vitae of oncology clinical faculty

Ahmet Murat Aydin, M.D.
August 16, 2020

Personal Information

Date of birth:	July 16, 1988
Place of birth:	Ankara, Turkey
Nationality:	Turkish
Address:	17129 Heart of Palms Drive, Tampa, FL 33647
Office Phone:	(813) 745-8814
Cell Phone:	(813) 369-2529
Email:	Ahmet.Aydin@Moffitt.org

Current Position

- Department of Genitourinary Oncology, Moffitt Cancer Center, Tampa, FL

SUO-accredited Urologic Oncology Fellowship 12/2018-present

Postgraduate Training and Fellowship Appointment

- Department of Genitourinary Oncology, Moffitt Cancer Center, Tampa, FL

Fellow, Urologic Oncology 12/2018-12/2020 (expected graduation)

- Hacettepe University, Faculty of Medicine, Ankara, Turkey

Resident, Urology 2013-2018

- University of Texas Southwestern Medical Center, Dallas, TX

Clinical Observer, Urologic Oncology 9/2015-10/2015, 9/2016-11/2016

- Konya Çeltik Community Hospital, Konya, Turkey

General Practitioner, Emergency Health Care (Trauma Level IV) 9/2012-1/2013

Medical Education

- Hacettepe University Faculty of Medicine (English Program), Ankara, Turkey

Doctor of Medicine 2006-2012

- Università Degli Studi di Genova, Genoa, Italy

Clinical Clerkship, Internal Medicine and Radiology 10/2011-1/2012

Licenses

- Turkish Medical License, # 131533 (Active) 6/2018
- Florida Medical License for Physician-in-Training, TRN# 27928 (Active) 1/2019

Board Certification

- European Board of Urology (EAU) 6/2018

Written and oral examinations 2017, 2018

Languages Spoken

- Turkish (native), English (proficient), German (conversant)

Teaching Activities

- "Evolution of PD-1/PD-L1 immunotherapy in bladder cancer" 12/2019

Lecture in Fellow Talk Series, Moffitt Cancer Center, Tampa, FL

- "Current treatment algorithms in locally advanced penile cancer" 1/2018

Lecture in Urology Resident Conference, Hacettepe University, Ankara, Turkey

- "Bladder sparing treatments in muscle-invasive bladder cancer" 6/2017

Lecture in Urology Resident Conference, Hacettepe University, Ankara, Turkey

- "The risk and prognosis of bladder cancer after augmentation cystoplasty" 10/2015

Lecture in Urological Pathology Meeting, Hacettepe University, Ankara, Turkey

Academic Certificates and Exams

- Biostatistics 101 for Cancer Researchers Certificate 3/2019
- ECFMG Diploma, # 08949562 2015
- USMLE Step 3 (score: 213) 2015
- USMLE Step 1 (score: 238), Step 2 CK (score: 236), Step 2 CS (passed) 2014

Honors and Awards

- Graduation with Honors Degree 2012

Hacettepe University Faculty of Medicine (English program), Ankara, Turkey

- "Nation's Top 100 students" Full Tuition Scholarship for Medical School 2006

Ranked 70th out of 1,678,326 examinees in university entrance exam.

Awarded by the Turkish Ministry of Youth and Sports for a total of 6 years, 2006-2012.

Research Support

- "The association of PD-L1 expression to BCG resistance and tumor progression in high grade non-muscle-invasive bladder cancer"

Account #:	TTU-2017-15644 (IRB #: GO-17/400-16)
Type:	Thesis (retrospective, tissue bank, single institution)
PI:	A. M. Aydin
Dates:	5/2017 – 6/2018
Funding:	Hacettepe University Research Projects Coordination Unit, Turkey
Award:	25,000 TL (USD $7,200)

Ad Hoc Reviewer

- World Journal of Urology
- OncoTargets and Therapy
- Urologic Oncology: Seminars and Original Investigations
- World Journal of Surgical Oncology
- Clinical Genitourinary Cancer
- Frontiers in Oncology
- Translational Andrology and Urology

Professional Association Memberships

- Society of Urologic Oncology (USA) 2019
- American Urological Association (USA) 2017
- European Association of Urology (Europe) 2014
- Society of Urological Surgery (Turkey) 2013

Peer-Reviewed Publications

1. **Aydin AM**, Chahoud J, Adashek JJ, Azizi M, Magliocco A, Ross JS, Necchi A, Spiess PE. Understanding genomics and immune microenvironment of penile cancer in improving therapies. Nature Reviews Urology. 2020. In press.

2. Hajiran A, Azizi M, **Aydin AM**, Zemp L, Peyton C, Dhillon J, Nealon S, Reich R, Cao B, Li R, Manley B, Sexton W, Gilbert SM. Pathologic and Survival Outcomes Associated with Variant Histology Bladder Cancers Managed with Cystectomy with or Without Neoadjuvant Chemotherapy. J Urol. 2020 Aug 12. doi:10.1097/JU.0000000000001325.

3. Chertack N, Ghandour RA, Singla N, Freifeld Y, Hutchinson RC, Courtney K, Bowman IA, Arafat W, Meng X, Moore JA, **Aydin AM**, Sagalowsky A, Margulis V, Lotan Y, Woldu S, Bagrodia A. Overcoming Sociodemographic Factors in the Care of Testicular Cancer Patients at a Safety Net Hospital. Cancer. 2020 Aug 10. doi: 10.1002/cncr.33076.

4. **Aydin AM**, Gage K, Dhillon J, Cheriyan SK, Poch MA, Manley B, Li R, Sexton WJ, Spiess PE, Gilbert SM, Pow-Sang JM. Focal Bipolar Radiofrequency Ablation for Localized Prostate Cancer: Safety and Feasibility. Int J Urol. 2020 Aug 6. doi: 10.1111/iju.14321.

5. Azizi M***, Aydin AM***, Hajiran A, Lai A, Kumar A, Minhas S, Sonpavde GP, Chahoud J, Pagliaro LC, Necchi A, Spiess PE. Systematic review and meta-analysis: Is there a benefit in using neoadjuvant systemic chemotherapy in locally advanced penile squamous cell carcinoma? J Urol. 2020 Jan 13. doi: 10.1097/JU.0000000000000746. * Contributed equally.

6. **Aydin AM**, Baydar DE, Hazir B, Babaoglu B, Bilen CY. Prognostic significance of pre- and post-treatment PD-L1 expression in patients with primary high-grade non-muscle-invasive bladder cancer treated with BCG immunotherapy. World J Urol. 2020 Jan 3. doi: 10.1007/s00345-019-03065-2.

7. **Aydin AM***, Zemp L*, Cheriyan SK, Sexton WJ, Johnstone PAS. Contemporary management of early stage testicular seminoma. Transl Androl Urol 2020;9(Suppl 1):S36-S44. doi: 10.21037/tau.2019.09.32. *Contributed equally.

8. Azizi M*, **Aydin AM***, Cheriyan SK, Peyton CC, Montanarella M, Gilbert SM, Sexton WJ.Therapeutic strategies for uncommon testis cancer histologies: Teratoma with malignant transformation and malignant testicular sex cord stromal tumors. Transl Androl Urol 2020;9(Suppl 1):S91-S103. doi: 10.21037/tau.2019.09.08. *Contributed equally.

9. Cheriyan SK, Nicholson M, **Aydin AM**, Azizi M, Peyton CC, Sexton WJ, Gilbert SM. Current management and management controversies in early- and intermediate-stage of

nonseminoma germ cell tumors. Transl Androl Urol 2020;9(Suppl 1):S45-S55. doi: 10.21037/ tau.2019.05.14.

10. Hajiran A, **Aydin AM**, Cheriyan S, Sexton WJ. A simplified new-generation renal mass complexity scoring system. Ann Transl Med. 2019 Sep; 7(Suppl 6): S223. doi: 10.21037/atm.2019.08.41

11. **Aydin AM**, Cheriyan S, Spiess PE. Treating advanced penile cancer: where do we stand in 2019? Curr Opin Support Palliat Care. 2019 Sep;13(3):249-254. doi: 10.1097/SPC.0000000000000431.

12. Adashek JJ***, Aydin AM***, Kim P, Spiess PE. The role of metastasectomy in the treatment of metastatic renal cell carcinoma. AME Med J. 2019; 4:30. doi: 10.21037/amj.2019.06.02. *Contributed equally.

13. Woldu SL, Moore JA, Ci B, Freifeld Y, Clinton TN, **Aydin AM**, Singla N, Laura-Maria K, Hutchinson RC, Amatruda JF, Sagalowsky A, Lotan Y, Arriaga Y, Margulis V, Xie Y, Bagrodia A. Practice patterns and impact of postchemotherapy retroperitoneal lymph node dissection on testicular cancer outcomes. Eur Urol Oncol. 2018 Aug;1(3):242-251. doi: 10.1016/j.euo.2018.04.005.

14. **Aydin AM,** Haberal B, Artykov M, Bilen CY, Yazici S. Clinicopathological predictors of positive 68Ga-PSMA-11 PET/CT in PSA-only recurrence of localized prostate cancer following definitive therapy. Ann Nucl Med. 2019 May;33(5):326-332. doi: 10.1007/s12149-019-01340-1.

15. **Aydin AM***, Singla N*, Panwar V, Woldu SL, Freifeld Y, Wood CG, Karam JA, Weizer AZ, Raman JD, Remzi M, Rioux-Leclercq N, Haitel A, Roscigno M, Bolenz C, Bensalah K, Westerman ME, Sagalowsky AI, Shariat SF, Lotan Y, Bagrodia A, Kapur P, Margulis V, Krabbe LM. Prognostic significance of BAP1 expression in high-grade upper tract urothelial carcinoma: A multi-institutional study. World J Urol. 2019 Nov;37(11):2419-2427. doi: 10.1007/s00345-019-02678-x.* Contributed equally.

16. Ceyhan E, Ileri F, Ceylan T, **Aydin AM**, Dogan HS, Tekgul S. Predictors of recurrence and complications in pediatric pyeloplasty. Urology. 2019 Apr;126:187-191. doi: 10.1016/j.urology.2019.01.014.

17. Singla N, Krabbe LM, **Aydin AM**, Panwar V, Woldu SL, Freifeld Y, Wood CG, Karam JA, Weizer AZ, Raman JD, Remzi M, Rioux-Leclercq N, Haitel A, Roscigno M, Bolenz C, Bensalah K, Sagalowsky AI, Shariat SF, Lotan Y, Bagrodia A, Kapur P, Margulis V. Multi-institutional evaluation of the prognostic significance of EZH2 expression in high-grade

upper tract urothelial carcinoma. Urol Oncol. 2018 May 7. pii: S1078-1439(18)30126-1. doi: 10.1016/j.urolonc.2018.04.004.

18. Tonyali S, **Aydin AM**. Evaluation of deceased kidney donors for renal stone disease: Is computed tomography needed? Curr Urol. 2018 Mar;11(3):113-116. doi: 10.1159/000447204.

19. Woldu SL, **Aydin AM,** Rao AV, Hutchinson RC, Singla N, Clinton TN, Krabbe LM, Passoni NM, Raj GV, Miller DS, Amatruda JF, Sagalowsky AI, Lotan Y, Arriaga Y, Margulis V, Bagrodia A. Differences at presentation and treatment of testicular cancer in hispanic men: Institutional and national hospital-based analysis. Urology. 2017 Oct 24. pii: S0090-4295(17)31102-0. doi: 10.1016/j.urology.2017.08.059.

20. Boegemann M, **Aydin AM**, Bagrodia A, Krabbe LM. Prospects and progress of immunotherapy for bladder cancer. Expert Opin Biol Ther. 2017 Aug 23:1-15. doi: 10.1080/14712598.2017.1366445.

21. **Aydin AM**, Katipoglu K, Baydar DE, Bilen CY. Long-standing aggressive angiomyxoma as a paratesticular mass: A case report and review of literature. SAGE Open Med Case Rep. 2017 Jun 2;5:2050313X17712090. doi: 10.1177/2050313X17712090.

22. **Aydin AM***, Woldu SL*, Hutchinson RC, Boegemann M, Bagrodia A, Lotan Y, Margulis V, Krabbe L-M. Spotlight on atezolizumab and its potential in the treatment of advanced urothelial bladder cancer. Onco Targets Ther. 2017;10:1487-502. doi: 10.2147/OTT.S109453. *Contributed equally.

23. **Aydin AM**, Eldem G, Peynircioglu B, Baydar DE, Bilen CY. Local recurrence of renal cell carcinoma that simulated multiple renal arteriovenous fistulas after laparoscopic partial nephrectomy: Report of a rare case. Int J Urol. 2016 Oct;23(10):888-891. doi: 10.1111/iju.13165.

24. Aki FT, **Aydin AM**, Dogan HS, Donmez MI, Erkan I, Duzova A, Topaloglu R, Tekgul S. Does lower urinary tract status affect renal transplantation outcomes in children? Transplant Proc. 2015 May;47(4):1114-6. doi: 10.1016/j.transproceed.2014.10.069.

Non-Peer Reviewed Publication

1. Azizi M, **Aydin AM**, Hajiran A, Lai A, Kumar A, Peyton CC, Minhas S, Sonpavde GP, Chahoud J, Pagliaro LC, Necchi A, Spiess PE. Reply by Authors. J Urol. 2020 Mar 16:101097JU000000000000074603. doi: 10.1097/JU.0000000000000746.03.

2. **Aydin AM**, Pow-sang JM: Editorial comment. J Urol. 2019 Feb 8. doi: 10.1097/01.JU.0000554643.78812.6a. Editorial comment on "*Stefanova et al. Transperineal prostate biopsies using local anesthesia: Experience in 1,287 patients. Prostate cancer detection rate, complications and patient tolerability. J Urol 2019."*

Book Chapter

1. Cheriyan SK, **Aydin AM,** Sharma P, Chippolini J, Holsonback EV, Garcia-Cataneda J, Herb de la Rosa A, Spiess PE (2020). Management of Local, Regional and Metastatic Penile Cancer. In: CR Chapple, WD Steers, CP Evans, eds. Urologic Principles and Practice, 2nd ed. (pp. 591-610). Switzerland: Springer.

Poster / Plenary Presentations

1. **Ahmet Murat Aydin**, Salim Cheriyan, Richard Reich, Ali Hajiran, Logan Zemp, Michael Poch, Brandon Manley, Philippe E. Spiess, Julio Pow-Sang, Wade Sexton, Scott M Gilbert: Discretionary and necessary readmission after radical cystectomy. Accepted for Podium Presentation (PD60-12) at AUA 2020 Annual Meeting, Washington DC, 2020. Presented as Virtual Abstract due to cancellation of meeting.

2. Ali Hajiran, Logan Zemp, **Ahmet Aydin**, Salim Cheriyan, Philippe E. Spiess: Burden of acute toxicities associated with topical chemotherapy for non-invasive penile squamous cell carcinoma. Accepted for Podium Presentation (PD19-12) at AUA 2020 Annual Meeting, Washington DC, 2020. Presented as Virtual Abstract due to cancellation of meeting.

3. Ali Hajiran, Mounsif Azizi, Logan Zemp **Ahmet Aydin**, Salim Cheriyan, Brandon Scott Gilbert, Wade Sexton: Clinical stage I pure testicular teratoma in adults: patterns of care and survival outcomes by treatment strategy. Accepted for Poster Presentation (MP76-20) at AUA 2020 Annual Meeting, Washington DC, 2020. Presented as Virtual Abstract due to cancellation of meeting.

4. **Ahmet Murat Aydin**, Shayan Falasiri, Ali Hajiran, Youngchul Kim, Susan McCarthy, Jonathan Nguyen, Saif Zaman, Philippe E. Spiess, Manish Kohli, James Mulé, Brandon J. Manley: High expression of Tumor-associated macrophage (TAM) markers within the tumor microenvironment signals poor overall survival in patients with metastatic renal cell carcinoma treated with immunotherapy. Poster Presentation (Poster #167) at 20th Annual Meeting of the Society of Urologic Oncology Meeting, Washington DC. December 4-6, 2019.

5. **Ahmet Murat Aydin**, Bahadir Haberal, Meylis Artykov, Berk Hazir, Bulent Akdogan, Cenk Bilen, Sertac Yazici, Haluk Ozen: Factors affecting positivity of Ga-68 PSMA PET/CT in recurrence of localized prostate cancer following definitive therapy. Poster Presentation (MP20-13) at AUA 2018 Annual Meeting, San Francisco, CA. May 18-21, 2018.

6. Erman Ceyhan, Fatih Ileri, Taner Ceylan, **Ahmet Murat Aydin**, Serkan Dogan, Serdar Tekgul: [Factors predicting recurrence and complication in pediatric pyeloplasty]. Oral Presentation at 14th Turkish Pediatric Urology Congress, Antalya, TURKEY. November 30-December 2, 2017. Turkish.

7. Ashwin Rao, Solomon Woldu, **Ahmet Aydin**, Ryan Hutchinson, Nirmish Singla, Timothy Clinton, Laura Krabbe, Niccola Passoni, Ganesh Raj, Yair Lotan, Arthur Sagalowsky, David Miller, Vitaly Margulis, Aditya Bagrodia: Differences between hispanic and non-hispanic white men with testicular germ cell tumors in the United States. Poster Presentation (Poster #90) at South Central Section of the AUA, Naples, FL. November 26-29, 2017.

8. Timothy Clinton, Solomon Woldu, Ashwin Rao, Ryan Hutchinson, Nirmish Singla, Laura-Marie Krabbe, **Ahmet Aydin**, James Amatruda, Yair Lotan, Arthur Sagalowsky, Vitaly Margulis, Aditya Bagrodia: Impact of insurance status on testicular cancer survival-implications of economic disparities in the United States. Oral Presentation (Podium #3) at South Central Section of the AUA, Naples, FL. November 26-29, 2017.

9. **Ahmet Murat Aydin**, Bahadir Haberal, Meylis Artykov, Bulent Akdogan, Ahmet Güdeloglu, Cenk Yucel Bilen, Ali Ergen, Sertac Yazici, Haluk Ozen: [Comparison of Ga-68 PSMA PET/CT with conventional radiological imaging techniques regarding efficacy of lymph node staging in prostate cancer patients: Short-term results]. Poster Presentation (PS108) at 13rd Uro-oncological Congress, Antalya, TURKEY. November 8-12, 2017. Turkish.

10. **Ahmet Aydin**, Nirmish Singla, Vandana Panwar, Ryan Hutchinson, Solomon Woldu, Christopher Wood, Jose Karam, Alon Weizer, Jay Raman, Mesut Remzi, Nathalie Rioux-Leclercq, Andrea Haitel, Marco Roscigno, Christian Bolenz, Karim Bensalah, Arthur Sagalowsky, Shahrokh Shariat, Yair Lotan, Aditya Bagrodia, Payal Kapur, Vitaly Margulis, Laura-Maria Krabbe: Prognostic significance of EZH2 expression in upper tract urothelial carcinoma. Poster Presentation (MP71-06) at AUA 2017 Annual Meeting, Boston, MA. May 12-16, 2017.

11. Nirmish Singla, **Ahmet Aydin**, Vandana Panwar, Ryan Hutchinson, Solomon Woldu,

Christopher Wood, Jose Karam, Alon Weizer, Jay Raman, Mesut Remzi, Nathalie Rioux-Leclercq, Andrea Haitel, Marco Roscigno, Christian Bolenz, Karim Bensalah, Arthur Sagalowsky, Shahrokh Shariat, Yair Lotan, Aditya Bagrodia, Payal Kapur, Vitaly Margulis, Laura-Maria Krabbe: Prognostic significance of BAP1 expression in upper tract urothelial carcinoma. Poster Presentation (MP71-05) at AUA 2017 Annual Meeting, Boston, MA. May 12-16, 2017.

12. **Ahmet Aydin,** Solomon Woldu, Thomas Lowrey, Ryan Hutchinson, Laura-Maria Krabbe, Nirmish Singla, James Amatruda, Arthur Sagalowsky, Vitaly Margulis, Aditya Bagrodia: Neutrophil-to-lymphocyte Ratio: A simple biomarker in testicular cancer. Poster Presentation (MP80-16) at AUA 2017 Annual Meeting, Boston, MA. May 12-16, 2017.

