

NCI Fund Legislative Report

December 1, 2021 – May 31, 2022



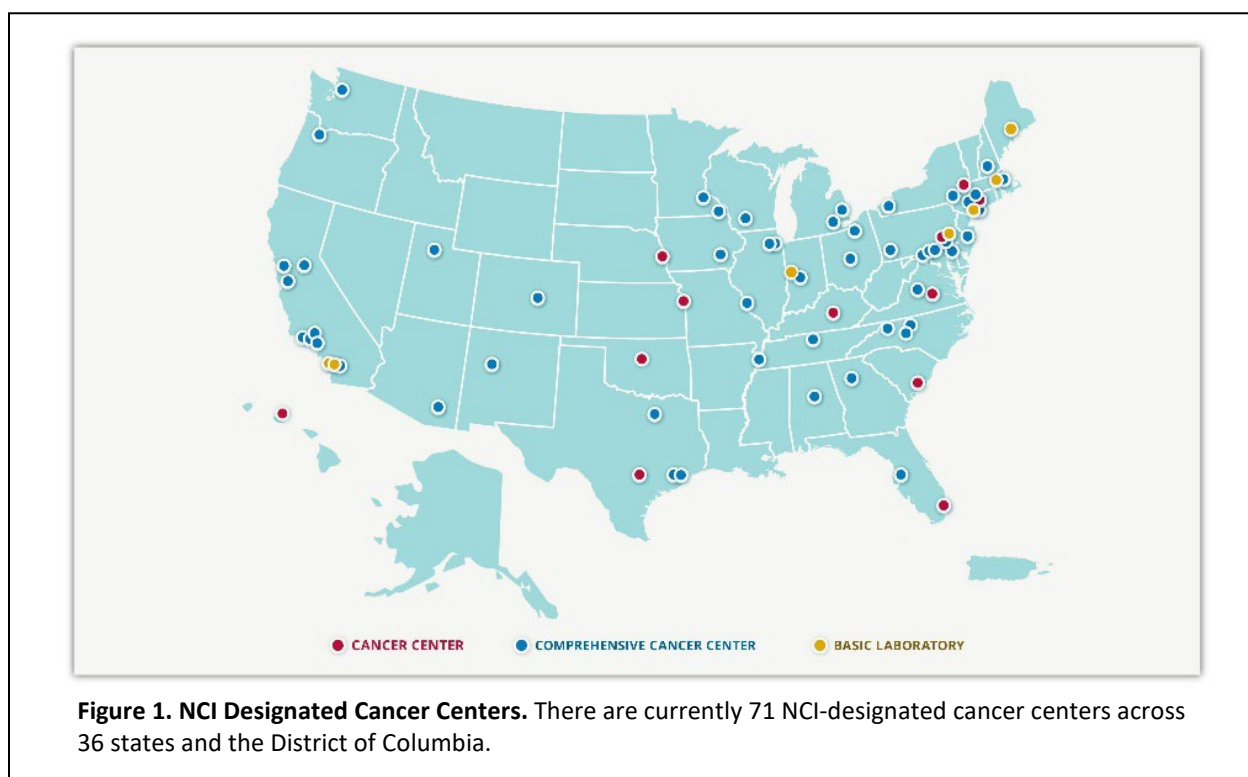
Winthrop P. Rockefeller
Cancer Institute

NCI Designation Overview

The National Cancer Institute (NCI) recognizes designated cancer centers for their exceptional leadership in clinical, laboratory, and translational research. NCI-designated cancer centers represent the top 2% of cancer centers in the United States.

In 1971, President Richard Nixon signed the National Cancer Act of 1971 authorizing the National Cancer Program to provide additional 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. When the U.S. Senate approved to increase the number of comprehensive cancer centers in 1975, their goal was to geographically distribute these centers in order to provide an estimated 80% of the U.S. population with access to cancer care within a reasonable driving distance.