13. **Ahmet Murat Aydin**, Oguzhan Kahraman, Bulent Akdogan, Sertac Yazici, Ali Ergen, Haluk Ozen: [Short term outcomes of chemohormonal therapy in metastatic hormone-sensitive prostate cancer: A single-center experience]. Poster Presentation (Poster #108) at 3rd Society of Urological Surgery Congress, Antalya, TURKEY. November 2-6, 2016. Turkish.

14. **Ahmet Murat Aydin**, Fazil Tuncay Aki, Hasan Serkan Dogan, Muhammet Irfan Donmez, Ilhan Erkan, Ali Duzova, Rezan Topaloglu, Serdar Tekgul: Does lower urinary tract status affect renal transplantation outcomes in children? Oral Presentation (Poster #71) at 14th Congress of Middle East Society for Organ Transplantation, Istanbul, TURKEY. September 10-14, 2014.

15. Alptuna Beksac, Hasan Serkan Dogan, Batuhan Aydogan, **Ahmet Murat Aydin**, Cenk Yucel Bilen, Serdar Tekgul: [Our laparoscopic nephrectomy experience in children]. Poster Presentation (V08) at 12th Turkish Pediatric Urology Congress, Antalya, TURKEY. November 22-24, 2013. Turkish.

16. Bulent Akdogan, **Ahmet Murat Aydin**, Fatih Ileri, Mesut Altan, Mustafa Sertac Yazici, Dilek Baydar, Haluk Ozen: [Are all renal cell carcinomas the same? 10-year longterm survival analysis of around 1000 patients]. Poster Presentation (Poster #156) at 11th Turkish Urooncology Congress, Antalya, TURKEY. November 6-10, 2013. Turkish.

Current Research Projects

- "Use of Bladder Tumor Specimens for Characterization of Tumor Infiltrating Lymphocyte (TIL) Growth Procedures and Bladder Cancer Microenvironment Models"
  Account #: MCC18142, MCC20106

Type: Prospective, single institution

PI: Michael A. Poch, MD, Shari Pilon-Thomas, PhD.

Dates: 2015 – **present**

Funding: Moffitt Cancer Center, Iovance Biotherapeutics

Co-I: A.M. Aydin (2/2019 - present)

Role: Maintained clinical database. Assisted in protocol revisions. Involved in new informed consent and protocol writing.

In immunology laboratory: Involved in processing of bladder cancer fragments to isolate TILs.

In vivarium: Involved in development of mice bearing orthotopic bladder tumor, transfer of expanded human TIL to mice bladder and measurements of tumor volume using bladder scan.

- "Testing Efficacy of Myeloid-Derived Suppressor Cell (MDSC) Inhibitors Alone or in Combination with Immune Checkpoint Blockade in Preclinical Mouse Bladder Cancer Model"

  Type: Preclinical

  Investigators: A. Murat Aydin, MD, Brittany Bunch, PhD, Shari Pilon-Thomas, PhD.

  Dates: 2020 – **present**

  Funding: Moffitt Cancer Center

  Role: Designing of project, carrying out experiments, and analysis of data.

  In immunology laboratory: Processing of subcutaneously grown tumors, immunophenotyping of T cells, measurement of IF-gamma.

  In vivarium: Implantation of MB49 urothelial tumors subcutaneously, systemic injection of MDSC and/or PD-L1 inhibitors to mice bearing MB49 tumor, tumor volume measurements.

- "Testing Anti-Tumor Effect of Plasmid DNA Vaccine (pAc/emm55) in TC-1 Mouse Tumor Model Expressing HPV-16 E6 and E7 oncoproteins"

  Type: Preclinical

Investigators: A. Murat Aydin, MD, Philippe Spiess, MD, Shari Pilon-Thomas, PhD.

Dates: 2020 – **present**

Funding: Moffitt Cancer Center, Morphogenesis, Inc.

Role: Designing of the project, carrying out experiments, analysis of data

In immunology laboratory: Preparation of plasmid DNA vaccine via formulating with conventional adjuvants, processing of subcutaneously grown tumors, immunophenotyping of T cells, measurement of IF-gamma.

In vivarium: Implantation of TC-1 cancer cell line to mice, intralesional injection of plasmid DNA vaccine to mice subcutaneously bearing TC-1 tumor, tumor volume measurements.

Curriculum Vitae

Richard L. Crownover, M.D., Ph.D.
7979 Wurzbach Road, G268
San Antonio, TX 78229
(210) 450-1136 Office
(210) 616-5543 Fax
crownover@uthscsa.edu

Place of Birth: Salem, OR

Education:

M.D.	Duke University School of Medicine	Durham, NC	1988-1991	
	Strickland Scholar, 1988-1991.			
Ph.D.	Duke University Graduate School	Durham, NC	1985-1988	Physics
	Dissertation: "Studies of Molecular Lasers, Atmospheric Molecules and Imaging in the Millimeter/Submillimeter Spectral Region."			
M.A.	Duke University Graduate School	Durham, NC	1983-1985	Physics
B.A.	Linfield College	McMinnville, OR	1980-1983	Physics/Math

Post-Graduate Training:

2015-2016 University of Texas Health Science Center, San Antonio, TX
Clinical Safety and Effectiveness Education Program

2004-2005 Cleveland Clinic Foundation, Cleveland, OH
Foundations of Healthcare Administration

1994-1995 UC San Francisco, Department of Radiation Oncology, San Francisco, CA
Chief Resident.

1992-1994 UC San Francisco, Department of Radiation Oncology, San Francisco, CA
Radiation Oncology Resident.

1991-1992 Duke University Medical Center, Department of Medicine, Durham, NC
Medicine Intern.

Board Certification

Recertification April 2016 with emphasis on Breast and Pediatrics/CNS

Recertification October 2006

Therapeutic Radiology – American Board of Radiology 1996

Employment:

2012- 2020

Professor and Residency Program Director, Radiation Oncology
Mays Cancer Center at UT Health San Antonio, San Antonio TX

Clinical responsibilities include supervision of a very busy clinical service that incorporates stereotactic radiosurgery, stereotactic body radiotherapy, deep-inspiration breath hold techniques, interstitial high-dose-rate brachytherapy, and pediatric treatments requiring daily anesthesia. In this department I am the primary physician treating CNS and pediatric tumors, musculoskeletal tumors, and breast tumors. I am the most active clinician in the department and the most active clinical researcher. I have an investigator-initiated protocol studying surface-image guidance for simulation and treatment of breast cancer. I have provided extended coverage (several months at a time) for additional sites as required by departmental needs including treatment of prostate, lung, and gynecologic malignancies to include intracavitary HDR brachytherapy. Since October 2017 I have been the local Co-Chair for NRG. My current research interests include applications of surface image guidance, applications of tumor-treating fields and quantitative modelling to project clinical activities as a guide for business planning. I was Director of residency training until May 2020 (10 years). I give several lectures annually for the Graduate Program in Molecular Biology.

2007- 2012

Associate Professor and Residency Program Director, Radiation Oncology
University of Texas Health Science Center, San Antonio TX

Clinical activities focused on breast tumors, musculoskeletal tumors, CNS tumors and stereotactic techniques. Director of residency training program in Radiation Oncology beginning February 2009.

2005-2006
Director, Regional Cancer Center
The Reading Hospital and Medical Center, Reading PA

I was the first Director for this newly opened center. Programmatic responsibility for all aspects of a busy multidisciplinary oncology program (1400 new patient consults annually) including quality assurance across multiple disciplines, strategic planning, marketing, and consolidation of physician participation. Half-time clinical participation in Radiation Oncology.

1999-2005
Staff Physician
Cleveland Clinic Foundation, Department of Radiation Oncology, Cleveland, OH

Staff Physician with joint appointments in the Department of Neurological Surgery, the Brain Tumor Institute, and the Gault Women's Health Center.

Chief of Breast and Musculoskeletal Tumor Services, Department of Radiation Oncology.

Director, CyberKnife Program, Callahan Center for Radiation Oncology and Robotics

Clinical responsibilities include supervision of the busiest clinical service in the Department of Radiation Oncology (consistently 1.3 x department mean) incorporating complex treatment methods such as interstitial high-dose-rate brachytherapy, Novalis stereotactic body radiotherapy, MIMIC IMRT, DMLC IMRT, total skin electron therapy, and Gammaknife radiosurgery. Educational responsibilities include supervision of resident physicians, medical students, and fellows in the clinic and provision of didactic lectures on clinical topics and radiobiology. Research activities include mathematical modeling of the physical/biological effects of high-dose-rate irradiation, initial clinical evaluation of complex treatment platforms including the CyberKnife and BrainLab Novalis, establishment of a web-based international tumor registry for sarcomas, industry collaboration utilizing genomic profiling to predict response to radiotherapy, and participation in national and local clinical protocols.

1996-1999
Associate Staff Physician
Cleveland Clinic Foundation, Department of Radiation Oncology, Cleveland, OH

1995-1996
Assistant Staff Physician
Cleveland Clinic Foundation, Department of Radiation Oncology, Cleveland, OH

1988-1991
Consultant to "National Medical Series for Independent Study"
Harwal Publishing Co., Media, PA (Subsidiary of J. R. Wiley and Sons)

1982-1983
Teaching Assistant - part time (10 hrs/wk).
Department of Physics, Linfield College, McMinnville, OR

1977-1983
Forensic Psychiatric Security - shift supervisor
Correctional Treatment Program, Oregon State Hospital, Salem, OR

1977-1978
Feature Writer - part time (16 hrs/wk)
Community Press Newspaper, Salem, OR (circulation 100,000+)

1974-1978
Brinemaker
Maraschino Cherry Plant, Kelley Farquhar & Co., Salem OR

Academic Appointments:

2012 -- Clinical Professor, Radiation Oncology
University of Texas Health Science Center San Antonio

2007-2012 Associate Clinical Professor, Radiation Oncology
University of Texas Health Science Center San Antonio

1997-2007 Assistant Professor of Radiology, The Ohio State University College of Medicine

Current and Prior Professional Memberships:

American Society for Therapeutic Radiology and Oncology
American Society of Breast Disease
American Society of Clinical Oncology
Society of Neuro-Oncology
Southwest Oncology Group
Radiologic Society of North America
Children's Oncology Group
Connective Tissue Oncology Society
NRG Oncology Group
Radiation Therapy Oncology Group
Sigma Xi (Scientific Research Society)
Sigma Pi Sigma (National Honor Society in Physics)

Current and Prior Committee Memberships:

Cancer Center Steering Committee	May's Cancer Center
Program Committee	San Antonio Breast Cancer Symposium
Breast Health Advisory Board	University Health System - San Antonio
Protocol Review Committee	Cancer Therapy and Research Center
Hospital Infectious Disease Committee	University Hospital - San Antonio
Credentialing Committee	University Hospital - San Antonio
Consensus Committee	American Society of Breast Disease
Breast Specialty Training Committee	American Society of Breast Disease
SWOG Sarcoma Committee	Southwest Oncology Group
Radiation Oncology Task Force	American Board of Radiology
Breast Cancer Quality Improvement Team	Cleveland Clinic Foundation

Breast Center Steering Committee	Cleveland Clinic Foundation
Clinical Trials Scientific Review Committee	Cleveland Clinic Foundation
Molecular and Genetic Markers in Breast Cancer	Cleveland Clinic Foundation
Breast Committee	Radiation Therapy Oncology Group
Ad Hoc International Database Task Force	Connective Tissue Oncology Society

Extracurricular Activities:

Duke University School of Medicine

President, medical school class ‘88-90.
Member, Davison Council ‘88-90.
Member, Harwal Publishing Student Advisory Panel ‘88-91.
Member, Rural Health Coalition ‘89-91.
Volunteer, ‘89 Children’s Miracle Telethon.

Duke University Graduate School

Vice President, Graduate and Professional Student Council 85/86.
Departmental Representative, Graduate and Professional Student Council 84/85.

Linfield College

Founding Chairman, Linfield Science Colloquium 81/82 and 82/83.
Author, Marsh White Grant Application to American Physical Society ‘83 (awarded).
Member, Linfield Putnam Examination Team ‘82. (National Mathematics Competition).
Teaching Assistant, Linfield College General Physics 82/83; 10 hrs/wk .
Full-time employment, Oregon State Hospital — all three undergraduate years

Community Activities:

PADI Master Scuba Diver Trainer teaching Rescue Diver courses and leading travel groups
Frequent Speaker, Alamo Breast Cancer Foundation, San Antonio, TX
Grant Reviewer, DoD Breast Cancer Research Program
Advisory Board, Cure Magazine
Participant, Vulcan Fun Shoot, San Antonio, TX
Invited Program Participant, World Science Fiction Conferences
Los Angeles; Chicago; Montreal
Cleveland Film Society, Board of Directors, Cleveland, OH
Team Manager, Destination Imagination, Cleveland Heights, OH
Head Coach, Pee Wee T-ball team, Cleveland Heights, OH
Participating Parent, Parade the Circle Festival, Cleveland Heights, OH
Den Leader, Tiger Cubs, Cleveland Heights, OH
Participant, Susan G. Komen Foundation 5k Run, Cleveland, OH
The Gathering Place, Professional Advisory Board, Cleveland, OH

Research Interests:

Medical applications of advanced technology: robotics, stereotactic body radiotherapy, high-dose-rate brachytherapy, inverse treatment planning, genomics, surface-image guidance. Clinical trials for tumors of the breast, musculoskeletal system, and central nervous system in adults and children. Internet-based medical applications. Quantitative modelling to project clinical activities as a guide for business planning. Clinical applications of surface-image-guidance and Tumor-Treating Fields.

Personal Interests:

Scuba (Master Scuba Diver Trainer), writing, general aviation, mountaineering, Go (Asian board game), sporting clays.

Awards:

"Top Doctors," San Antonio Magazine 2020, and multiple prior years

"Top Doctors," Castle Connolly 2020, and multiple prior years

"Super Doctors," Texas Monthly 2020, and multiple prior years

"President's Clinical Excellence Award 2017," Univ. of Texas Health Science Ctr San Antonio

"The Best Doctors for Women – Coast to Coast," Ladies Home Journal, April 2002.

"America's Top Doctors," Redbook, October 2001.

Selected Publications:

Books:

1. Hematology Oncology Clinics of North America. "Brachytherapy," Richard L. Crownover, Ph.D., M.D., Guest Editor. Volume 13, Number 3, June 1999.

Papers:

1. "Rotational Spectroscopy of DO_2 by FIR LMR and Millimeter-Wave Absorption," Trevor J. Sears, Gerald A. Takacs, Carleton J. Howard, Richard L. Crownover, Paul Helminger and Frank C. De Lucia, J. Mol. Spectrosc. 118: 103-120 1986.

2."Study of the ν_3 and $2\nu_3 \leftarrow \nu_3$ Bands of $^{12}CH_3F$ by Infrared Laser Sideband and Submillimeter-Wave Spectroscopy," Sang K. Lee, R. H. Schwendeman, Richard L. Crownover, David D. Skatrud and Frank C. De Lucia, J. Mol. Spectrosc. 123: 145-160 1987.

3."Millimeter and Submillimeter-Wave Spectrum of the ONO' Bending Mode (ν_7) in Nitric Acid," Randy A. Booker, Richard L. Crownover, Frank C. De Lucia and Paul Helminger, J. Mol. Spectrosc. 128: 62-67 1988.

4."Millimeter and Submillimeter-Wave Spectrum of the NO' Stretching Mode (ν_6) in Nitric Acid," Randy A. Booker, Richard L. Crownover, Frank C. De Lucia and Paul Helminger, J. Mol. Spectrosc. 128: 306-308 1988.

5."Very Low Temperature Spectroscopy: the Pressure Broadening Coefficients for CO-He Between 4.2 K and 1.7 K," Daniel R. Wiley, Richard L. Crownover, D. N. Bittner, and Frank C. De Lucia, J. Chem. Phys. 89: 1923-1928 1988.

6. "The Laboratory Millimeter- and Submillimeter-Wave Spectrum of CH_3OD," Todd Anderson, Richard L. Crownover, Eric Herbst and Frank C. De Lucia, Astrophys. J. Suppl. Ser. 67: 135-148 1988.

7."The Rotational Spectrum of Nitric Acid: the First Five Excited Vibrational States," Richard L. Crownover, Randy A. Booker, Frank C. De Lucia and Paul Helminger, J. Quant. Spectrosc. Radiat. Transfer 40(1): 39-46 1988.

8."Very Low Temperature Spectroscopy: the Pressure Broadening Coefficients for CH_3F Between 4.2 K and 1.9 K," Daniel R. Willey, Richard L. Crownover, D. N. Bittner, and Frank C. De Lucia, J. Chem. Phys. 89: 6147-6149 1988.

9. "The Submillimeter-Wave Spectrum of $^{16}O^{18}O$," Richard L. Crownover, Frank C. De Lucia, and Eric Herbst, The Astrophysical Journal 349: L29-L31 January 20, 1990.

10."Frequency Stability and Reproducibility of Optically Pumped Far Infrared Lasers," Richard L. Crownover, Henry O. Everitt, Frank C. De Lucia, and David D. Skatrud, Appl. Physics Letters, 57(27): 2882-2884, 1990.

11. "Potency Following High Dose Three Dimensional Conformal Radiotherapy for Prostate Cancer and Impact of Prior Urologic Surgery on Outcome," Daniel M. Chinn, John Holland, Richard L. Crownover, and Mack Roach III, IJROBP 33(1): 15-22, 1995.

12."Flutamide Induced Liver Toxicity Including Fatal Hepatic Necrosis, " Richard L. Crownover, John Holland, Anita Chen, Richard Krieg, Brenda K. Young, Mack Roach III, and K. K. Fu IJROBP 34(4): 911-915, 1996.

13."Torsional Splitting in the ν_9 Band of Nitric Acid," Christopher D. Paulse, Laurent H. Coudert, Thomas M. Goyette, Richard L. Crownover, Paul Helminger, and Frank C. De Lucia, J. Mol. Spectrosc. 177: 9-18, 1996.

14."Double Resonance Measurements of Far Infrared Lasing Transitions in Methanol," I. Mukhopadhyay, KVLN Sastry, Richard L. Crownover, Frank C. De Lucia, Infrared Physics and Technology 38: 107-111, 1997.

15.“Palliative Response to Radiotherapy in a Patient with Hypercalcemia Caused by Metastatic Adamantinoma,” Janice A. Lyons, George T. Budd, and Richard L. Crownover, Sarcoma 3: 33-35, 1999.

16.“Efficacy and Clinical Utility of a Mobile Conformal Breast Shield Designed to Reduce Scattered Radiation to the Contralateral Breast,” Roger M. Macklis, Richard L. Crownover, Beth Ann Overmoyer, Joseph Crowe, Jason Sohn, and Twyla Willoughby, Am J Clin Oncol 22(4): 419-425, 1999.

17. “Sub-Unity Shift with Fourier Transform to Achieve Efficient and Quality Three Dimensional Medical Image Interpretation,” Qin-Sheng Chen, Richard Crownover, and Martin S. Weinhous, Medical Physics 26(9): 1776-1782, 1999.

18.“Successful Breast Conservation in a Patient with Epidermolysis Bullosa Simplex,” Janice A. Lyons, Todd E. Schlesinger, Michael D. Smith, Charles Camisa, James M. Turner, Joseph Crowe, and Richard L. Crownover, The Breast Journal 5(6): 404-406, 1999.

19.“Successful Conversion from a Linear Accelerator-Based Program to a Gammaknife Radiosurgery Program: The Cleveland Clinic Experience,” J H Suh, GH Barnett, DW Miller, RL Crownover, TR Willoughby, MS Weinhous, PA Barrett, and RM Macklis, Stereotactic and Functional Neurosurgery 72 (suppl 1): 159-167, 1999.

20.“Response to Comment on ‘Sub-Unity Shift with Fourier Transform to Achieve Efficient and Quality Three Dimensional Medical Image Interpretation’,” Qin-Sheng Chen, Richard Crownover, and Martin S. Weinhous, Medical Physics 27(4): 821-822, 2000.

21. “Treatment and Prognosis of Primary Breast Lymphoma: A Review of 14 Cases.” Janice A. Lyons, Jonathan Myles, Brad Pohlman, Joseph Crowe, and Richard L. , Am. J. Clin. Oncol. 23(4): 334-336, 2000.

22.“Phase II Trial of Liposomal Doxorubicin (Doxil) in Advanced Soft-Tissue Sarcomas,” T Chidiac, GT Budd, R Pelley, K Sandstrom, D McLain, P Elson, R Crownover, K Marks, G Muschler, M Joyce, R Zehr, and R Bukowski, Investigational New Drugs 18: 253-259, 2000.

23.“Effect of Low-Dose Donor Radiation on Acute Rejection of Composite Limb Allografts,” S. Ayhan, C. Tugay, S. Porvasnik, R. Crownover, M Siemionow, Transplant Proc 32(3): 588-590, 2000.

24. “Results of whole brain radiotherapy in patients with brain metastases from breast cancer: a retrospective study,” Mahmoud-Ahmed AS. Suh JH. Lee SY. Crownover RL. Barnett GH. IJROBP 54(3):810-817, 2002.

25.“Initial Evaluation of CyberKnife Technology for Extracorporeal Renal Tissue Ablation,” LE Ponsky, RL Crownover, MJ Rosen, RF Rodebaugh, EA Castilla, J Brainard, EE Cherullo, AC Novick, Urology 61(3): 498-501, 2003.

26.“Stereotactic Radiosurgery for Lung Tumors – Preliminary Report of a Phase I Trial,” RI Whyte, R Crownover, MJ Murphy, DP Martin, TW Rice, MM DeCAmp Jr, R Rodebaugh, MS Weinhous, QT Le, Annals of Thoracic Surgery. 75(4):1097-101, 2003.

27."Dosimetric Impacts of Gantry Angle Misalignment on Prostate Cancer Treatment Using Helical Tomotherapy," FC Shu, C Shi, R Crownover, G Swanson, N Papanikolaou, Technol Cancer Res Treat. 7(4): 287-293, 2008.

28."Asessing Four-Dimensional Radiotherapy Planning and Respiratory Motion-Induced Dose Difference Based on Biologically Effective Uniform Dose," FC Shu, C Shi, P Mavroidis, V Goytia, R Crownover, P Rassiah-Szegedi, N Papanikolaou, Technol Cancer Res Treat. 8(3): 187-200, 2009.

29."Tradeoffs for Assuming Rigid Target Motion in MLC-Based Real Time Target Tracking Radiotherapy: a Dosimetric and Radiobiological Analysis," T Roland, C Shi, Y Liu, R Crownover, P Mavroidis, N Papanikiolaou, Technol Cancer Res Treat. 9(2): 199-210, 2010.

30."Clinical Evaluation of an Immobilization System for Stereotactic Body Radiotherapy Using Helical TomoTherapy," AN Gutierrez, S Stathakis, RL Crownover, C Esquivel, C Shi, N Papanikolaou, Journal of Medical Dosimetry 36(2): 126-129, 2010.

31. “On the Dosimetric Quantification of Target Dose Compactness in Liver SBRT Planning Using Dual Photon Energy IMRT,” J Henry, C Moreno, RL Crownover, D Baacke, N Papanikolaou, AN Gutierrez, Medical Physics (submitted for publication 2015).

32. “Zoledronic Acid Therapy for Recurrent Giant Cell Tumor of the C2 Vertebra in an Adolescent,” V Bartanusz, M Ziu, DF Jimenez, RL Crownover, AM Langevin, Spine Journal 15(8): 1886-1887, 2015.

33. “p53-Based Strategy to Reduce Hematological Toxicity of Chemotherapy: A Proof of Principle Study,” CS Ha, JE Michalek, R Elledge, KR Kelly, S Ganapathy, H Su, CA Jenkins, A Argiris, R Swords, TY Eng, A Karnad, RL Crownover, GP Swanson, M Goros, BH Pollock, Z Yuan, Molecular Oncology 10(1): 148-156, 2016.

34. “On the Dosimetric Quantification of Target Dose Compactness in SBRT Liver Planning Using Dual Photon Energy IMRT,” J Henry, C Moreno, RL Crownover, D Baacke, N Papanikolaou, AN Gutierrez, Journal of Radiosurgery and SBRT, January 2016.

Book Chapters:

1. “Preface,” Richard L. Crownover, Ph.D., M.D., Hematology/Oncology Clinics of North America 13(3): xi-xii, 1999.

2. “The Basic Science of Brachytherapy: Physics and Radiobiology” Richard L. Crownover, Ph.D., M.D., Allan Wilkinson, Ph.D., and Martin S. Weinhous, Ph.D., Hematology/Oncology Clinics of North America 13(3): 477-488, 1999.

3. “Brachytherapy in the Treatment of Soft-Tissue Sarcomas,” Richard L. Crownover, Ph.D., M.D. and Kenneth Marks, M.D., Hematology/Oncology Clinics of North America 13(3): 595-608, 1999.

4. “Recent Advances in the Treatment of Skull Base Tumors Using Radiation,” GH Barnett, JH Suh, RL Crownover, Neurosurg Clin N Am 11(4): 587-596, 2000.

5. “Extracranial Stereotactic Radioablation,” Richard L. Crownover, Daniel Garwood, “Textbook of Radiation Oncology, second edition,” ed. Leibel/Phillips, Saunders, pp 1639-1649, 2004.

6.“Stereotactic Radiosurgery of the Spine,” WE McCormick, MP Steinmetz, AJ Hamilton, R Crownover, IH Kalfas, EC Benzel, “Spine Surgery Techniques, Complication Avoidance, and Management, second edition, edition,” ed. EC Benzel, Elsevier, pp 1788-1796, 2005.

Selected and Recent Abstracts:

1.“Initial Results With High-Dose-Rate Brachytherapy for Soft-Tissue Sarcomas,” RL Crownover, KE Marks, RJ Zehr, EJ Lee, GF Muschler, MJ Joyce, P Lavertu, GT Budd, Sarcoma 1(4): 196, 1997.

2.“Introduction of a Web-based International Musculoskeletal Tumor Registry,” RL Crownover, A Bhatia, PWT Pisters, FR Eilber, P Picci, I Spiro, and F Coevorden, Sarcoma 1(4): 206, 1997.

3."Motion detection and prediction with fluoroscopy and visible-light video to improve lung tumor radiotherapy," Chen QS, Weinhous MS, Crownover RL, Ciezki JP, Greskovich J, Hong LR, and Macklis RM, Medical Physics, Vol.26(6): S1118, 1999.

4. “Radiation Therapy of a Moving Target: Traditional Versus Dynamically-Gated Treatment,” K Sharma, WS Newman, MS Weinhous, RL Crownover, and RM Macklis, IJROBP 45(3): S426, 1999.

5.“Phase I/II High-Dose Tamoxifen Dose Escalation Study in Combination With Reduction of Thyroid Hormone Levels in Failed Malignant Glioma Patients,” AA Hercbergs, LK Goyal, JH Suh, CA Reddy, B Cohen, GHJ Stevens, S Reddy, RL Crownover, P Elson, and GH Barnett, Proc. Of the American Assoc. for Cancer Research 41: 258, 2000.

6. Analysis of Out of Field Scatter Dose as a Function of Depth, Off Axis Distance, Beam Modulation, and Beam Energy as it Relates to Breast Irradiation,” S. Rodriguez, C. Esquivel, R. Crownover, and N. Papanikolaou, 2008 Sep. p. S425. (27th ESTRO Annual Meeting, Göteborg, Sweden, Sep 2008; vol. 88, no. 2).

7. “Evaluation on Lung Cancer Patients’ Four-dimensional Treatment Plans Utilizing Biologically Effective Uniform Dose.,” Su F, Shi C, Mavroidis P, Goytia V, Crownover RL, Rassiah-Szegedi P, Baltas D, Papanikolaou N, 2009 Sep. (World Congress in Medical Physics and Biomedical Engineering, Munich, Germany, Sep 2009).

8. “Inter-Fractional Setup Accuracy of the Body Pro-Lok™ System for Hypo-Fractionated Liver Radiotherapy Using Novalis Tx™ ,” Gutiérrez AN, Stathakis S, Crownover RL, Esquivel C, Papanikolaou N, 2011 Aug. (Medical Physics).

9. “Small Field SRS/SBRT Patient Specific QA at Extended SSD,” Stathakis S, Mavroidis P, Esquivel C, Myers, P, Li Y, Crownover RL, Papanikolaou N, 2013 Aug. p. 100. (Medical Physics; vol. 40).

10. “SRT/SBRT Patient Specific QA with a New High Resolution 2D Detector Array,” Stathakis S, Mavroidis P, Markovic, M, Esquivel C, Myers, P, Crownover RL, Li Y, Papanikolaou N, 2013 Aug. (Medical Physics; vol. 40, no. 256).

11. “Analysis of Two Overall Biological Effective Dose (OBED) Calculation Methods and Their Impact On the Accurate Determination of the Maximum Biological Effective Dose (BED) in Multi-Phase Treatment Plans.” Kauweloa, K, Papanikolaou N, Stathakis S, Esquivel C, Crownover RL, Mavroidis P, 2013 Aug. p. 370. (Medical Physics; vol. 40).

12. “Daily Fraction Dose Recalculation Based On Rigid Registration Using Cone Beam CT,” Bosse C, Tuohy R, Mavroidis P, Shi Z, Crownover RL, Papanikolaou N, Stathakis S, 2014 Jun. (Med Phys; vol. 41, no. 244).

13. “Comparison of Two Commercially Available Programs for the Evaluation of Delivered Daily Dose Using Cone Beam CT (CBCT),” R Tuohy, C Bosse, P Mavroidis, Z Shi, RL Crownover, N Papanikolaou, S Stathakis, 2014 Jun. (Med Phys; vol. 41, no. 242).

14. “An Initial Evaluation of Automated IMRT Planning Compared to Manual Forward Planning IMRT for Breast Tangent Irradiation,” Kuchta A, Baacke D, Crownover RL, Shi Z, Gutierrez AN, Papanikolaou N, Stathakis S, 2015 Jun. (Medical Dosimetry).

15. “Flattening Filter Free Beams for Head and Neck IMRT and VMAT Optimization.,” Ghahremani S, Chavez R, Li Y, Crownover R, Baacke D, Papanikolaou N, Stathakis S, 2015 Jun. p. 3434-3434. Med Phys; vol. 42(6): 3434, 2015.

16. “A Systematic Analysis of Mono-Isocentric Techniques for the Treatment of Multiple Metastasis.,” Papanikolaou N, Narayanasamy G, Stathakis S, Pappas E, Kirby N, Mavroidis P, Crownover R, Gutierrez A, Med Phys; vol. 42(6) June 2015.

17. “Dose-Volume Toxicity Analysis of Stereotactic Body Radiation Therapy for Hepatocellular Carcinoma,” Bergamo A, Kauweloa K, Daniels J, Crownover RL, Mavroidis P, Papanikolaou N, Gutierrez AN, 2015 Aug. (Medical Physics; vol. 42, no. 8).

18. “Comparison of Collapsed Cone Convolution Superposition and Monte Carlo Dose Calculations for Spine SBRT Dose,” H Parenica*, J Rembish, D Saenz, K Rasmussen, N Kirby, Z Shi, Y Li, M Fakhreddine, R Crownover, C Ha, N Papanikolaou, S Stathakis, AAPM June 2018

19. “Dosimetric Comparison of Accelerated Whole Breast Irradiation with Hypofractionated Simultaneous Integrated Boost vs Conventionally Fractionated Whole Breast Irradiation and a Sequential Boost with Deep-Inspiration Breath Hold,” D Stanley*, A Alexandrian, D Trongaard, J Lee, N Papanikolaou, Z Shi, R Crownover, N Kirby, AAPM June 2018

20. “Design of a Real Time Online Tracking Solution for HDR Inventory,” N Astorga, K Rasmussen, N Kirby, J Roring, S Stathakis, D Saenz, R Crownover, N Papanikolaou, R George, AAPM June 2018

21. “Dosimetric Assessment of Spine SRS with the Brainlab Elements Treatment Planning System,” D Saenz*, P Papanikolaou, N Kirby, S Stathakis, K Rasmussen, R Crownover, J Floyd, AAPM June 2018

22. “Is Monte Carlo Necessary for Intra-Cranial Stereotactic Radiosurgery?,” J Rembish, D Saenz, P Mavroidis, R Crownover, P Myers, N Papanikolaou, S Stathakis, AAPM June 2018

23. "Dynamic Conformal Arc Therapy for Lung and Liver SBRT," S Stathakis, A Licon, D Saenz, N Kirby, K Rasmussen, R Crownover, Y Li, P Mavroidis, N Papanikolaou, AAPM June 2018

24. "The Effect of Dose Inhomogeneity On Sarcoma HDR Treatments," N Bassiri, E Galvan, R Crownover, M Fakhreddine, N Papanikolaou, D Saenz, S Stathakis, N Kirby, K Rasmussen, AAPM 2018

25. "Is Surface Imaging Practical for 4D Gating On Animal Patients: A Feasibility Study," J McCulloch, K Rasmussen, J Roring, C Kabat, D Stanley, A Licon, R Crownover, Z Shi, N Kirby, D Saenz, S Stathakis, N Papanikolaou, AAPM June 2018

26. "Systemic Therapy as a Prognosticator in Patients Receiving Radiosurgery for Lung Cancer," Wandrey N., Seddo,F., Pawlowski, J., Li,Y., Crownover, R., , Fakhreddine, M., (Abstract for Multidisciplinary Thoracic Cancer Symposium Meeting 3/2019; Submitted 9/2018).

27. "Systemic Therapy as a Prognosticator in Patients Receiving Radiosurgery for Melanoma," Seddo, F., Wandrey N., Crownover, R. , Fakhreddine, (Abstract for Radiosurgery Society Meeting 3/2019; Submitted 9/2018).

Selected Presentations:

National / International Invited Lectures:

1. "Patient Selection Among a Variety of Conformal Platforms: CyberKnife, MIMIC, Gammaknife," Richard L. Crownover, Ph.D., M.D., International Symposium on Intensity Modulated Radiotherapy, Brussels Belgium, June 9, 2000.

2."Dynamic Radiosurgery of Lung Tumors using the CyberKnife," Richard L.Crownover, M.D., Ph.D., Department of Radiation Oncology, Royal Marsden Hospital, Sutton, United Kingdom, September 25, 2000.

3."Cancer Treatment with the CyberKnife: Recent Experience and Future Directions," Richard L. Crownover, M.D., Ph.D., Thirty-eigth Annual Meeting of the Japanese Society of Clinical Oncology, Sendai City, Japan, October 22, 2000.

4. "Dynamic Conformal Radiotherapy Using the CyberKnife," Richard L. Crownover, M.D., Ph.D., 3rd Takahashi Memorial International Workshop on 3 Dimensional Conformal Radiotherapy, Nagoya, Japan, December 8, 2001.

5."Dynamic Radiosurgery During Relaxed Breathing Using the CyberKnife," Richard L. Crownover, M.D., Ph.D., First Annual Extracranial Stereotactic Radioablation Symposium, Niagara, Ontario, Canada, May 12, 2002.

6. " Lung, Non-Gating," Richard L. Crownover, M.D., Ph.D., Worldwide CyberKnife User's Meeting, Napa CA, November 15, 2002.

7. "Radiosurgery: Standards of Care," Richard L. Crownover, M.D., Ph.D., Worldwide CyberKnife User's Meeting, Napa CA, November 16, 2002.

8. “Stereotactic Radioablation: Basic Radiobiology, Normal Tissue Tolerances, and Benign Tumors,” Richard L. Crownover, M.D., Ph.D., International Symposium for Spinal Radiosurgery, Washington DC, April 11, 2003.

9. “Management of Early-Stage Breast Cancer,” Richard L. Crownover, Ipsogen management team and technical staff, Marseille, France, September 14, 2004.

10. “Stereotactic Body Radiotherapy,” Richard L. Crownover, Institute Paoli-Calmette, Marseille, France, September 14, 2004.

11. “Novalis Radiosurgery,” Richard L. Crownover, First Congress of the Korean Radiosurgical Society, Seoul Korea, March 25, 2005.

12. “Ablative Techniques Are They Ready for Prime Time: Radiosurgery,” Richard L. Crownover, Fourth International Kidney Cancer Symposium, Chicago IL, October 21, 2005.

13. "Radiosurgery and Stereotactic Body Radiotherapy," Richard L. Crownover, 33rd Annual San Antonio Breast Cancer Symposium, San Antonio, TX December 8, 2010.

14. "Liver Cancer SBRT," Richard L. Crownover, State of the Art Techniques: IMRT, IGRT, SBRT," Las Vegas NV, March 13, 2011.

15. "Upper Abdomen Case Panel," Karyn A. Goodman, Edgar Ben-Josef, Richard L. Crownover, James Balter, State of the Art Techniques: IMRT, IGRT, SBRT," Las Vegas NV, March 13, 2011.

16. "Role of Medical Imaging in Radiation Oncology," Richard L. Crownover, International Society of Nuclear Medicine 2011 Annual Meeting, San Antonio TX, June 4, 2011.

17. “SBRT for Liver Tumors,” Richard L. Crownover, AAMD 38th Annual Meeting, San Antonio TX June 19, 2013.

18. “Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT,” Richard L. Crownover, Fudan University Cancer Hospital, Shanghai China, January 17, 2018.

19. “Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT,” Richard L. Crownover, Peking University Cancer Hospital, Beijing China, January 19, 2018.

20. “Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT,” Richard L. Crownover, 4th. Curso Internacional de Radioterapia ABC, Centro de Cancer ABC, Mexico City Mexico, August 26, 2019.

21. “Evolving Opportunities to Personalize Radiation Decisions,” Shenzhen People’s Hospital, Shenzhen, China, January 10, 2020.

22. “Is Breast Conservation Actually Superior to Mastectomy for Early-Stage Disease?” Asian Breast Diseases Association, Hong Kong, China, January 12, 2020.

23. “Patient Selection for Omitting Radiotherapy and Combining Radiotherapy with Immunotherapy in Oligometastatic Breast Cancer,” Best of SABCS Central America and Caribbean, ACOMED, San Jose, Costa Rica, February 1, 2020.

Additional Presentations:

1."Rotational Energy Levels and Pressure Broadening of $^{12}CH_3F$ in its Ground and ν_3 Excited Vibrational States," Richard L. Crownover, David D. Skatrud and Frank C. De Lucia, Fortieth Symposium on Molecular Spectroscopy, The Ohio State University, 1985.

2."Frequency Measurement of FIR Lasing Transitions," Richard L. Crownover, David D. Skatrud, K. V. L. N. Sastry and Frank C. De Lucia, Forty-First Symposium on Molecular Spectroscopy, The Ohio State University, 1986.

3."Rotational Spectroscopy of the Excited Vibrational States of HNO_3," Richard L. Crownover, R. A. Booker, P. Helminger and F. C. De Lucia, Forty-Second Symposium on Molecular Spectroscopy, The Ohio State University, 1987.

4."Millimeter and Submillimeter Spectroscopy of Small Internal Rotors," T. Anderson, Richard L. Crownover, S. L. Shostak, E. Herbst and F. C. De Lucia, Forty-Second Symposium on Molecular Spectroscopy, The Ohio State University, 1987.

5. "Gas Phase Spectroscopy in a Collisionally Cooled Cell Near 4K," D. Willey, Richard L. Crownover and F. C. De Lucia, Forty-Second Symposium on Molecular Spectroscopy, The Ohio State University, 1987.

6."Passive Imaging with a Broadband Cooled Detector," Richard L. Crownover, Donald N. Bittner, Shelley L. Shostak and Frank C. De Lucia, Twelth International Conference on Infrared and Millimeter Waves, Orlando FL, 1987.

7."Pressure Effects On the Frequency of Optically Pumped Far Infrared Lasers," David D. Skatrud, Richard L. Crownover and Frank C. De Lucia, Thirteenth International Conference on Infrared and Millimeter Waves, Honolulu HI, 1988.

8."Characterization of a Familial Dominant Lipodystrophy," Richard L. Crownover, Kathy Schwarzenberger, Mark N. Feinglos, Department of Medicine Grand Rounds, Duke University Medical Center, Durham NC, May 1992.