Today, the NCI supports a network of 71 NCI-designated cancer centers in 36 states and the District of Columbia; however, there are no NCI-designated centers in Arkansas, Louisiana, or Mississippi (**Figure 1**). The nearest NCI-designated centers providing adult cancer care are located in Dallas, Oklahoma City, Kansas City, St. Louis, and Nashville. These centers are all ~300+ miles (5+ hours drive) away from Central Arkansas and are not a feasible cancer care solution for most Arkansans.



Sylvester Comprehensive Cancer Center in Miami, Florida, earned the most recent NCI designation in 2019. Prior to that, the University of Kansas Cancer Center in Kansas City, Kansas; Markey Cancer Center in Lexington, Kentucky; and Stephenson Cancer Center in Oklahoma City, Oklahoma, most recently earned NCI designation in 2012, 2013, and 2018, respectively.

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 Arkansas focused on improving cancer outcomes. 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 all Arkansans.
4. Arkansans will have access to clinical trials and new cancer treatments that are only available to NCI-designated cancer centers.
 - a. Access to grant funding opportunities that are only available to NCI-designated cancer centers
 - b. Access to cutting edge clinical trials and investigational 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. It is estimated that designation could lead to the establishment of a biotechnology park in Arkansas along with offices and headquarters for many pharmaceutical companies.

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-21-321.html>).

Our estimated cost to attain NCI Designation is \$200 million. This cost is in line with recent successful NCI Designation efforts. Oklahoma's Stephenson Cancer Center became the 70th NCI-designated cancer center on May 2, 2018, stating it took 12 years and \$400 million to become designated. Twenty-nine percent of the \$400 million came from the state, predominantly through a statewide tobacco tax, according to Stephenson Cancer Center Director, Robert Mannel, MD¹. The Sylvester Comprehensive Cancer Center in Miami, Florida reported

¹ The Cancer Letter. 2 May 2018, Vol. 44, No. 18, https://cancerletter.com/conversation-with-the-cancer-letter/20180504_3/

that it spent \$250 million over five years to become the country's 71st NCI Designated cancer center on July 29, 2019. Sylvester's director, Stephen Nimer, MD, said that the state of Florida contributed a little over \$16 million per year during that time to support their efforts to become NCI Designated².

Cancer centers seeking NCI Designation undergo 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.

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 a cancer center becomes NCI-designated. After NCI Designation is attained, it must be renewed every five years with the submission of another CCSG and 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 application as soon as possible. Several critical factors affect this timeline: 1) how quickly strategic cancer research recruitments can be made, 2) achieving approximately 300 patient accruals on clinical trial (NCI requirement), 3) establishing a state-wide community outreach and engagement effort including cancer research relevant to the state of Arkansas, and 4) ultimately a timeline set by NCI for submitting the CCSG application.

² *The Cancer Letter*. 29 July 2019, Vol. 45, No. 31, https://cancerletter.com/the-cancer-letter/20190729_1/