9."Treatment of Acoustic Neuroma with External Beam Radiotherapy: Relative Incidence of Complications and Updated Efficacy Results," Richard L. Crownover, William W. Wara, David A. Larson, International Congress of Radiation Oncology 1993, Kyoto Japan, 1993.

10."Preliminary Clinical Experience With Planar and Conformal Microwave Array Applicators for Hyperthermia," Paul R. Stauffer, Richard L. Crownover, Chris J. Diederich, Patricia K. Sneed, J. A. Fidel, and Theodore L. Phillips, Fourteenth Annual Meeting of the North American Hyperthermia Society, Nashville TN, 1994.

11. "Radiation Treatment of Breast Cancer: Indications and Techniques," Richard L. Crownover, Cleveland Clinic Foundation Breast Center, Cleveland OH, January 1996.

12. "Radiotherapy for Cutaneous Lesions," Richard L. Crownover, Dermatology Grand Rounds, Cleveland Clinic Foundation, Cleveland OH, March 1996.

13."Issues in Designing and Delivering X-Ray Treatments for Breast Cancer, " F. Christopher Deibel, Martin S. Weinhous, Richard L. Crownover, Ohio State Radiological Society, Columbus OH, May 1996.

14. "Management of Soft-Tissue Sarcomas," Richard L. Crownover, Radiation Therapy Students and Technologists, Cleveland Clinic Foundation, Cleveland OH, July 10, 1996.

15. "Adjuvant Radiation Therapy for Breast Cancer: New Techniques and Treatment Planning," Richard L. Crownover, Breast Disease Update CME course, The Cleveland Clinic Foundation, Cleveland OH, October 30, 1996.

16. "Radiation Treatments for Early Stage Breast Cancer," Richard L. Crownover, The Cleveland Clinic Breast Center, November 18, 1996.

17. "Radiation Therapy for Multiple Myeloma," Richard L. Crownover, The Cleveland Clinic Cancer Center Experimental Therapeutics Program and Sandoz Pharmaceuticals, Cleveland OH, December 3, 1996.

18."Clinical Startup of the Cyberknife Radiosurgery Treatment System," Greg Glosser, Richard L. Crownover, Roger Macklis, Ohio State Radiological Society, Cleveland OH, May 10, 1997.

19."The Use of a Mobile Counterweighted Lead Shield for Reducing Scatter to the Contralateral Breast," TR Willoughby, J. Sohn, Richard L. Crownover, S. Hood-Hanks, M. Weinhous, R. Macklis, Ohio State Radiological Society, Cleveland OH, May 10, 1997.

20."Application of Lung Density Corrections to Treatment Planning for Whole Breast Irradiation," D.A. Wilkinson, Richard L. Crownover, R. Macklis, Ohio State Radiological Society, Cleveland OH, May 10, 1997.

21."Initial Clinical Experience With the Gammaknife," JH Suh, GH Barnett, DW Miller, M Weinhous, T Willoughby, R Crownover, R Macklis, Ohio State Radiological Society, Cleveland OH, May 10, 1997.

22."Primary Breast Lymphoma," Janice A. Lyons, Richard L. Crownover, Cleveland Clinic Breast Center Retreat, Cleveland OH, May 14, 1997.

23."Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, June 18, 1997.

24. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, September 4, 1997.

25."Introduction of a Web-Based International Musculoskeletal Tumor Registry," Crownover RL, Bhatia A, Pisters PWT, Eilber FR, Picci P, Spiro I, Van Coevorden, CTOS 3rd Annual Scientific Meeting, Milan Italy, November 8, 1997.

26."Initial Results With High-Dose-Rate Brachytherapy for Soft-Tissue Sarcomas," Crownover RL, Marks KE, Zehr RJ, Lee EJ, Muschler GF, Joyce MJ, Lavertu P, Budd GT, CTOS 3rd Annual Scientific Meeting, Milan Italy, November 8, 1997.

27. "The CyberKnife: Commissioning, Quality Assurance, and Evolution," Gregory D. Glosser, Richard L. Crownover, Martin S. Weinhous, F. Christopher Deibel, Roger M. Macklis, LINAC Radiosurgery - 1997, Orlando FL, December 12, 1997.

28."Initial Clinical Experience with the CyberKnife for Intracranial Lesions," Richard L. Crownover, Gregory D. Glosser, Martin S. Weinhous, F. Christopher Deibel, Roger M. Macklis, Linda Murdock, Gene H. Barnett, David W. Miller, LINAC Radiosurgery - 1997, Orlando FL, December 12, 1997.

29. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, December 18, 1997.

30."Management of Breast Cancer: a Multimodality Overview," Richard L. Crownover, Department of Family Medicine City-Wide Grand Rounds, University Hospital, Case Western Reserve University, Cleveland OH, March 18, 1998.

31."Coding Issues With the CyberKnife and Peacock IMRT Systems," Richard L. Crownover, Cleveland Chapter of the American Academy of Professional Coders, Cleveland, OH, March 22, 1998.

32. "Leukocyte Activation Following Radiation Therapy," S. Porvasnik, R. Crownover, J. Zins, M. Siemionow, (submitted to Experimental Biology '98, San Francisco April 1998).

33. "Radiotherapy in the Treatment of Plasma Cell Dyscrasias," Richard L. Crownover, Multiple Myeloma: Disease Biology and Clinical Implications CME Course, The Cleveland Clinic Taussig Cancer Center, Cleveland OH, April 29, 1998.

34."Phase II Trial of Doxil in Advanced Soft Tissue Sarcomas," P. Elson, D. McLain, R. Crownover, K. Marks, G. Muschler, R. Zehr, M. Joyce, R. Bukowski, ASCO, Los Angeles CA, May 17, 1998

35. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, May 26, 1998.

36."Results of Gammaknife Radiosurgery for Trigeminal Neuralgia," John H. Suh, Gene H. Barnett, David W. Miller, Richard L. Crownover, Roger M. Macklis, RSNA 34th Scientific Assembly, Chicago IL, December 3, 1998.

37."Use of Bolus Material to Correct for Skull Deformity Associated with Superficial Recurrent Meningioma Treated with Gammaknife Radiosurgery," Gene H. Barnett, Richard L. Crownover, Martin Weinhous, Twyla Willoughby, and James Walsh, 9th International Meeting of the Leksell Gammaknife Society, Hong Kong, SAR November 11, 1998.

38."Successful Conversion From a Linear Accelerator-Based to a Gammaknife Radiosurgery Program: the Cleveland Clinic Experience," JH Suh, GH Barnett, DW Miller, RL Crownover, RM Macklis, 9th International Meeting of the Leksell Gammaknife Society, Hong Kong, SAR, November 11, 1998.

39. "Concomitant Administration of Doxil and Radiation Therapy in Multiple Myeloma Patients," MA Hussein, MA Saluan, L Wood, D McLain, R Crownover, RM Bukowski, ASCO, 1998.

40. “Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors,” Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, November 30, 1998.

41. “Early Experience with the CyberKnife for Intracranial Lesions,” Richard L. Crownover,Ph.D., M.D., Gregory D. Glosser, M.S., Martin S. Weinhous, Ph.D., Qin-Sheng Chen, Ph.D., Raymond F. Rodebaugh, M.A., F. Christopher Deibel, Ph.D., Roger M. Macklis, M.D., Linda Murdock, RTT, John H. Suh, M.D., David A. Miller, M.D., Gene H. Barnett, M.D. LINAC Radiosurgery - 1998, Orlando FL, December 11, 1998.

42. “Intensity Modulated Radiotherapy and CyberKnife Radiosurgery,” Richard L. Crownover, Ph.D, M.D., Neuro-Oncology Symposium: Current Concepts 1999, Naples FL, February 15, 1999.

43. “Peacock IMRT and Cyberknife Radiosurgery for Head/Neck Tumors,” Richard L. Crownover, Department of Otolaryngology, The Cleveland Clinic Foundation, February 22, 1999.

44. “Radiotherapy in the Management of Plasma Cell Tumors,” Richard L. Crownover, Radiation Therapy Students and Technologists, Cleveland Clinic Foundation, Cleveland OH, March 10, 1999.

45. “Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors,” Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, April 12, 1999.

46. “Cutaneous T-Cell Lymphoma: Mycosis Fungoides Versus Sezary Syndrome,” Richard L. Crownover, Cleveland Clinic Foundation Lymphoma Conference, April 14, 1999.

47. “Tissue Tolerances in Radiosurgery and Clinical Results Using IMRT and Cyberknife Radiosurgery for Lesions of the Central Nervous System,” Richard L. Crownover, Neurosurgery Grand Rounds, The Cleveland Clinic Foundation, Cleveland OH, May 3, 1999.

48."Motion Detection and Prediction with Fluoroscopy and Visible-Light Video to Improve Lung Tumor Radiotherapy," Chen QS, Weinhous MS, Crownover RL, Ciezki JP, Greskovich J, Hong LR, and Macklis RM, Forty-first Annual AAPM Meeting, Nashville TN, July 29, 1999.

49. “Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors,” Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, September 8, 1999.

50. “Advances in Radiotherapy for Acoustic Neuromas and Meningiomas,” Richard L. Crownover, Ph.D, M.D., Neuro-Oncology Symposium: Current Concepts 2000, Naples FL, February 10, 2000.

51. “CyberKnife Radiosurgery for Lung Tumors,” Richard L. Crownover, M.D., Ph.D., Cleveland Clinic Foundation Thoracic Conference, September 13, 2000.

52. “Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors,” Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, October 17, 2000.

53. “CyberKnife Radiotherapy: Clinical Experience and Future Directions,” Richard L.Crownover, M.D., Ph.D., Taussig Cancer Center Grand Rounds, Cleveland OH, November 17, 2000.

54.“CyberKnife Radiosurgery for Mobile Extracranial Targets ,” Richard L. Crownover, M.D., Ph.D., Raymond F. Rodebaugh, Ph.D., Martin S. Weinhous, Ph.D., Qin-Sheng Chen, Ph.D., Roger Macklis, M.D., Greg Glosser, M.S., James Wang, Ph.D., Mohan Bodduluri, Ph.D., Fourth Stereotactic Body Irradiation Meeting,Tokyo, Japan, February 5, 2001.

55. "Early Clinical Experience with the CyberKnife for Intracranial Lesions," Richard L. Crownover, M.D., Ph.D., Neuro-Oncology Symposium: Current Concepts 2001, Naples FL, February 17, 2001.

56. "CyberKnife Radiosurgery for Mobile Extracranial Targets," Richard L. Crownover, M.D., Ph.D., Dimensions in Cardiac Care, Cleveland OH April 2, 2001.

57. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Elekta Gammaknife Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, April 10, 2001.

58. "Radiotherapy for Breast Cancer: a Moving Target," Richard L. Crownover, M.D., Ph.D., Ductoscopy, Oncoplastics, Targeted Therapies… New Approaches to Breast Cancer and What They Mean to You, Cleveland OH May 2, 2001.

59."Dynamic Radiosurgery for Lung Tumors," Richard L. Crownover, M.D., Ph.D., Harvard Business School Global Alumni Reunion, Callahan Center for Robotics and Radiation Oncology, Cleveland OH, May 18, 2001.

60."CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Department of Radiology Grand Rounds, Yale University, New Haven CT, May 24, 2001.

61. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Department of Radiation Oncology Grand Rounds, Brigham and Womens Hospital, Cambridge MA, May 25, 2001.

62. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Department of Radiation Oncology Grand Rounds, Beth Israel Hospital, Boston MA, May 25, 2001.

63. "CyberKnife Radiosurgery: Intracranial and Extracranial Applications," Richard L. Crownover, M.D., Ph.D., Department of Radiation Oncology Grand Rounds, Dartmouth Medical Center, Lebanon NH, June 17, 2001.

64."Gammaknife Radiosurgery," Richard L. Crownover, M.D., Ph.D., Oncology Grand Rounds, Good Samaritan Hospital, Corvallis, OR, July 10, 2001.

65. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Fox Chase Cancer Center, Fox Chase, PA, September 19, 2001.

66. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, October 16, 2001.

67."CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., University of Alabama, Birmingham, AL, October 19, 2001.

68. "Radiotherapy for Renal Cell Carcinoma," Richard L. Crownover, M.D., Ph.D., Dealing with Renal Cell Carcinoma: A Day of Education and Support for Patients and Families" Kidney Cancer Association, Cleveland OH, November 17, 2001.

69. "Dynamic CyberKnife Radiosurgery in the Lung," Richard L. Crownover, M.D., Ph.D., Cleveland Clinic Foundation Thoracic Conference, Cleveland, OH, November 28, 2001.

70. "Update on Breast Tumors," Richard L. Crownover, M.D., Ph.D., ASTRO Review 2001, Independence, OH, December 5, 2001.

71. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Beth Israel Hospital, New York, NY, December 14, 2001.

72. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, December 20, 2001.

73. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., William Beaumont Medical Center, Detroit, MI, December 21, 2001.

74. "Platforms for Conformal Radiosurgery and Stereotactic Radiotherapy," Richard L. Crownover, M.D., Ph.D., Neuro-Oncology Symposium: Current Concepts 2002, Naples FL, February 2, 2002.

75. "CyberKnife Radiosurgery and Radiotherapy – Integration With Gammaknife Radiosurgery and Intensity-Modulated Radiotherapy Services," Richard L. Crownover, M.D., Ph.D., Brown University, Providence, RI, February 20, 2002.

76. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, April 17, 2002.

77. "Radiotherapy for Cutaneous Lesions," Richard L. Crownover, Dermatology Resident Conference, Cleveland Clinic Foundation, Cleveland OH, June 21, 2002.

78. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, August 7, 2002.

79. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, October 2, 2002.

80."Dynamic Radiosurgery by Tracking Moving Lung Tumors During Relaxed Breathing," Crownover, Richard L., Rodebaugh, Raymond, Weinhous, Martin, Meziane, Moulay, Graham, Ruffin, DeCamp, Malcolm, Murthy, Sudish, Whyte, Richard, Mehta, Atul, Rice, Thomas W, ASTRO 44th Annual Meeting, New Orleans LA, October 8, 2002.

81."Conservation Surgery and the Role of Radiation Oncology in Breast Cancer Care," Richard L. Crownover, M.D., Ph.D., The State of Breast Cancer Care in the CCHS: Best Practice Strategies, Cleveland OH, November 4, 2002.

82. "Management of Breast Cancer – ASTRO 2002," Richard L. Crownover, M.D., Ph.D., ASTRO Review 2002, Cleveland OH, November 7, 2002.

83. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, December 9, 2002.

84. "CyberKnife and IMRT Radiotherapy," Richard L. Crownover, M.D., Ph.D., Neuro-Oncology Symposium: Current Concepts 2003, Orlando FL, January 11, 2003.

85. "The Radiobiology and Technology of Radiotherapy," Richard L. Crownover, M.D., Ph.D., Pediatric Oncology Grand Rounds, Cleveland Clinic Foundation, Cleveland OH, February 26, 2003.

86."Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, March 13, 2003.

87. "CyberKnife Radiotherapy," Richard L. Crownover, M.D., Ph.D., Society of Professional Journalists Regional Convention/Medical Journalism Boot Camp, Cleveland OH, April 4, 2003.

88. "CyberKnife Radioablation," Richard L. Crownover, M.D., Ph.D., Sixty-Third Meeting Ohio Society of Radiological Technologists, Akron OH, April 26, 2003.

89. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, June 4, 2003.

90. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, September 25, 2003.

91."Extracranial Radioablation," Richard L. Crownover, M.D., Ph.D., 2003 Penn-Ohio Chapter of the American Association of Physicists in Medicine, Cleveland OH, September 27, 2003.

92. "Gammaknife Radiosurgery: Normal Tissue Tolerances and Benign Tumors," Richard L. Crownover, Gammaknife Radiosurgery Training Program, Cleveland Clinic Health System Gammaknife Center, Cleveland OH, January 8, 2004.

93. "Multidisciplinary Management of Breast Cancer," Joseph Crowe, Richard L. Crownover, Halle Moore, Alice Rim, David Weng, Multi-Disciplinary Management of Breast Cancer: Panel Discussion of Case Presentations, Cleveland OH, May 22, 2004.

94. "Radiotherapy for Breast Cancer," Richard L. Crownover, Astra-Zeneca Preceptorship, Cleveland OH, July 13, 2004.

95. "Introduction to Radiation Oncology," Richard L. Crownover, Clinical Lecture to Hematology-Oncology and Palliative Medicine Fellows, Cleveland Clinic Foundation, Cleveland, OH August 11, 2004.

96. "Introduction to the Novalis Radiotherapy Platform," Richard L. Crownover, Neurosurgery Grand Rounds, Cleveland Clinic Foundation, Cleveland, OH, September 10, 2004.

97. "Radiosurgery," Richard L. Crownover, Lung Cancer 2004: From Innovations to Standards – A Stage-Based Approach, Cleveland OH, September 18, 2004.

98. "Individualizing Radiotherapy for Breast Cancer," Richard L. Crownover, Taussig Leadership Board, Cleveland OH, November 30, 2004.

99. "Highly-Conformal Radiotherapy," Richard L. Crownover, Moffitt Cancer Center, Tampa FL, January 10, 2005.

100. "Update on Breast Cancer Radiotherapy," Richard L. Crownover, San Antonio Review Course, Cleveland OH, February 9, 2005.

101. "Latest Advances in Breast Radiotherapy," Richard L. Crownover, Women's Health Summit, Cleveland OH, April 16, 2005.

102."Radiotherapy in the Multidisciplinary Management of Breast Cancer: What You and Your Patients Can Expect," Richard L. Crownover, UTHSCSA Family Medicine Grand Rounds, San Antonio TX, October 19, 2007.

103."Radiotherapy in the Multidisciplinary Management of Breast Cancer," Richard L. Crownover, UTHSCSA Ob-Gyn Grand Rounds, San Antonio TX, December 12, 2007.

104."Palliative Radiotherapy," Richard L. Crownover, Geriatrics and Gerontology Grand Rounds, Veteran's Administration Hospital, San Antonio TX, March 10, 2008.

105."Multidisciplinary Breast Clinic," Richard L. Crownover, Cancer Therapy and Research Center Board Meeting, San Antonio TX, March 13, 2008.

106."Multidisciplinary Management of Breast Cancer," Richard L. Crownover, Breast & Cervical Cancer Services, San Antonio TX, April 11, 2008.

107."Radiotherapy for Skin Cancer," Richard L. Crownover, Texas Dermatologic Society, San Antonio TX, May 3, 2008.

108."Impact of Early Smoking on Subsequent Risk of Breast Cancer," J Choi, CD Fuller, RC Crownover, UTHSCSA Medical Student Research Program, San Antonio TX, September 8, 2008.

109."Mentor Selected Highlights," Richard L. Crownover, Susan Love, Steve Shak, Steffi Oesterreich, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 13, 2008.

110."Too Much, Too Little, or Just Right?" Richard L. Crownover, Highlights and Community Review of the 2008 San Antonio Breast Cancer Symposium, San Antonio TX, January 24, 2009.

111."Too Much, Too Little, or Just Right?" Richard L. Crownover, Aust Society Meeting, San Antonio TX June 19, 2009.

112."Radiation Oncology Emergencies," Richard L. Crownover, UTHSCSA Hospitalists Division Meeting, San Antonio TX, September 18, 2009.

113."Overview of Radiation Oncology," Richard L. Crownover, UTHSCSA Second Year Medical Students ICS Course, San Antonio TX, September 22, 2009.

114."Breast Clinical Correlation," Richard L. Crownover, UTHSCSA First Year Medical Student Anatomy Course, San Antonio TX, October 22, 2009.

115."Radiotherapy for Breast Cancer," Richard L. Crownover, CTRC Medical Oncology Fellows, San Antonio TX, November 10, 2009.

116."Dosimetric Evaluation of SBRT Treatment Plans for Dual Liver Lesions Using Helical Tomotherapy," Alonso N. Gutierrez , Richard L Crownover, Nikos Papanikolaou, RSNA Annual Conference 2009, Chicago IL, November 2009.

117."Mentor Selected Highlights," Richard L. Crownover, Steve Shak, TBN, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 12, 2009.

118."Radiotherapy for CNS Tumors," Richard L. Crownover, UTHSCSA Neurosurgery Residents, San Antonio TX, August 13, 2010.

119."Radiation Oncology 101," Richard L. Crownover, CTRC Medical Oncology Fellows, San Antonio TX, September 10, 2010.

120."Overview of Radiation Oncology," Richard L. Crownover, UTHSCSA Second Year Medical Students ICS Course, San Antonio TX, September 17, 2010.

121."The Cancer Therapy and Research Center Experience with Stereotactic Body Radiotherapy for Single or Multiple Hepatocellular Carcinoma Lesions Less than 5 cm in Greatest Dimension," Anna Marie Harris, Richard L. Crownover, et. al., RSNA 2010, Chicago IL, December 1, 2010.

122. "Mentor Selected Highlights," Richard L. Crownover, Jenny Chang, Steffi Osterreich, Steve Shak, TBN, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 11, 2010.

123. "Mentor Selected Highlights," Richard L. Crownover, Suzanne Fuqua, Eric Winer, Hyman Muss, Hope Rugo, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 11, 2011.

124. "Optimizing Treatment of Breast Cancer," Richard L. Crownover, Texas Radiological Society, San Antonio TX, March 2, 2012.

125. "Extracranial Radiosurgery," Rush University, Chicago IL, April 26, 2012.

126. "Radiotherapy Technology and Management of Brain Metastases," UTHSCSA Neurosurgery Grand Rounds, San Antonio TX, July 27, 2012.

127. "Mentor Selected Highlights," Richard L. Crownover, Eric Weiner, Steve Shak, Hope Rugo, Jenny Chang, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 11, 2012.

128. "Mentor Selected Highlights," Richard L. Crownover, Eric Weiner, Peter Ravdin, Jenny Chang, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 13, 2013.

129. "Mentor Selected Highlights," Richard L. Crownover, Hope Rugo, Virginia Kaklamani, Debu Tripathy, Steve Shak, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 12, 2014.

130. "Mentor Selected Highlights," Richard L. Crownover, Steve Shak, Douglas Yee, Judy Garber, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 11, 2015.

131. "Functional Radiotherapy," UTHSCSA Neurosurgery Grand Rounds, San Antonio TX, September 2, 2016.

132. "Mentor Selected Highlights," Richard L. Crownover, Virginia Kaklamani, Peter Ravdin, Hope Rugo, ABCF Hot Topics Mentor Session, San Antonio Breast Cancer Symposium, San Antonio TX, December 11, 2016.

133. "Evolving Radiation Practices," Richard L. Crownover, Alamo Breast Cancer Foundation, San Antonio, TX, February 11, 2017.

134. "Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT," Richard L. Crownover, Ancillary lecture, ESTRO 37, Barcelona, Spain, April 22, 2018.

135. "Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT," Richard L. Crownover, Ancillary lecture, JASTRO, Kyoto, Japan, October 11, 2018.

136. “Advanced Image-Guided Technology in Radiation Therapy: Positioning and Real Time IGRT,” Richard L. Crownover, Ancillary lecture, ASTRO, San Antonio TX, October 22, 2018.

137. “Advanced Image-Guided Technology in Radiation Therapy,” Richard L. Crownover, UTHSCSA Neurosurgery Grand Rounds, San Antonio TX, October 26, 2018.

138. “Evolving Practices in Radiation Oncology: Examples from San Antonio,” Richard L. Crownover, Mays Cancer Center Grand Rounds, San Antonio TX, October 26, 2018.

139. “Radiotherapy for Pediatric CNS Tumors,” Richard L. Crownover, UTHSCSA Neurosurgery Grand Rounds, San Antonio, TX, October 23, 2019.

140. “Basic Radiation Oncology Concepts and Illustrative Clinical Applications,” Neurosurgery Grand Rounds, San Antonio, TX, April 17, 2020.

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C A N D I D A T E
S U M M A R Y
RICHARD LYNN CROWNOVER, MD

Verification of License

Dr. Crownover informed us he is licensed as listed below. Internet and/or telephone verification on May 20, 2020 revealed the following information:

State	License No.	Issue Date	Expiration Date	Status	Disciplinary Action
CA	A 51941	05/24/1993	05/20/2020	Active	No
NC	35803	07/18/1992	07/20/1995	Inactive	No
OH	35.068612	06/09/1995	04/01/2009	Inactive	No
PA	MD427589	09/19/2005	12/31/2006	Active	No
TX - Temporary	41895	07/15/2007	07/15/2009	Inactive	No
TX	N1596	12/12/2008	11/30/2020		
DEA	BC3700007	-	08/31/2020	Active	-
NPI	1225238215	07/19/2007	Last updated: 03/05/2019		-
OIG	-	-	-	-	No

Board Certification

Dr. Crownover is certified as follows through the American Board of Radiology.
ABMSUID: 554761.

Radiation Oncology - General — Status: Certified

Status	Duration	Occurrence	Start Date - End Date	Reverification Date	Participating in MOC
Active	MOC	Recertification	01/01/2017 -	03/15/2021	Yes
Expired	Time-Limited	Recertification	10/06/2006 - 12/31/2016		
Expired	Time-Limited	Initial Certification	11/04/1996 - 12/31/2006		

CURRICULUM VITAE

NEELAKANTA DADI
3501 Champion Lake Blvd
#1112, Shreveport LA 71105
drdadi@gmail.com

EDUCATION:

2018-current	Louisiana State University Fiest Weiller Cancer Center	Fellow	Hematology Oncology
2010-2012	University of Utah	Resident	Medicine
2009-2010	University of Utah	Intern	Medicine
2003-2009	Royal College of Physicians, UK	MRCP(UK)	Medicine
1997-2003	Andhra Medical College	MBBS	Medicine
1995-1997	Andhra University		Biology

CERTIFICATION AND ELECTIONS

2017 Fellow of American College of Physicians
2012 American Board of Internal Medicine
2009 Member of Royal College of Physicians, London, UK

PRINCIPLE POSITIONS HELD:

2018-Current	Fellow in Hematology Oncology	LSU Health, Fiest Weiller cancer center
2017-2018	Assistant Prof. of Medicine	University of Mississippi Medical Center
2016- 2017	Adjunct Asst. Prof of Medicine	Indiana University School of Medicine
2013- 2017	Academic Hospitalist	Indiana University, Ball Memorial Hospital
2012-2013	Fellow in Nephrology	Henry Ford Hospital, Detroit
2009-2012	Resident	University of Utah School of Medicine
2007-2009	Clinical Instructor	Sheffield Teaching Hospitals, Sheffield, UK.
2003-2007	Senior House Officer	North Cumbria University Hospitals, Carlisle, UK

OTHER POSITIONS HELD CONCURRENTLY:

2017-2018	Preceptor, Foundations of Clinical Practice	University of Mississippi Medical School
2017- 2018	Co Chairman Practice Management	ACP Mississippi Chapter
2013- 2017	Faculty, Hospital Medicine Elective IU School of Medicine	IU Ball Memorial Hospital Graduate Medical Education and Hospitalist Dept.
2014- 2017	Preceptor, Foundations of Clinical Practice	IU School of Medicine, Indiana

HONORS AND AWARDS

2017	Fellow of American College of Physicians	American College of Physicians
2016	Teacher of the Year	GME, Ball Memorial Hospital, Muncie
2011	Best Poster presentation	ACP Clinical Meeting, Salt Lake City,
2010	Award of Resident Travel Grant	UT. American Society of Nephrology
2008	Mitchell Memorial Teaching Award	North Cumbria University Hospitals, UK.
2000	Gold Medal in ENT	Andhra Medical College, India

PROFESSIONAL ACTIVITIES

PEER REVIEW

1. JUDGING the American College of Physicians Mississippi 2017 chapter abstracts in basic research, clinical research and Clinical Vignette categories and selected the research to be presented at National ACP meeting
2. PUB PEER: Have reviewed and commented on the research published in PubMed through PUBPEER

QUALITY IMPROVEMENT

Petition to improve the Durable Medical Equipment documentation to ACP board of Reagents action committee.
TEAM LEADER Rapid Improvement event – Patient Centered Rounding
HEART FAILURE TEAM committee at IU Health Ball Memorial Hospital

PROFESSIONAL ORGANIZATIONS AND MEMBERSHIPS

American Society of Hematology
American Society of Clinical Oncology
American College of Physicians
American Medical Association
Royal College of Physicians, London, UK

RESEARCH

PUBLICATION

Impact of Nab- Paclitaxel based second line chemotherapy on outcomes of Pancreatic cancer. Anticancer Res. 2017 Oct;37(10):5533-5539.

TEACHING AND MENTORING

1. Foundations of Clinical Practice to IU School of Medicine
2. Bedside Clinical examination skills to 3rd and 4th Year medical students
3. Inpatient wards team attending service
4. Conducting morning reports and noon conferences for Internal medicine and Family medicine residents.
5. Longitudinal preceptor for the 1st and 2nd year medical students.

ABSTRACTS/POSTERS

1.Impact of Nab–Paclitaxel-based Second-line Chemotherapy in Metastatic Pancreatic Cancer N Dadi, M Stanley, S Shahda, BH O'Neil, A Sehdev.

Anticancer research 37 (10), 5533-5539

2.Outcomes of Salvage Autologous Stem Cell Transplantation in Relapsed Multiple Myeloma: A Meta-Analysis N Dadi, V Vosuri, SR Master, RP Mansour

Blood, The Journal of the American Society of Hematology 134 (Supplement_1 5699-5699

3.Impact of the research presented at the Gastrointestinal American Society of Clinical Oncology Meeting between 2013-2015. A Sehdev, N Dadi, DA Haggstrom, LG Koniaris, BH O'Neil Journal of Clinical Oncology 36 (4_suppl), 757-757

4. Impact of Nab- Paclitaxel based second line chemotherapy on outcomes of Pancreatic cancer, Gastro Intestinal American Society of Clinical Oncology meeting, Jan 2017. N Dadi, M Stanley, S Shahda, BH O'Neil, A Sehdev

ascopubs.org/doi/abs/10.1200/JCO.2017.35.4_suppl.483

5.Associations of Epworth Sleepiness Scale and cognitive function in Hemodialysis Population; Kidney Week 2012 San Diego CA. N Dadi MD, S Boddeda MD G Wei, R Filipowicz, N Dadi, Y Zhang, N E Almeida, Manjula Kurella Tamura, MD, Mark L. Unruh, MD, Tom Greene, PhD, T. Alp Ikizler, MD, FASN and S Beddhu.

https://www.asn-online.org/api/download/?file=/.../kidneyweek/.../KW12Abstracts.pdf

6. Role of adjuvant chemotherapy in small (≤5 mm) node-negative and hormone receptor-negative breast cancer. SR Master, N Dadi, C Shah, GV Burton, R Shi - 2019

https://ascopubs.org/doi/abs/10.1200/JCO.2019.37.15_suppl.e12021

7. Sleep apnea is an effect modifier of associations of diabetes on albuminuria and cardiovascular disease: National Health and Nutrition Examination Survey 2005-2008; NKF spring clinical meeting Las Vegas NV 2011. Neelakanta Dadi MD, Rebecca Filipowicz M, S Boddeda MD, Guo Wei MS, Mark Unruh MD Terrence Bhjordahl MD, Tom Greene, Srinivasan Beddhu MD

www.ajkd.org/article/S0272-6386(11)00162-4/full text

8.. High intake of insoluble dietary fiber (IDF) is associated with reduced inflammation and all-cause mortality (ACM) in CKD: NHANES III; Renal Week 2010 at Denver CO. Neelakanta Dadi

MD, S Boddeda MD, Bradley C Baird, Guo Wei, Tom H. Greene, PhD Michel B. Chonchol, MD and Srinivasan Beddhu, MD

https://www.asn-online.org/education/kidneyweek/2010/

10.S Boddeda, N Dadi Refractory Iron Deficiency Anemia Secondary to Sevelamer induced Colon Injury; Douglas Triplet Research symposium at IU Health Ball Memorial Hospital

11.N Dadi, X Laurente: Chronic Gastrointestinal bleeding secondary to Gastric Antral Valvular Ectasia; Douglas Triplet Research symposium at IU Health Ball Memorial Hospital

PAPER INTERVIEW

Interview on the importance of the Dietary fiber intake and its benefits on Mortality in Chronic Kidney Disease patients at American Society of Nephrology Renal Week 2010.

Web Link:
www.mdedge.com/internalmedicinenews/.../insoluble-fiber-intake-beneficial-patients-ck

Michail Mavros, M.D.

Fellow in Complex General Surgical Oncology & HPB Surgery
University of Toronto
906-212 Eglinton Ave East, Toronto, ON M4P 0A3, Canada

US cell (857)445-6602
Canadian cell (647)778-4274
michail.mavros@mail.utoronto.ca

Clinical Training

Clinical Fellowship in Hepato-Pancreatico-Biliary Surgery Jul 2019-Jun 2020
University of Toronto, Toronto, ON, Canada

Clinical Fellowship in Complex General Surgical Oncology Jul 2018-Jun 2020
University of Toronto, Toronto, ON, Canada

Residency in General Surgery Jun 2013-Jun 2018
MedStar Georgetown University Hospital - Washington Hospital Center, Washington, DC, USA

Clinical Elective in Surgical Oncology & Peritoneal Surface Malignancy Nov 2016-Dec 2016
Basingstoke & North Hampshire Hospital, NHS, Basingstoke, United Kingdom

Medical Degree Sep 2004-Aug 2010
University of Athens School of Medicine, Athens, Greece

Research Fellowships

Mass General Hospital & Harvard Medical School, Boston, MA Jul 2012-May 2013
Division of Trauma, Emergency Surgery & Surgical Critical Care (Director: George C. Velmahos)

Johns Hopkins University School of Medicine, Baltimore, MD Jan 2012-Jun 2012
Division of Surgical Oncology (Director: Timothy M. Pawlik)

Alfa Institute of Biomedical Sciences, Athens, Greece Sep 2010-Dec 2011
Division of Surgical Infections (Director: Matthew E. Falagas)

Qualifications

University of Toronto Leadership Certificate Program expected Apr 2020
Certification in General Surgery, American Board of Surgery Mar 2019
Certificate of da Vinci System Training Apr 2018
Advanced Cardiovascular Life Support / Basic Life Support Jun 2017
Advanced Trauma Life Support / Advanced Burn Life Support May 2015

Awards & Scholarships

Joseph M. West Family Memorial Fund **Research Award**, University of Toronto, Toronto, ON, Canada Sep 2019

Scholarship for the *Academy for Emerging Leaders in Patient Safety: The Telluride Experience* (Patient Safety Workshop), Breckenridge, CO Jun 2018

ABSITE **Award**, MedStar Washington Hospital Center, DC Jun 2017

Best Clinical Paper in the Resident Essay Competition, 62nd Annual Meeting of the Massachusetts Chapter of the American College of Surgeons. Bohnen JD, Mavros MN, Ramly EP, Peponis T, Martinez Aguilar MM, Chang Y, Lee J, Yeh DD, de Moya M, King DR, Butler K, Velmahos GC, Kaafarani HMA. Intraoperative Adverse Events in Abdominal Surgery: What Happens in the Operating Room Does not Stay in the Operating Room! Boston, MA Dec 2015

ABSITE **Award**, MedStar Washington Hospital Center, DC Jun 2015

Antonios Papadakis yearly academic merit **scholarship**, University of Athens, Greece 2006-2010

Leadership Roles

Fellow Representative, International Relations Committee, *Americas Hepato-Pancreato-Biliary Association (AHPBA)* 2019-2020

Chief Resident Representative, Clinical Improvement Committee and **Quality & Safety** 2017-2018

Council, *MedStar Washington Hospital Center*

Chief Resident for Patient Safety & Quality Improvement, *MedStar Washington Hospital Center* 2017-2018

Member, General Surgery Practice Committee, *MedStar Washington Hospital Center* 2017-2018

Administrator, Greekmeds.gr: the online forum of Greek junior doctors and medical students (over 20,000 registered members) 2006-pres

Editorial Board, *The Journal of Pioneering Medical Sciences* 2013-pres

Ad-Hoc Reviewer, *Annals of Surgical Oncology, British Journal of Surgery, Surgery, HPB, Journal of Gastrointestinal Surgery, Journal of Surgical Research, PLoS ONE, Medicine Journal, Clinical Microbiology and Infection, BMC Infectious Diseases*

Judge, 2019 Sunnybrook Summer Student Poster Competition Aug 2019

Peer-Reviewed Publications

1) **Mavros MN**, Coburn NG, Davis LE, Mahar AL, Liu Y, Beyfuss K, Myrehaug S, Earle CC, Hallet J (2019). Low Rates of Specialized Cancer Consultation and Cancer-Directed Therapy for Noncurable Pancreatic Adenocarcinoma: a Population-based Analysis. *CMAJ*, 191(21):574-80.

2) Tung S, Davis LE, Hallet J, **Mavros MN**, Mahar AL, Bubis LD, Hammad A, Zhao H, Earle CC, Barbera L, Coburn NG (2019). Population-Level Symptom Assessment Following Pancreaticoduodenectomy for Adenocarcinoma. *JAMA Surg*, 154(11):e193348.

3) Hallet J, Davis LE, Mahar AL, **Mavros M**, Beyfuss K, Liu Y, Law CHL, Earle C, Coburn N (2019). Provider-volume associated with variable receipt of therapy and outcomes in non-curative adenocarcinoma: a population-based analysis. *J Natl Compr Cancer Netw* [in press]

4) **Mavros MN**, Theochari NA, Kyriakidou M, Economopoulos KP, Sava JA, Falagas ME (2019). Fluoroquinolone-based Versus Beta Lactam-based Regimens for Complicated Intra-abdominal Infections: a Meta-analysis of Randomized Controlled Trials. *Int J Antimicrob Agents*, 53(6):746-54.

5) Bohnen JD*, **Mavros MN***, Ramly EP, Chang Y, Yeh DD, Lee J, de Moya M, King DR, Fagenholz PJ, Butler K, Velmahos GC, Kaafarani HMA (2017). Intraoperative Adverse Events in Abdominal Surgery: What Happens in the Operating Room Does Not Stay in the Operating Room. *Ann Surg*, 265(6):1119-1125. [*co-first author]

6) Ihemelandu C, **Mavros MN**, Sugarbaker P (2016). Adverse Events Postoperatively Had No Impact on Long - Term Survival of Patients Treated With Cytoreductive Surgery with Heated Intraperitoneal Chemotherapy for Appendiceal Cancer with Peritoneal Metastases. *Ann Surg Oncol*, 23(13):4231-7.

7) Ejaz A, Frank SM, Spolverato G, **Mavros M**, Kim Y, Pawlik TM (2016). Variation in the Use of Type and Crossmatch Blood Ordering Among Patients Undergoing Hepatic and Pancreatic Resections. *Surgery*, 159(3):908-18.

8) Ramly EP, Bohnen JD, Farhat MR, Razmdjou S, **Mavros MN**, Yeh DD, Lee J, Butler K, De Moya M, Velmahos GC, Kaafarani HMA (2016). The Nature, Patterns, Clinical Outcomes, and Financial Impact of Intraoperative Adverse Events in Emergency Surgery. *Am J Surg*, 212(1):16-23.

9) **Mavros MN**, Xu L, Maqsood H, Gani F, Ejaz A, Spolverato G, Al-Refaie WB, Frank SM, Pawlik TM (2015). Perioperative Blood Transfusion and the Prognosis of Pancreatic Cancer Surgery: Systematic Review and Meta-analysis. *Ann Surg Oncol*, 22(13):4382-91.

10) Kelly ME, Spolverato G, Lê GN, **Mavros MN**, Doyle F, Pawlik TM, Winter DC (2015). Synchronous Colorectal Liver Metastasis: A Network Meta-analysis Review Comparing Classical, Combined, and Liver-first surgical Strategies. *Journal of Surgical Oncology*, 111(3):341-51.

11) **Mavros MN**, Bohnen JD, Ramly EP, Velmahos GC, Yeh DD, DeMoya M, Fagenholz P, King DR, Lee J, Kaafarani HMA (2015). Intraoperative Adverse Events: Risk Adjustment for Procedure Complexity and Presence of Adhesions is Crucial. *J Am Coll Surg*, 221(2):345-53.