Roadmap to NCI Designation

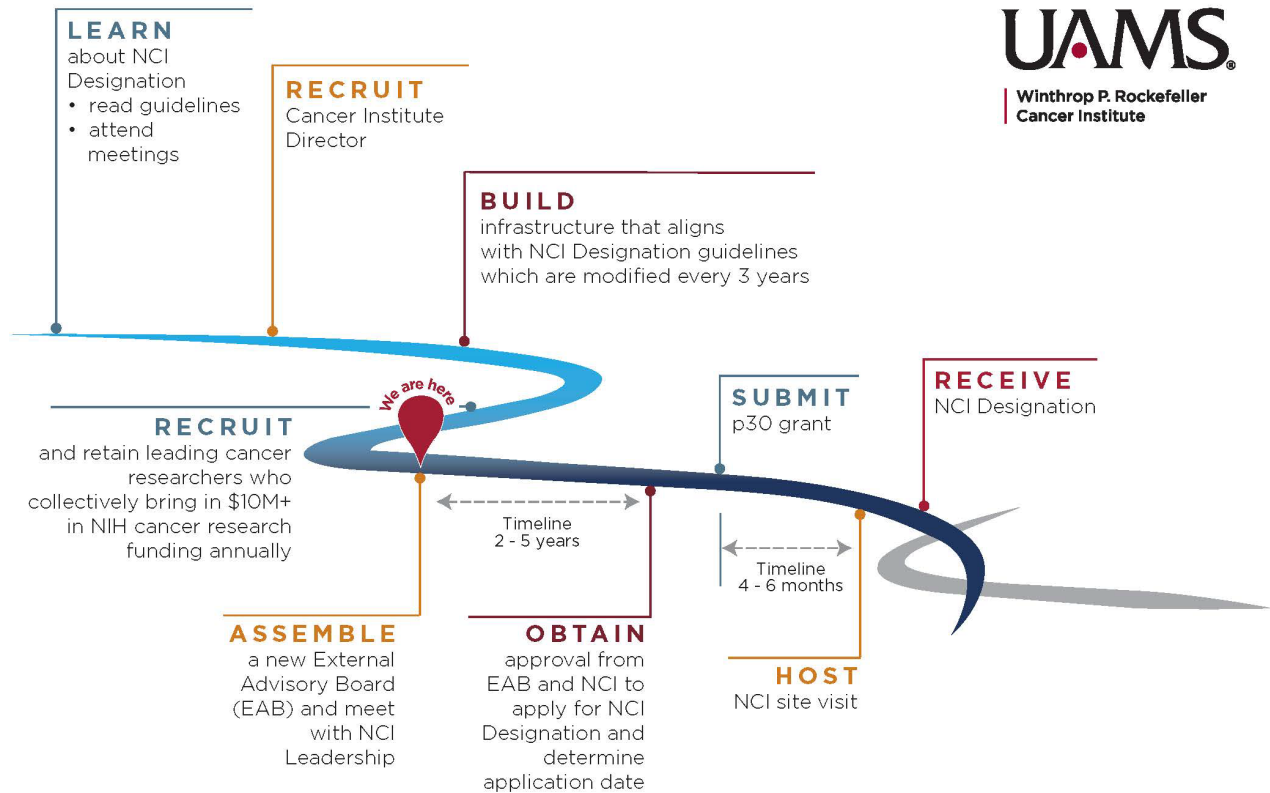


Figure 2. Process to Attain NCI Designation.

Impact of COVID-19

The onset of the COVID-19 pandemic in 2020 continues to impact our state and the delivery of healthcare to our citizens. With the onset of the Omicron variant in early 2022, UAMS had to further alter many processes and services to provide the safest environment possible for all of our patients. However, our surgery, medical oncology/myeloma clinics, and infusion clinic activities have resumed pre-pandemic case levels and remained stable in the December 1, 2021-May 31, 2022, time period.

In April 2022, our Head and Neck and Surgical Oncology Clinics moved into newly renovated state-of-the-art space on the 7th floor of the Winthrop P. Rockefeller Cancer Institute. Plans are under consideration to renovate additional spaces on 7th floor to expand medical oncology services. 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. We currently offer four CAR-T therapy products, including one specific for myeloma and three for leukemias and lymphomas.

Laboratory research has continued unaffected throughout the COVID-19 pandemic at UAMS. Clinical research remains in full capacity. Our new investigator recruitment has also been robust despite the limitations due to COVID. While our initial screening and interview process shifted to the virtual environment, the majority of final candidates who appeared likely for recruitment have been able to come to campus for visits. We have signed two new research faculty since the last 6-month report. We also have two offers currently in process. We have shifted to targeted recruitment to fill specific gaps in our scientific portfolio. As all institutions are dealing with these challenges, we have not lost any candidates as a result of COVID-19, and we have been very pleased with our success in recruitments.

State Funds to Support NCI Designation

The Winthrop P. Rockefeller Cancer Institute continues to diligently use the state funds provided by Senate Bill 151 to support NCI designation efforts. **Table 1** shows our actual expense to date and forecasts current confirmed commitments in future years. **Table 2** provides an accounting of the trust fund for the current reporting period of December 1, 2021 – May 31, 2022. Details on the expense breakdown can be found in **Appendix A**.