12) **Mavros MN**, Kaafarani HMA, Mejaddam AY, Ramly EP, Avery L, Fagenholz PJ, Yeh DD, deMoya

MA, Velmahos GC (2015). Additional Imaging in Alert Trauma Patients With Cervical Spine Tenderness and a Negative Computer Tomographic Scan: Is It Needed? *World J Surg*, 39(11):2685-90.

13) Ramly EP, Larentzakis A, Bohnen JD, **Mavros M**, Chang Y, Lee J, Yeh DD, DeMoya M, King DR, Fagenholz PJ, Velmahos GC, Kaafarani HMA (2015). The Financial Impact of Intraoperative Adverse Events in Abdominal Surgery. *Surgery*, 158(5):1382-8.

14) Stefanoyiannis AP, Ioannidou SP, Round WH, Carinou E, **Mavros MN**, Liotsou T, Geronikola-Trapali X, Armeniakos I, Chatziioannou SN (2015). Radiation Exposure to Caregivers from Patients Undergoing Common Radionuclide Therapies: a Review. *Radiat Prot Dosim*, 167(4):542-51.

15) **Mavros MN**, Economopoulos KP, Alexiou VG, Pawlik TM (2014). Treatment and Prognosis for Patients With Intrahepatic Cholangiocarcinoma: Systematic Review and Meta-analysis. *JAMA Surg*, 149(6):565-74.

16) Arnaoutakis DJ*, **Mavros MN***, Shen F, Alexanrescu S, Firoozmand A, Popescu I, Weiss M, Wolfgang CL, Choti MA, Pawlik TM (2014). Recurrence Patterns and Prognostic Factors in Patients With Hepatocellular Carcinoma in Noncirrhotic liver: a Multi-institutional Analysis. *Ann Surg Oncol*, 21(1):147-54. [*co-first author]

17) Mayo SC*, **Mavros MN***, Nathan H, Cosgrove D, Kamel I, Anders RA, Pawlik TM (2014). Treatment and Prognosis of Patients With Fibrolamellar Hepatocellular Carcinoma: a National Perspective. *J Am Coll Surg*, 218(2):196-205. [*co-first author]

18) **Mavros MN**, Velmahos GC, Lee J, Larentzakis A, Kaafarani HMA (2014). Morbidity Related to Concomitant Adhesions in Abdominal Surgery. *J Surg Res*, 192(2):286-92.

19) **Mavros MN**, Velmahos GC, Larentzakis A, Yeh DD, Fagenholz P, DeMoya M, King DR, Lee J, Kaafarani HMA (2014). Opening Pandora's Box: Understanding the Nature, Patterns, and 30-day Outcomes of Intraoperative Adverse Events. *Am J Surg*, 208(4):626-31.

20) Kaafarani HM, **Mavros MN**, Hwabejire J, Fagenholz PJ, Yeh DD, DeMoya M, King DR, Alam HB, Chang Y, Hutter M, Antonelli D, Gervasini A, Velmahos GC (2014). Derivation and Validation of a Novel Severity Classification for Intraoperative Adverse Events. *J Am Coll Surg*, 218(6):1120-8.

21) **Mavros MN**, De Jong MC, Dogeas E, Hyder O, Pawlik TM (2013). The Impact of Postoperative Complications on Long-term Survival After Resection of Colorectal Liver Metastases. *Br J Surg*, 100(5):711-8.

22) Johnston FM, **Mavros MN**, Herman JM, Pawlik TM (2013). Local Therapies for Hepatic Metastases. *J Natl Compr Cancer Netw*, 11(2):153-60.

23) **Mavros MN**, Hyder O, Pulitano C, Aldrighetti L, Pawlik TM (2013). Survival of Patients Operated for Colorectal Liver Metastases and Concomitant Extrahepatic Disease: External Validation of a Prognostic Model. *J Surg Onc*, 107(5):481-5.

24) Zhang J*, **Mavros MN***, Cosgrove D, Hirose K, Herman JM, Smallwood-Massey S, Kamel I, Gurakar A, Anders R, Cameron A, Geschwind JF, Pawlik TM (2013). Impact of a Single-day Multidisciplinary Clinic on the Management of Patients With Liver Tumours. *Curr Oncol*, 20(2):e123-31. [*co-first author]

25) **Mavros MN**, Mitsikostas PK, Alexiou VG, Peppas G, Falagas ME (2013). Antimicrobials as an Adjunct to Pilonidal Disease Surgery: a Systematic Review of the Literature. *Eur J Clin Microbiol Infect Dis*, 32(7):851-8.

26) **Mavros MN**, Alexiou VG, Vardakas KZ, Falagas ME (2013). Understanding of Statistical Terms Routinely Used in Meta-analyses: an International Survey Among Researchers. *PLoS ONE*, 8(1):e47229.

27) **Mavros MN**, Bardakas V, Rafailidis PI, Sardi TA, Demetriou E, Falagas ME (2013). Comparison of Number of Citations to Full Original Articles Versus Brief Reports. *Scientometrics*, 94:203-6.

28) Falagas ME, Zarkali A, Karageorgopoulos DE, Bardakas V, **Mavros MN** (2013). The Impact of Article Length on the Number of Future Citations: A Bibliometric Analysis of General Medicine

Journals. *PLoS ONE*, 8(2):e49476.

29) Theocharis G, Tansarli GS, **Mavros MN**, Spiropoulos T, Barbas SG, Falagas ME (2013). Association Between Air-conditioning or Fan and Survival of Elderly Febrile Patients: a Prospective Study. *Eur J Clin Microbiol Infect Dis*, 32(9):1143-7.

30) **Mavros MN**, Mayo SC, Hyder O, Pawlik TM (2012). A Systematic Review: Treatment and Prognosis of Patients With Fibrolamellar Hepatocellular Carcinoma. *J Am Coll Surg*, 215(6):820-30.

31) Peng PD, Hyder O, **Mavros MN**, Turley R, Groeschl R, Firoozmand A, Lidsky M, Herman JM, Choti M, Ahuja N, Anders R, Blazer DG 3rd, Gamblin TC, Pawlik TM (2012). Management and Recurrence Patterns of Desmoid Tumors: a Multi-institutional Analysis of 211 patients. *Ann Surg Oncol*, 19(13):4036-42.

32) Maraki S, **Mavros MN**, Kofteridis DP, Samonis G, Falagas ME (2012). Epidemiology and Antimicrobial Sensitivities of 536 Multi-drug-resistant Gram-negative Bacilli Isolated from Patients Treated on Surgical Wards. *Surg Infect*, 13(5):326-31.

33) **Mavros MN**, Mitsikostas PK, Alexiou VG, Peppas G, Falagas ME (2012). Gentamicin Collagen Sponges for the Prevention of Sternal Wound Infection: a Meta-analysis of Randomized Controlled Trials. *J Thor Cardiovasc Surg*, 144(5):1235-40.

34) Gkegkes ID, **Mavros MN**, Alexiou VG, Peppas G, Athanasiou S, Falagas ME (2012). Adhesive Strips for the Closure of Surgical Incisional Sites: a Systematic review and Meta-analysis. *Surg Innov*, 19(2):145-55.

35) Alexiou VG, Tsitsias T, **Mavros MN**, Robertson GS, Pawlik TM (2012). Technology-assisted Versus Clamp-crushing Liver Resection: a Systematic Review and Meta-analysis. *Surg Innov*, 20(4):414-28.

36) **Mavros MN**, Tansarli GS, Vardakas KZ, Rafailidis PI, Karageorgopoulos DE, Falagas ME (2012). Impact of Vancomycin MIC on Clinical Outcome of Patients With *Staphylococcus Aureus* Infection: a Meta-analysis and Meta-regression. *Int J Antimicrob Agents*, 40(6):496-509.

37) Vardakas KZ, **Mavros MN**, Roussos N, Falagas ME (2012). Meta-analysis of Randomized Controlled Trials of Vancomycin for the Treatment of Patients With Gram Positive Infections: Focus on the Study Design. *Mayo Clin Proc*, 87(4):349-63.

38) **Mavros MN**, Alexiou VG, Vardakas KZ, Tsokali K, Sardi TA, Falagas ME (2012). Underestimation of Clostridium Difficile Infection Among Clinicians: an International Survey. *Eur J Clin Microbiol Infect Dis*, 31(9):2439-44.

39) Polyzos KA, **Mavros MN**, Vardakas KZ, Makris MC, Rafailidis PI, Falagas ME (2012). Efficacy and Safety of Telavancin in Clinical Trials: a Systematic Review and Meta-analysis. *PLoS ONE*, 7(8):e41870.

40) Theocharis G, **Mavros MN**, Vouloumanou EK, Peppas G, Barbas SG, Spiropoulos T, Falagas ME (2012). Comparison of Morbidity of Elderly in August and November in Attica, Greece: a Prospective Study. *Int J Clin Pract*, 66(1):84-90.

41) Falagas ME, Bardakas V, **Mavros MN** (2012). Biomedical Research Productivity in Greece: Effect of the Financial Crisis. *Int J Epidemiol*, 41(4):1206-7.

42) Pergialiotis V, Arnos P, **Mavros MN**, Pitsouni E, Falagas ME (2012). Urinary Tract Analgesics for the Treatment of Patients With Acute Cystitis: Where is the Clinical Evidence? *Expert Rev Anti-Infect Ther*, 10(8):875-9.

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44) Maraki S, Samonis G, Karageorgopoulos DE, **Mavros MN**, Kofteridis D, Falagas ME (2012). In Vitro Antimicrobial Susceptibility to Isepamicin of 6296 Enterobacteriaceae Clinical Isolates Collected at a Tertiary-care University Hospital in Greece. *Antimicrob Agents Chemother*,

56(6):3067-73.

45) **Mavros MN**, Athanasiou S, Alexiou VG, Mitsikostas PK, Peppas G, Falagas ME (2011). Risk Factors for Mesh-related Infections After Hernia Repair Surgery: a Meta-analysis of Cohort Studies. *World J Surg*, 35(11):2389-98.

46) **Mavros MN**, Velmahos GC, Falagas ME (2011). Atelectasis As a Cause of Postoperative Fever: Where Is the Clinical Evidence? *Chest*, 140(2):418-24.

47) **Mavros MN**, Athanasiou S, Gkegkes, ID, Polyzos KA, Peppas G, Falagas ME (2011). Do Psychological Variables Affect Early Surgical Recovery? *PLoS ONE*, 6(5):e20306.

48) **Mavros MN**, Polyzos KA, Rafailidis PI, Falagas ME (2011). Once Versus Multiple Daily Dosing of Aminoglycosides for Patients With Febrile Neutropenia: a Systematic Review and Meta-analysis. *J Antimicrob Chemother*, 66(2):251-9.

49) **Mavros MN**, Mitsikostas PK, Kontopidis IG, Moris DN, Dimopoulos G, Falagas ME (2011). H1N1v Influenza Vaccine in Greek Medical Students. *Eur J Public Health*, 21(3):329-32.

50) Pagkalis S, Mantadakis E, **Mavros MN**, Amari C, Falagas ME (2011). Pharmacological Considerations for the Proper Clinical Use of Aminoglycosides. *Drugs*, 71(17):2277-94.

51) Rafailidis PI, **Mavros MN**, Kapaskelis A, Falagas ME (2010). Antiviral Treatment for Severe EBV Infections in Apparently Immunocompetent Patients. *J Clin Virol*, 49(3):151-7.

52) Falagas ME, Vouloumanou EK, **Mavros MN**, Karageorgopoulos DE (2009). Economic Crises and Mortality: A Review of the Literature. *Int J Clin Pract*, 63(8):1128-35.

Conference Podium Presentations (selected)

1) **Mavros MN**, Tung S, Davis LE, Hallet J, Mahar AL, Bubis LD, Hammad A, Zhao H, Earle CC, Barbera L, Coburn NG. Patient-Reported Symptom Severity Following Curative-Intent Resection for Pancreas Adenocarcinoma. *AHPBA 2019 Annual Meeting*, Mar 2019, Miami Beach, FL.

2) **Mavros MN**, Theochari NA, Economopoulos KP, Sava JA. Fluoroquinolones versus Beta Lactams for Complicated Intra-Abdominal Infections: A Meta-Analysis of Randomized Controlled Trials. *38th Annual Meeting of the Surgical Infections Society*, Apr 2018, Westlake Village, CA.

3) **Mavros MN**, Kalaitzoglou DK, Gatsouli EN, Economopoulos KP. Are NSAIDs Associated with Postoperative Complications in Gastrointestinal Surgery? *12th Annual Academic Surgical Congress*, Feb 2017, Las Vegas, NV.

4) **Mavros MN**, Ethun CG, Son A, Melis M, Poultsides G, Tran T, Idrees K, Isom CA, Fields RC, Krasnick B, Weber SM, Salem A, Martin RCG, Scoggins C, Shen P, Mogal HD, Schmidt C, Beal E, Pawlik TM, Maithel SK, Newman E, Pacheter HL, Hatzaras I. Incidence and Predictors of Readmission After Curative-Intent Resection for Extrahepatic Cholangiocarcinoma: A Multi-Institutional 15-Year Experience from the U.S. Extrahepatic Biliary Malignancy Collaborative. *2016 American College of Surgeons Clinical Congress*, Oct 2016, Washington, DC.

5) Bohnen JD*, **Mavros MN***, Ramly EP, Chang Y, Yeh DD, Lee J, de Moya M, King DR, Fagenholz PJ, Butler K, Velmahos GC, Kaafarani HMA. Intraoperative Adverse Events in Abdominal Surgery: What Happens in the Operating Room Does not Stay in the Operating Room! *2016 American College of Surgeons Clinical Congress*, Oct 2016, Washington, DC. [*co-first author]

6) **Mavros M**, Ejaz A, Kim Y, Gani F, Pawlik TM. Predicting the Need for Perioperative Transfusion in Liver Surgery. *11th Annual Academic Surgical Congress*, Feb 2016, Jacksonville, FL.

7) **Mavros MN**, Bijelic L, Hyder U, Firoozmand A, Ihemelandu C, Sugarbaker P. Recurrence and Prognostic Factors after Cytoreductive Surgery and HIPEC for Appendiceal Cancer. *10th Annual Academic Surgical Congress*, Feb 2015, Las Vegas, NV.

8) **Mavros MN**, Velmahos GC, Velmahos GC, Larentzakis A, Yeh DD, Fagenholz P, DeMoya M, King DR, Lee J, Kaafarani HMA. Benchmarking the Quality of Intraoperative Surgical Care: Risk-Adjustment for Procedure complexity and Previous Surgery is Crucial. *2014 American College of Surgeons Clinical Congress*, Oct 2014, San Francisco, CA.

9) **Mavros MN**, Velmahos GC, Larentzakis A, Naraghi L, Yeh DD, Fagenholz PJ, DeMoya M, King DR, Lee J, Kaafarani HMA. Opening Pandora's Box: Understanding the Nature, Patterns, and 30-day Outcomes of Intraoperative Adverse Events. *9th Annual Academic Surgical Congress*, Feb 2014, San Diego, CA.

10) **Mavros MN**, Velmahos GC, Lee J, Kaafarani HMA. Adhesiolysis-related Morbidity in Abdominal Surgery: An Analysis of 5940 Cases from the ACS-NSQIP Database. *9th Annual Academic Surgical Congress*, Feb 2014, San Diego, CA.

11) Arnaoutakis KD*, **Mavros MN***, Popescu I, Wolfgang C, Shen F, Alexandrescu S, Choti MA, Pawlik TM. Recurrence Patterns and Prognostic Factors in Patients With Hepatocellular Carcinoma in Non-cirrhotic Liver: a Multi-institutional Analysis. *2013 SSO Annual Cancer Symposium*, Mar 2013, National Harbor, MD. [*co-first author]

12) Kaafarani HMA, **Mavros MN**, Hwabejire J, Demoya M, Fagenholz P, Yeh D, King DR, Chang Y, Velmahos GC. The Correlation of Severity of Intraoperative Adverse Events with Thirty-Day Patient Outcomes. *94th Annual Meeting of the New England Surgical Society*, Sep 2013, Hartford, CT.

13) **Mavros MN**, Gkegkes ID, Polyzos KA, Athanasiou S, Peppas G, Alexiou VG, Falagas ME. Impact of Psychological Variables on Early Surgical Recovery: A Systematic Review. *14th Annual Conference of the European Society of Surgery*, November 2010, Turin, Italy.

Conference Poster Presentations (selected)

1) **Mavros M**, Davis L, Davis L, Mahar A, Liu Y, Beyfuss K, Myrehaug S, Earle C, Hallet J. Undertreatment of Non-curative Pancreatic Adenocarcinoma? A Population-based Analysis of Patterns of Care. *2019 ASCO GI Cancer Symposium*, Jan 2019, San Francisco, CA & *2019 SSO Annual Cancer Symposium*, Mar 2019, San Diego, CA.

2) Powell M, **Mavros MN**. Patient Safety Leadership WalkRounds to Improve Resident Reporting and Recognition of Safety Events. *10th Association of American Medical Colleges Integrating Quality Conference*, Jun 2018, Arlington, VA.

3) **Mavros MN**, Velmahos GC, Larentzakis A, Yeh DD, Fagenholz P, DeMoya M, King DR, Lee J, Kaafarani HMA. Benchmarking the Quality of Intraoperative Surgical Care: Risk-adjustment for Procedure Complexity and Previous Surgery is Crucial. *Academy Health 2015 Annual Research Meeting*, Jun 2015, Minneapolis, MN.

Textbook Chapters

1) **Mavros MN**, Jayaraman S, Tsang ME, Karanicolas PJ, Wei AC. Colorectal Liver Metastases. In: Wright FC et al (ed). *Surgical Oncology Manual, 3rd edition*, Springer Nature, Switzerland, 2020 [in press].

2) Hamidi M*, **Mavros MN***, Devon K, Kulkarni GS, Law CHL, Urbach DR, Hallet J, Pasternak JD. Tumours of the Adrenal Gland. In: Wright FC et al (ed). *Surgical Oncology Manual, 3rd edition*, Springer Nature, Switzerland, 2020 [in press]. [*co-first author]

3) Zhang J, **Mavros MN**, Pawlik TM. Cholangiocarcinoma: Diagnosis, Management, and Prognosis. In: Kee ST, Madoff DC, Murthy R (ed). *Clinical Interventional Oncology*, W.B. Saunders Company, Philadelphia, PA, 2013, pages 98-106.

4) **Mavros MN**, Rafailidis PI, Falagas ME. Necrotizing soft-tissue infections (NSTI). In: Falagas ME, Mylonakis E (ed). *Gorbach's 5-Minute Infectious Diseases Consult, 2nd edition*, Lippincott Williams & Wilkins, Philadelphia, PA, 2011, pages 286-7.

5) **Mavros MN**, Peppas G, Vergidis P, Falagas ME. Pilonidal abscess. In: Falagas ME, Mylonakis E (ed). *Gorbach's 5-Minute Infectious Diseases Consult, 2nd edition*, Lippincott Williams & Wilkins, Philadelphia, PA, 2011, pages 316-7.

6) **Mavros MN**, Vergidis P, Falagas ME. Superficial skin & soft-tissue infections (SSTI). In: Falagas ME, Mylonakis E (ed). *Gorbach's 5-Minute Infectious Diseases Consult, 2nd edition*, Lippincott Williams & Wilkins, Philadelphia, PA, 2011, pages 372-3.

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EDUCATION

Master of Business Administration, (12/2015)
University of North Florida, Jacksonville, Florida

Ph. D., Nuclear Engineering Sciences (5/2001)
University of Florida, Gainesville, Florida

M. S., Nuclear Engineering Sciences (8/1998)
University of Florida, Gainesville, Florida

B. E., Applied Physics (7/1992)
National University of Defense Technology, Changsha, Hunan, China

CERTIFICATION **American Board of Radiology, Therapeutic Radiologic Physics, 2007**

EXPERIENCE

Associate Professor (07/2014-present)
Assistant Professor (09/2008-06/2014)
University of Florida, Department of Radiation Oncology, Gainesville, FL
University of Florida Health Proton Therapy Institute, Jacksonville, FL

Associate Director of UF Medical Physics Residency Program (2009-2015)
Faculty Member of UF Medical Physics Graduate Program

Lead Physicist of SBRT/Vero program (2012-2016)
Lead Physicist of COG/RTOG/NRG Protocol Physics Management
Lead Physicist of RayStation TPS Management
Lead Physicist of Pinnacle TPS Management
Lead Physicist of IMRT program
Lead Physicist of Brachytherapy program

Principle Investigator of UFPTI Institutional Protocols:

UFPTI 1214 DS01: Feasibility Study of Tumor Blood Flow Measurement by Detection of Positron Activation Post Proton Therapy
UFPTI 1216 - DSX03: Neural Stemcell and Hippocampus Sparing Using Proton Therapy in Whole Brain Irradiation
UFPTI 1217 DSX04: Development of an Automated Robust 2D/3D Image Registration System for Patient Setup in Proton Beam Radiation Therapy
UFPTI 1423-DSX07: Dynamic Tumor Tracking SBRT Treatment Planning Study
UFPTI 1713-DSX15: Systematic Evaluation of the Effectiveness of "Combifix" Patient Immobilization Device
UFPTI 1714-PRX34: Comprehensive Analysis of SpaceOAR Prostate Patient Dosimetry and their Inter- and Intra-fraction Prostate Motion
UFPTI 1902-DSX20: Adaptive Planning of Photon and Proton Therapy Treating Prostate with Pelvic Lymph Node Patients

Co-Investigator of UFPTI Institutional Protocols as Lead Physicist:

UFPTI 0703 PR05: A Phase II Study of Proton-Based Radiation Therapy with Elective Pelvic Nodal Irradiation, Concomitant docetaxel, and Adjuvant Androgen Deprivation for High-Risk Prostate Adenocarcinoma

UFPTI 0902 PR06 (PCG GU010-18): Postoperative or Salvage Radiotherapy for Node Negative-Prostate Cancer Following Radical Prostatectomy

UFPTI 1103 PR07: An Expanded Phase II Study of Hypofractionated Dose Intense Image Guided Proton Radiation Therapy for Low and Intermediate Risk Adenocarcinoma of the Prostate

UFPTI 1301 OL01: Phase II Stereotactic Body Radiotherapy (SBRT) and Stereotactic Hypofractionated Radiotherapy (SHRT) for Oligometastatic Prostate Cancer

UFPTI 1712-PR11: A Phase II Study of Dose-Escalated Proton-Based Radiation Therapy Delivered with a Simultaneous Integrated Boost (SIB) to Intraprostatic Tumors (IPT) Visible on Pretreatment Magnetic Resonance Image

Clinical Responsibilities:

Performed Acceptance and Commissioning of

- Proteus One Single Room Proton Pencil Beam Scanning System
- RayStation Treatment Planning System
- Vero Radiation Therapy Linac (BrainLab and Mitsubishi Heavy Industry)
- Iplan Treatment Planning System (BrainLab)

Performed Technical Assessment for Upgrade of Treatment Planning System Framework

- Smart Enterprise thin-client system (Pinnacle)
- Professional Centralized Computing Platform (Pinnacle)
- BrachyVision 3D and Accuros BV (Varian)

Performed Daily, Monthly and Annual Quality Assurance

- Proton Gantry (IBA)
- Linacs (Elekta)

Performed Treatment Planning and Physics Chart Check in

- 3D and IMRT (Pinnacle)
- 3D and IMRT (iplan)
- 3D Proton (Eclipse & RayStation)
- Intensity-Modulated Proton Therapy (RayStation)
- LDR (T&O, Syed, Eye Plaque)

Developed Treatment Planning Guidelines in

- IMRT (RayStation)
- IMRT (Pinnacle)
- 3D and IMRT (iplan)
- Intensity-Modulated Proton Therapy (RayStation)

Assistant Professor (10/2006-08/2008)
Virginia Commonwealth University, Department of Radiation Oncology Richmond, VA

Lead Physicist of Calypso 4D RT Program
Lead Physicist of IGRT Program

Clinical Responsibilities:

Established Clinical Procedure for Calypso 4D Radiation Therapy

Established EPID Image Quality Assurance Procedures for IGRT Guidelines
Performed Acceptance and Commissioning of Calypso 4D RT System
Performed Commissioning of US Unit for Prostate Seed Implant
Performed Commissioning of Variseed Treatment Planning System

Performed Monthly and/or Annual Quality Assurance
- Linacs (Varian)
- Calypso 4D RT System
- BrainLab ExacTrac System
- On-board-Imager (OBI) System
- CT Scanners

Performed Treatment Planning and Chart Check in
- Stereotactic Radiosurgery (BrainScan, iplan)
- IMRT (Pinnacle, Brainlab iplan)
- HDR Mammosite
- LDR Prostate Seed Implant

Medical Physics Resident (10/2004—10/2006)
University of Florida, Department of Radiation Oncology, Gainesville, FL
Varian Medical System Clinical Residency in Medical Physics

Postdoctoral Research Fellow (7/2001—10/2004)
University of Michigan, Department of Radiation Oncology, Ann Arbor, MI
Physics Division, Imaging Group

Performed research in development of radiation detection devices based on amorphous silicon active-matrix flat panel arrays for various medical imaging applications including radiation therapy, fluoroscopy, radiography and mammography

Research Assistant (8/1996 – 5/2001)
University of Florida, Department of Nuclear and Radiological Engineering, Gainesville, FL

ACADEMIC HONORS

Merit Scholarship, National University of Defense Technology (1989 – 1992)
Tao Beta Pi Engineering Honor Society, Florida Alpha Chapter, since 1997
Alpha Nu Sigma Nuclear Engineering Honor Society, UF Chapter, since 1997
Sigma Xi Scientific Research Society (Full Member), since 1998
Who's Who in Science and Engineering, Edition 2000-2001

AWARDS

Resident Travel Award (by AAPM Development Committee), 2005
AAPM Summer School Scholarship (tuition waiver), 2005
Particle Therapy Co-Operative Group (PTCOG) Travel Fellowship, 2010

PROFESSIONAL ACTIVITIES

Member of American Association of Physicist in Medicine (AAPM)
Member of Children's Oncology Group (COG)
Associate Member of American Society of Therapeutic Radiation Oncology (ASTRO)
Associate Editor and Reviewer for Journal of Applied Clinical Medical Physics
Guest Associate Editor and Reviewer of Journal of Medical Physics

Reviewer for International Journal of Particle Therapy
Abstract Reviewer for AAPM Annual Meeting

Reviewer for International Journal of Radiation Oncology, Biology, Physics
Radiotherapy and Oncology
Reviewer for Physics in Medicine and Biology
Reviewer for Physica Medica: European Journal of Medical Physics
Reviewer for Journal of Physics D: Applied Physics

SERVICES

Editorial Board Member of International Journal of Particle Therapy (2013-2018)
Editorial Board Member of Journal of Applied Clinical Medical Physics (since 2015)
Advisory Board Member of International Journal of Particle Therapy (since 2018)

Member of Asian Oceanic Affairs Subcommittee (AAPM since 2015)
Vice Chair of Investment Advisory Committee (AAPM since 2016)
Member of Finance Committee (AAPM since 2019)
Member of Therapy Demand and Supply Projection Work Group (AAPM since 2019)
Member of Finance/Audit Committee (ASTRO since 2020)
Member of Workforce Subcommittee (ASTRO since 2020)

Member of Senate Nominating Committee of Faculty Senate (University of Florida 2014-17)
Member of University Constitution and Regulations Committee of Faculty Senate (University of Florida 2015-2016)
Senator of Faculty Senate (University of Florida since 2019)
Member of Land Use and Facilities Planning Committee (University of Florida since 2020)

RESEARCH SUPPORT

Evaluation of Novel 3D Polymer Gel Dosimetry System for Proton Therapy
01/01/2010 – 06/30/2010
$33,834
Funding Agency: State of Florida Bankhead-Coley Cancer Research Program
Role: Co-Investigator

Pinnacle Proton Treatment Planning System Alpha and Beta Testing
10/01/2011 – 10/01/2013
$162,250
Funding Agency: Philips Medical System
Role: Principal Investigator

Feasibility Study of Tumor Blood Flow Measurement by Detection of Positron Activation Post Proton Therapy
03/01/2012 – 02/28/2013
$30,000
Funding Agency: American Cancer Society Chris DiMarco Institutional Research Grant
Role: Principal Investigator

Dynamic Tumor Tracking SBRT Treatment Planning Study
10/01/2014 – 03/31/2015
$40,000
Funding Agency: Brainlab AG
Role: Principal Investigator

Establishing a Novel Method of Measuring Prostate Tumor Blood Flow Using a Positron-Activation Detection System during Proton Therapy and Correlating Immunohistochemical Measurements of Tumor Hypoxia
02/01/2015 – 01/31/2016

$70,000
Funding Agency: UF Health Cancer Center
Role: Co-PI

Pinnacle Proton Planning Solution Evaluation
12/10/2015 – 06/30/2016
$15,000
Funding Agency: Philips Medical System
Role: Principal Investigator

PUBLICATIONS Please refer to separate listing

PRESENTATIONS

Su Z, Evaluations of a Flat-panel Imager for Proton PBS Patient Specific QA; 59th Annual Conference of the Particle Therapy Cooperative Group (PTCOG Online), September, 2020. (Poster with Oral Presentation)

Su Z, *Proton Therapy and Its Range Uncertainty and Verification,* AAPM Florida Chapter Meeting, Orlando, FL, February, 2020. (**Invited**)

Su Z, *Evaluations of a Flat-panel based Compact Daily QA Device for Proton Pencil Beam Scanning (PBS) System,* Six annual conference of Particle Therapy Cooperative Group North America (PTCOG-NA), Miami, FL, October, 2019.

Su Z, *Proton Therapy and the Dosimetric Impact of Target Motion*, China Northwest Region Radiotherapy Conference, Xian, Shanxi, China, September, 2018. (**Invited**)

Su Z, *Hydrogel Spacer or Gas Release Rectal Balloon, a Comparative Study of Prostate Intra-fraction Motion in Proton Therapy,* Annual Meeting of Physics Group of Chinese Society of Radiation Oncology (CSTRO-PG), Fuzhou, China, September, 2018.

Su Z, *Hydrogel Spacer or Gas Release Rectal Balloon, a Comparative Study of Prostate Intra-fraction Motion in Proton Therapy,* AAPM annual meeting, Nashville, TN, July, 2018.

Su Z, *Proton Therapy Range Uncertainty and Verification,* Cancer Hospital of Chinese Academy of Medical Sciences, Beijing, China, March, 2016. (**Invited**)

Su Z, Dagan R, *Oligometastasis SBRT and SRS using Vero Linac,* webinar of the Radiosurgery Society, December, 2014. (**Invited**)

Su Z, *Vero: A SBRT Linac and its Clinical Work Flow,* Florida AAPM Chapter Spring Meeting, Orlando, Florida, March, 2014. (**Invited**)

Su Z, *Feasibility of Tumor Blood Flow Measurement by Detection of Positron Activation Post Proton Therapy,* UF Health Cancer Center Weekly Seminar Series: Topics in Cancer, Gainesville, Florida, November, 2013. (**Invited**)

Su Z, *Proton Therapy Range Uncertainty and Verification,* Keynote Presentation of SPIE Penetrating Radiation Technical Event, SPIE Annual Conference on Optics and Photonics, San Diego, CA, August 2013. (**Invited**)

Su Z, Slopsema R, Li Z, *Validation and End-to-end Testing of a New Proton Treatment*

Planning System, AAPM Annual Meeting, Indianapolis, Indiana, August, 2013.

Su Z, Slopsema R, Li Z, *End-to-end Testing of a New Proton Treatment Planning System,* 52nd PTCOG Annual Meeting, Essen, Germany, June, 2013.

Su Z, Kirby N, Li Z, Barani I, *Neural Stemcell and Hippocampus Sparing using Proton Therapy in Whole Brain Irradiation,* World Congress of Medical Physics and Biomedical Engineering, Beijing China, May, 2012.

Su Z, *Prostate Motion and Its Impact on Proton Dosimetry,* AAMD Annual Meeting. Region V, Orlando FL, August, 2011. (**Invited**)

Su Z, Flampouri S, Slopsema R, *Dosimetric Impact of Prostate Intra-fraction Motion to Proton Uniform Scanning Treatment,* 49th PTCOG Annual Meeting, Gunma, Japan, May, 2010.

Su Z, Farukhi Y, Murphy M, Williamson J, *Analysis of Prostate Patient Setup Error and Organ Motion Error using Calypso Setup Shift and Tracking Data,* AAPM annual meeting, Houston, TX, July, 2008. (Moderated Poster Presentation)

Su Z, Dogan N, Wu Y,; Stojadinovic S, *Dosimetric Comparisons of DMPO and Two-Step Approach Step-and-Shoot IMRT Plans ,* AAPM annual meeting, Minneapolis, MN, July, 2007. (Moderated Poster Presentation)

Su Z, Jin H, Fox C, Li H, Lynch B, Liu C, Li J, Yang H, Palta J, Kim S, *A Systematic Analysis of Patient Specific IMRT QA Data,* AAPM annual meeting, Orlando, FL, July, 2006.

Su Z, Jacobs A, Dugan E*, X-ray Lateral Migration Radiography System for the Application of Land Mine Detection,* The International Symposium on Optical Science and Technology, Penetrating Radiation Systems and Applications II*,* San Diego, CA, August, 2000.

Su Z, Howley J, Jacobs J, Dugan E, Jacobs A, *The Discernability of Land Mine Using Lateral Migration Radiography*, SPIE 12th Annual Aerospace/Defense Sensing, Simulation and Control Symposium, Detection and Remediation Technologies for Mines and Minelike Targets III, Orlando, FL, April, 1998.

PUBLICATIONS

Zhong Su

Book Chapters:

1. **Su Z**, Chen H, Li Z (2015); Advanced Imaging Technologies in Proton Therapy, *Frontier of Medical Imaging* (pp. 377-406). Singapore, World Scientific Publishing,

Refereed Publications:

1. **Su Z**, Hsi W, Forthomme J, Rossomme S; Evaluations of a Flat-panel based Compact Daily QA Device for Proton Pencil Beam Scanning (PBS) System, submitted to Physica Medica.

2. **Su Z**, Henderson R, Nichols C, Bryant C, Mendenhall W, Mendenhall N; A Comparative Study of Prostate PTV Margins for Patients using Hydrogel Spacer or Rectal Balloon in Proton Therapy; submitted to Physica Medica.

3. **Su Z**, Indelicato D, Mailhot R, Bradley J; Impact of Different Treatment Techniques for Pediatric Ewing Sarcoma of the Chest Wall: IMRT, 3DCPT and IMPT with/without Beam Aperture, Journal of Applied Clinical Medical Physics, Vol. 21, No. 6; 2020; 100-107.

4. **Su Z**, Slopsema R, Flampouri S, Li Z; Impact of Intrafraction Prostate Motion on Clinic Target Volume Coverage in Proton Therapy: A Simulation Study of Dosimetric Differences in Two Delivery Techniques, Journal of Applied Clinical Medical Physics, Vol. 20, No. 10; 2019; 67-73.

5. **Su Z**, Li Z, Henderson R, Hoppe B, Nichols R, Bryant C, Mendenhall W, Mendenhall N; PTV Margin Analysis for Prostate Patients with Initial Pelvic Nodal IMRT and Prostate Proton Boost, Journal of Physics in Medicine and Biology; Vol. 64, No. 4; 2019 04NT04.

6. Bryant C, Hoppe BS, Henderson RH, Nichols RC, Mendenhall WM, Smith T, Morris CG, Williams CR, **Su Z**, Li Z, Mendenhall NP; Race Does not Affect Tumor Control, Adverse Effects, or Quality of Life after Proton Therapy, International Journal of Particle Therapy, Vol. 3, Issue 4, Spring 2017; 461-472.

7. Henderson RH, Bryant C, Hoppe BS, Nichols RC, Mendenhall WM, Flampouri S, **Su Z**, Li Z, Morris CG, Mendenhall NP; Five-Year Outcomes from Perspective Trial of Image-Guided Accelerated Hypofractionated Proton Therapy for Prostate Cancer, Acta Oncol, Vol. 56, No. 7; 2017; 963-970.

8. Bryant C, Henderson RH, Hoppe BS, Mendenhall WM, Nichols RC, **Su Z**, Li Z, Mendenhall NP. Controversies in proton therapy for prostate cancer. Chin Clin Oncol Vol. 5, No. 4; 2016; 55-63.

9. Bryant C, Smith T, Henderson R, Hoppe B, Mendenhall W, Nichols R, Morris C, Williams C, **Su Z**, Li Z, Lee D, Mendenhall N; Five-year Biochemical Results, Toxicity, and Patient-Reported Quality of Life After Delivery of Dose-Escalated Image Guided Proton Therapy for Prostate Cancer; International Journal of Radiation Oncology, Biology and Physics; Vol. 95, No. 1; 2016; 422-434.

10. Wu J, **Su Z**, Li Z,; A Neural Network based Robust 2D/3D Image Registration Method for Pediatric Patient Setup in External Beam Radiotherapy; Journal of Applied Clinical Medical Physics, Vol. 17, No. 1; 2016; 22-33.

11. Bryant C, Mendenhall N, Henderson R, Nichols C, Mendenhall W, Morris C, William C, **Su Z**, Li Z, Hoppe B; Does Race Influence Health-Related Quality of Life and Toxicity Following Proton Therapy for Prostate Cancer?; American Journal of Clinical Oncology, Vol. 39, No. 3; 2016; 261-265.

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60. Hoppe BS, Henderson R, Nichols RC, Marcus RB Jr, Mendenhall WM, Costa J, Williams C, **Su Z**, Li Z, Mendenhall NP; Early Outcomes Following Proton Therapy for Prostate Cancer in Men 55 Years Old and Younger; International Journal of Radiation Oncology Biology Physics; 2010; Vol. 78, Issue 3, Supplement 1, Proceedings of the ASTRO 52nd Annual Meeting:S373-S374.

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68. **Su Z**, Zhang L, Ramakrishnan V, Hagan M, Anscher M; A Phantom Study of Interference Between Electromagnetic Transponders and Wireless MOSFET Dosimeters; International Journal of Radiation Oncology Biology Physics; 2009; Vol. 75, Issue 3, Supplement 1, Proceedings of the ASTRO 51st Annual Meeting; S607-S608.

69. **Su Z**, Henderson R, Louise D, Getman N, Boucherit R, Mendenhall N; Retrospective Dosimetric Comparison of Combined Modality Pelvic IMRT and Prostate Proton Boost for high Risk Prostate Cancer with RTOG OAR Dose Guideline; 10th Biennial ESTRO Conference on Physics and Radiation Technology for Clinical Radiotherapy; 2009.

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72. **Su Z**, Farukhi Y, Murphy M, Williamson J; Prostate Patient Setup Error and Organ Motion Error for Conventional and Hypo-Fractionated Radiation Therapy; International Journal of Radiation Oncology

Biology Physics; 2008; Vol. 72, Issue 1, Supplement 1, Proceedings of the ASTRO 50th Annual Meeting: S568.

73. Lazos D, Pokhrel D, **Su Z**, Lu J, Williamson J; Comparison Between 2D Monte Carlo Modeled and Experimental Cone-Beam CT X-ray Projections; Med Physics; 2008; 35:2989.

74. **Su Z**, Farukhi Y, Murphy M, Williamson J; Analysis of Prostate Patient Setup Error and Organ Motion Error Using Calypso Setup Shift and Tracking Data; Med Physics; 2008; 35:2634.

75. **Su Z**, Dogan N, Wu Y, Stojadinovic S; Dosimetric Comparisons of DMPO and Two-Step Approach Step-and-Shoot IMRT Plans; Med Physics; 2007; 34:2335.

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81. Sawant A, Antonuk L, Daniel J, El-Mohri Y, Li Y, **Su Z**, Wang Y, Yamamoto J, Zhao Q; Empirical Investigation of a New Generation of High QE Detectors for Active Matrix Flat-Panel Imager EPIDs; AAPM Annual Meeting; 2004.

82. Zhao Q, Antonuk L, El-Mohri Y, Sawant A, **Su Z**, Yamamoto J, Hu L, Li Y, Wang Y; Performance Evaluation of HgI_2 Photoconductors for Radiation Therapy Imaging; ; AAPM Annual Meeting; 2004.

83. Zhao Q, **Su Z**, Antonuk L, El-Mohri Y, Yamamoto J, Kang Y, Li Y, Sawant A, Wang Y; Progress Toward Input-Quantum-Limited Performance of Active Matrix Flat-Panel Fluoroscopic Imagers; 89th Scientific Assembly and Annual Meeting of the RSNA; 2003.

Curriculum Vitae

PERSONAL

Name: **Adam Ross Wolfe MD, PhD**

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3732 Sanctuary Loop
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EDUCATION

MD, **Doctor of Medicine**, 2016, University of Texas McGovern Medical School, Houston Texas

Ph.D., **Cancer Biology**, 2015, University of Texas MD Anderson Cancer Center, Houston, Texas.

Thesis: Investigating the role of cholesterol metabolism and synthesis in metastasis and radiation response in aggressive subtypes of breast cancer (Advisor: Wendy Woodward MD, PhD).

B.S., **Cell and Molecular Biology**, 2009, Texas Tech University, Lubbock, Texas.

POSTDOCTORAL TRAINING

Intern, Transitional Year, 2016-2017, Wayne State University, Detroit, Michigan

Resident, Radiation Oncology, 2017-present, Ohio State University, Columbus, Ohio

PROFESSIONAL EXPERIENCE

2016 – Present. **Postdoctoral Clinical Research Fellow**. American Board of Radiology Holman Research Pathway, Department of Radiation Oncology, Ohio State University, Columbus, Ohio. (Advisor: Terence Williams MD, PhD).

2009 – 2016. **Graduate Research Assistant**, The University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, Houston, Texas.

2009 – 2015. **MD/PhD student**, The University of Texas Medical Scientist Training Program at Houston and UTHealth Graduate School of Biomedical Sciences at MD Anderson Cancer Center, Houston, Texas.

2006 – 2009. **Undergraduate Research Scholar**, Fellowship, Howard Hughes Medical Institute, Texas Tech Health Sciences Center, Lubbock, Texas.

OTHER EXPERIENCES

Current -	**Chief Resident**, Radiation Oncology, Ohio State University.
Current-	**AdHoc Resident Radiation and Cancer Biology Editor**: RadOncQuestions.com
July 2019	**Invited Young Investigator**: AACR Molecular Biology in Clinical Oncology Workshop (Sponsored by Ohio State University), Snowmass, CO.
Current-	**AdHoc Journal reviewer**: International Journal of Cancer, Cellular Physiology and Biochemistry

PROFESSIONAL MEMBERSHIPS

Current- American Board of Radiology

Current- American Society for Radiation Oncology

Current- Radiologic Society of North America

Current- American Society of Clinical Oncology

Current- American Association for Cancer Research

CLINICAL INTERESTS

I am interested in delivering comprehensive radiation oncology treatments to cancer patients employing advanced techniques that truly impact survival and therapy response. During my medical residency training at the 3rd largest comprehensive cancer center in the country, I have seen a broad and diverse spectrum of disease presentations and large number of cancer patients – over 150 treatment simulations per year. I am especially passionate for treating the cancers of the GI system and have experience in most state-of-the-art treatment modalities. My training experience includes the following technologies: Varian TrueBeam Accelerator, Intensity Modulated Radiation Therapy (IMRT), Stereotactic Body Radiation Therapy (SBRT), Image-Guided Radiation Therapy (IGRT), Stereotactic Radiosurgery (SRS) and Fractionated Stereotactic Radiotherapy (FSRT), Image-Guided Brachytherapy including high-dose-rate (HDR) implants, low-dose-rate (LDR) implants, Intraoperative Radiation Therapy (IORT), and Vision RT. I am well familiarized with Eclipse and Pinnacle planning systems as well. I am strongly trained in image-guided therapy planning, including the use of high and ultrahigh field MRI to aid in fine segmentation of soft-tissues and invasive cancers. I have been a team member in a number of clinical trials and am well versed in measuring and understanding significant clinical outcomes. In summary, I am passionate for clinical practice of Radiation Oncology and am interested in joining an active clinical Radiation Oncology team.

RESEARCH INTERESTS

I have passionately studied the molecular intricacies of DNA repair signaling in cancer tissues using advanced translational models and quantitative biology. I have worked with vast dedication to pursue a solid track record of publications that will serve as robust basis for the further development of my diverse medical radiation sciences research program. My independent research program will integrate the unique training experiences I have in a highly translational design centered on understanding DNA repair to genotoxic therapeutics and molecular mechanisms of cellular phenotypic radioresistance in cancer using engineered mouse models and therapy-mimetic radiation delivery systems. This will include analyzing the role of the DNA repair signaling protein RAD18 in recruiting DNA repair proteins that we have recently elucidated as driving mechanism of radioresistance in aggressive pancreatic cancers. I will also utilize unbiased approaches to discover alternative mechanisms of cellular plasticity and their role in chemo- and radioresistance. In parallel, I would like to assemble and interrogate a unified large dataset of pancreatic and lung/ cancer patients treated with radiotherapy that incorporates clinical,

pathological, genomic and molecular characterization with clinical outcomes. The dataset would allow for hypothesis generation on determinants of essential radiation outcomes using actual patient outcome, to be validated and mechanistically explored using in vitro and in vivo preclinical models. Overall, this work will provide basic and clinical insights that can be translated into clinical trials and ultimately improve patient care. With expertise in preclinical models, molecular cellular biology, and DNA repair signaling, I am well positioned to design, execute, and lead a team to pursue mechanistic research on unexplored targeted therapeutics with the goal of advancing the use of radiation therapy as an effective genotoxic therapy tool, ultimately aiming to improve disease-free survival our patients.

HONORS AND AWARDS (SELECTED)

2019 – Award: Condos International Radiation Oncology Experience Travel Award

2019 – Fellowship: The B. Leonard Holman Research Fellowship: Mentor Dr. Terence Williams, Radiation Oncology.

2016 – Invited Speaker: 2018 International Conference for Inflammatory Breast Cancer, Boston MA

2015 – Issue Highlight (Peer-reviewed Manuscript): The International Journal of Radiation Oncology. April 1, 2015 Volume 91, Issue 5, Pages A15–A16.

2014 – Award: AACR Scholar-in-Training Award 2014 San Antonio Breast Cancer Symposium (SABCS)

2014 – Award: Experimental Radiation Oncology Graduate Student of the Year Award

2009 – Graduation Distinction, Texas Tech University: *summa cum laude.*

FUNDING

ONGOING RESEARCH SUPPORT

Radiation Oncology Institute's (ROI) Research Grant	$50,000	07/2019-06/2021
Development of a miRNA Signature to Personalize Radiation Therapy in PDAC		
RSNA Research & Education Foundation Grant	$25,000	07/2019-06/2020
Elucidating and Targeting BRAFV600E Mediated Radioresistance in Anaplastic Thyroid Cancer		
Ohio State Radiation Oncology Translational Award	$15,000	07/2019-06/2020
Utilizing microRNAs as Radiosensitizers for Pancreatic Cancer		

COMPLETED RESEARCH SUPPORT

Ohio State Gastrointestinal Development Award	$22,000	12/2018-05/2019
Discovery of Novel Prognostic and Predictive miRNA Signatures to Guide Neoadjuvant Therapies in Pancreatic Adenocarcinoma		
The NIH CTSA TL1 Training Grant	$30,000	01/2012-06/2013
Statins inhibit the tumor associated macrophage inflammatory response making tumor-initiating cells more radiosensitive		

CLINICAL AND ACADEMIC MENTORING

Name	Position, Awards achieved under mentorship	Years
Megan Halloran	Undergraduate Student, Pelotonia Undergraduate Research Award	2018-present
Jennifer Matsui	Medical Student, Medical Student Research Scholarship (MDSRS)	2019-present
Andrew Hu	Medical Student, Ohio State Undergraduate Pelotonia Scholarship	2019-present
Ansel Nalin	Medical Student, MD/PhD Student Ohio State	2017-present
Kevin Liu	Medical Student, ASTRO medical student award	2018-present

PUBLICATIONS

Peer-reviewed manuscripts

1. **Adam R. Wolfe**, Beth Cureton, Vedat Yildiz et al. (2020) Bremsstrahlung SPECT Based RadiationTumor Dosimetry Predicts for Tumor Control in Patients Treated with Yttrium-90 Radioembolization for Liver Metastases from Colorectal Cancer. Under Review at Practical Radiation Oncology
2. **Adam R. Wolfe**, Ryan Robb, Ahmed Hagazi et al. (2020) Gemcitabine and Nab-paclitaxel Scheduling Improves Therapeutic Efficacy Compared to the Standard Concurrent Regimen in Pre-clinical Models of Pancreatic Cancer. Under Review at Clincal Cancer Research.
3. **Wolfe, A.R.**, Prabhakar, D, Yildiz V, et al. Neoadjuvant Modified FOLFIRINOX versus Nab-Paclitaxel plus Gemcitabine for Borderline Resectable or Locally Advanced Pancreatic Cancer Patients who Achieved Surgical Resection. Cancer Medicine. 2020.
4. **Wolfe, A. R.,** Wald P, Webb A, Robb R, Dillhoff M, Kwon W, Williams TM (2020). "A microRNA-based signature predicts local-regional failure and overall survival after pancreatic cancer resection." Oncotarget **11**(10): 913-923. 2020
5. Beckham, T.H., Barney, C., Healy, E., **Wolfe, A.R**., Branstetter, A., Yaney, A., Riaz, N., McBride, S.M., Tsai, C.J., Kang, J., Yu, Y., Chen, L., Sherman, E., Dunn, L., Pfister, D.G., Tan, J., Rupert, R., Bonomi, M., Zhang, Z., Lobaugh, S.M., Grecula, J.C., Mitchell, D.L., Wobb, J.L., Miller, E.D., Blakaj, D.M., Diavolitsis, V.M., Lee, N. and Bhatt, A.D. (2020), Platinum-based regimens versus cetuximab in definitive chemoradiation for human papillomavirus-unrelated head and neck cancer. Int. J. Cancer. doi: 10.1002/ijc.32736
6. Robb, R., Yang, L., Shen, C., **Wolfe, A. R**., Webb, A., Zhang, X., Williams, T. M. (2019). Inhibiting BRAF Oncogene-Mediated Radioresistance Effectively Radiosensitizes BRAF(V600E)-Mutant Thyroid Cancer Cells by Constraining DNA Double-Strand Break Repair. Clin Cancer Res, 25(15), 4749-4760. doi: 10.1158/1078-0432.CCR-18-3625

7. **Wolfe, A. R.,** Grecula, J. C., Blakaj, D., Weald, P., Carlson, M., Woods, K., Shabsigh, A. (2019). Robotic-assisted Intraoperative High-dose Rate Remote Brachytherapy Following Laparoscopic Robotic-assisted Resection of Pelvic Recurrence of Urethral Carcinoma. Advances in Radiation Oncology, 4(3), 443-446. doi:10.1016/j.adro.2019.03.006
8. **Wolfe, A.R.,** et al., Clinical Outcomes and Multidisciplinary Patterns of Failure for Olfactory Neuroblastoma: The Ohio State Experience. J Neurol Surg B, (2019 EFirst).
9. **Wolfe, AR**., Jain R, Pawlik T, Walker J, Williams TM, et al., Radiation-induced Colitis in a Pancreatic Cancer Patient with a Germline BRCA2 Mutation: A Case Report. Advances in Radiation Oncology. DOI: 10.1016/j.adro.2018.08.025
10. **Wolfe, A.R.** and T.M. Williams, Altering the response to radiation: radiosensitizers and targeted therapies in pancreatic ductal adenocarcinoma: preclinical and emerging clinical evidence. Annals of Pancreatic Cancer, 2018. 1(8). DOI: 10.21037/apc.2018.08.02
11. Rahal OM, **Wolfe AR**, Mandal PK, Larson R, Tin S, Jimenez C, Zhang D, Horton J, Reuben JM, McMurray JS, Woodward WA. Blocking Interleukin (IL)4- and IL13-Mediated Phosphorylation of STAT6 (Tyr641) Decreases M2 Polarization of Macrophages and Protects Against Macrophage-Mediated Radioresistance of Inflammatory Breast Cancer. Int J Radiat Oncol Biol Phys. 2018 Mar 15;100(4):1034-1043. doi: 10.1016/j.ijrobp.2017.11.043. Epub 2017 Dec 7.
12. Stecklein SR, Reddy JP, **Wolfe AR**, Lopez MS, Fouad TM, Debeb BG, Ueno NT, Brewster AM, Woodward WA. Lack of Breastfeeding History in Parous Women with Inflammatory Breast Cancer Predicts Poor Disease-Free Survival. J Cancer. 2017 Jul 1;8(10):1726-1732. doi: 10.7150/jca.20095. eCollection 2017.
13. **Wolfe AR**, Trenton NJ, Debeb BG, Larson R, Ruffell B, Chu K, Hittelman W, Diehl M, Reuben JM, Ueno NT, Woodward WA. Mesenchymal stem cells and macrophages interact through IL-6 to promote inflammatory breast cancer in pre-clinical models. Oncotarget. 2016 Dec 13;7(50):82482-82492. doi: 10.18632/oncotarget.12694
14. Debeb BG, Lacerda L, Anfossi S, Diagaradjane P, Chu K, Bambhroliya A, Huo L, Wei C, Larson RA, **Wolfe AR**, Xu W, Smith DL, Li L, Ivan C, Allen PK, Wu W, Calin GA, Krishnamurthy S, Zhang XH, Buchholz TA, Ueno NT, Reuben JM, Woodward WA. miR-141-Mediated Regulation of Brain Metastasis From Breast Cancer. J Natl Cancer Inst. 2016 Apr 13;108(8). doi: 10.1093/jnci/djw026. Print 2016 Aug.
15. Debeb BG, Lacerda L, Larson R, **Wolfe AR**, Krishnamurthy S, Reuben JM, Ueno NT, Gilcrease M, Woodward WA. Histone deacetylase inhibitor-induced cancer stem cells exhibit high pentose phosphate pathway metabolism. 2016 May 10;7(19):28329-39. doi: 10.18632/oncotarget.8631.
16. **Wolfe, A.R**., A. Bambhroliya, J.P. Reddy, B.G. Debeb, L. Huo, R. Larson, L. Li, N.T. Ueno, and W.A. Woodward, MiR-33a Decreases High-Density Lipoprotein-Induced Radiation Sensitivity in Breast

Cancer. Int J Radiat Oncol Biol 2016 Jun 1;95(2):791-9. doi: 10.1016/j.ijrobp.2016.01.025. Epub 2016 Jan 22.

17. **Wolfe, A.R**., B.G. Debeb, L. Lacerda, R. Larson, A. Bambhroliya, X. Huang, F. Bertucci, P. Finetti, D. Birnbaum, S. Van Laere, P. Diagaradjan, B. Ruffell, N.J. Trenton, K. Chu, W. Hittelman, M. Diehl, I. Levental, N.T. Ueno, and W.A. Woodward, Simvastatin prevents triple-negative breast cancer metastasis in pre-clinical models through regulation of FOXO3a. Breast Cancer Res Treat, 2015. 154(3): p. 495-508.
18. **Wolfe, A. R**., R. L. Atkinson, J. P. Reddy, B. G. Debeb, R. Larson, L. Li, H. Masuda, T. Brewer, B. J. Atkinson, A. Brewster, N. T. Ueno and W. A. Woodward (2015). "High-Density and Very-Low-Density Lipoprotein Have Opposing Roles in Regulating Tumor-Initiating Cells and Sensitivity to Radiation in Inflammatory Breast Cancer." International Journal of Radiation Oncology*Biology*Physics 91(5): 1072-1080.
19. **Wolfe, A.R**. and W.A. Woodward, Breast Cancer Stem Cell Correlates as Predicative Factors for Radiation Therapy. Semin Radiat Oncol, 2015. 25(4): p. 251-9.
20. Farshid Dayyani, Nila U. Parikh, Andreas S. Varkaris, Jian H. Song, Shhyam Moorthy1,Tanushree Chatterji, Sankar N. Maity, **Adam R. Wolfe** et al. Combined Inhibition of IGF-1R/IR and Src Family Kinases Enhances Antitumor Effects in Prostate Cancer by Decreasing Activated Survival Pathways. PLOS ONE. December 2012. Volume 7. Issue 12

Presentations (oral, posters and seminars)

1. **Wolfe, AR**, Yang L, Robb R, Shen C, Williams TM. A KRAS-RAD18-miR-296-3p Regulated Network Mediates Radioresistance in Pancreatic Cancer Through Homologous Recombination. 2020 ASTRO Annual Meeting. Miami FL. Oral Presentation
2. **Wolfe, AR** et al. Optimization of biologic scheduling of gemcitabine and abraxane improves treatment response compared to the standard concurrent regimen in preclinical models of pancreatic cancer. 2020. AACR Pancreaetic Cancer: Advances in Science and Clinical Care. Boston, MA
3. **Wolfe, A.R**. et al. Bremsstrahlung SPECT Based Radiation Tumor Dosimetry Predicts for Tumor Control in Patients Treated with Yttrium-90 Radioembolization for Hepatic Metastases from Colorectal Cancer. 2019 ASTRO Annual Meeting. Chicago, IL
4. **Wolfe, A.R**., et al., Neoadjuvant FOLFIRINOX versus adjuvant gemcitabine in pancreatic cancer. ASCO Annual Meeting 2019. Chicago, IL
5. **A.R. Wolfe**, Klamer B, Prevedello L, Carrau R, Blakaj D. The Impact of Adjuvant Radiation Therapy in Early Stage/Low Hyams Grade and Elective Nodal Irradiation for Advanced Stage/High Hyams Grade Esthesioneuroblastoma October 22, 2018, 2018 ASTRO Annual Meeting. San Antonio, TX
6. **A.R. Wolfe**, P.J. Chuba, E.W. Schervish, J.R. Frontera, S. Szpunar, A.M. Aref. Utilizing Prostate Biopsy Tumor Involvement as a Novel Predictor for Non-metastatic Prostate Cancer Outcomes October 01, 2017 2017 ASTRO Annual Meeting. San Diego, CA

7. **Wolfe, A**. Bambhroliya, J. Reddy, B.G. Debeb, W.A. Woodward MiR-33a Regulates Radiation Sensitivity to High Density Lipoprotein in Breast Cancer November 01, 2015 ASTRO Annual Meeting. San Antonio, Texas
8. **Wolfe, R**. Atkinson, J. Reddy, A. Brewster, N. Ueno, W. A. Woodward. Lipoproteins HDL And VLDL Have Opposing Roles In Regulating Sensitivity To Radiation In Vitro And Predict For Overall Survival In Patients With Inflammatory Breast Cancer. ASTRO Annual Meeting. September 2014. San Francisco, CA.-**Oral Presentation**
9. **Adam R. Wolfe**. Mesenchymal stem cells and macrophage interactions promote inflammatory breast cancer cell invasion and self-renewal. 2014 San Antonio Breast Cancer Symposium, December 9- 13, 2014, San Antonio, Texas
10. **A. Wolfe**, W. Woodward. Targeting Radiation-Resistant Breast Cancer Stem Cells With the Combination Erlotinib and Simvastatin. 1 October 2013. ASTRO Annual Meeting. September 2013. Atlanta, GA.
11. **Adam R. Wolfe**, Lara Lacerda, Naoto T. Ueno, Wendy A. Woodward. Simvastatin targets breast cancer stem-like cells by inhibiting intracellular signaling pathways. American Association for Cancer Research (AACR) Annual Meeting. April 2013. Washington D.C

HOBBIES AND OUTSIDE INTERESTS:

Traveling, CrossFit, College Football, History

APPENDIX C

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, Cavenaugh, 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

diagnosis rates in Arkansas are:

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

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

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

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

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

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

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

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

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

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

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

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

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

(13) National Cancer Institute-Designated Cancer Centers have

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

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

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

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

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

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

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

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

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

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

University of Arkansas for Medical Sciences will need to recruit:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

19-5-1149. University of Arkansas for Medical Sciences National Cancer Institute Designation *Trust Fund* — Report.

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

(b) The fund shall consist of:

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

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

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

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

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

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

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

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

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

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

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

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

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

(D) 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.

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

/s/Irvin

APPROVED: 2/19/19