Table 1. State Funds – NCI Designation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
Division	FY20 (Actual Expense)	FY21 (Actual Expense)	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
Actual Expense	1,929,339	4,801,455								6,730,794
Encumbered Expense (current confirmed commitments)			21,392,030	32,302,983	13,123,809	11,836,181	10,194,521	7,243,744	300,000	96,393,267
Total Revenue Received to Trust Fund To Date										38,776,579

Table 2. Trust Fund Reporting Period: December 1, 2021 to May 31, 2022

Beginning Balance (December 1, 2021)	\$37,921,871.08
Total Transfers In	\$0.00
Special Revenue: Cigarette Paper Tax	\$882,051.45
**Processing Charges by DF&A on Special Revenue	(\$27,343.59)
Net Revenue Received	\$38,776,578.94

Expense:

**Workers Comp Charged direct by DF&A	(\$12,368.82)
Expense Draws Posted for Period (12/01/2021 – 05/31/2022)	(\$8,056,585.04)
Ending Balance (May 31, 2022)	\$30,707,625.08
Expense Draws for November Not Yet Posted to AASIS	(\$1,637,283.00)
Adjusted Ending Balance	\$29,070,342.08

**Department of Finance and Administration adjustments

Progress Toward Achieving NCI Designation December 1, 2021 – May 31, 2022

Large Scale Recruitment of Cancer Researchers: The Cancer Institute placed two rounds of an omnibus ad seeking multiple cancer researchers in three top scientific journals and their accompanying online sites (Science, Nature, and American Association for Cancer Research). Additionally, we work with departments across UAMS 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 involved in the screening, interviewing, and hiring process. From these efforts, 57 top candidates were interviewed via Zoom, and 47 candidates had on-campus interviews. **Table 3** shows two successful recruitments from this reporting period. Their CVs are provided in **Appendix B**. The sum total of these efforts to date is 20 diverse candidates across academic rank and home departments; we have two offer letters in process.

Table 3. Cancer Research Recruitments December 1, 2021 – May 31, 2022

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*
Peter DelNero, PhD	NIH/NCI	Assistant Professor	Starting June 1, 2022	Internal Medicine	Implementation Science & Cancer	None	\$600,000 for startup resources over 5 years (FY23 – FY27)
KyoungHyun Kim, PhD	College of Medicine University of Cincinnati	Assistant Professor	Starting July 1, 2022	Pharmacology and Toxicology	Role of NR2E3 in liver diseases and cancer	R01, \$1,250,000 R21, \$275,000	\$1,350,000 for startup resources over 5 years (FY23 – FY27)

Targeted Recruitment of Cancer Researchers: In June 2021, the Cancer Institute drafted and placed targeted advertisements for community health researchers and implementation scientists as part of our Community Outreach and Engagement (COE) efforts. These ads were placed in community health high-impact journals, and these efforts have so far resulted in two COE research faculty hires, with one in process. Also in June 2021, the Cancer Institute drafted and placed targeted advertisements for cancer epidemiologists in high-impact epidemiology journals; we are in the process of scheduling zoom interviews and on-campus visits with our applicants.

Increased Research Funding: Our recruitment of active researchers has brought in additional cancer research funding. Our 20 signed recruits are bringing in \$8.9 million of active external peer-reviewed funding (total); this number does not include all of the recruits' planned grant submissions once arriving on campus. Investments in FY21 new recruits amounted to a 168% return on investment. In addition, our current researchers continue to submit multiple grants to cancer-related funding sources such as NCI, ACS, and DOD. Our researchers were awarded \$25.6 million in new peer-reviewed cancer related funding (total) during the current reporting period of December 1, 2021 – May 31, 2022. As of May 31, 2022, our cancer researchers held \$18.5 million in peer-reviewed cancer related annual project direct cost grant funding.

Philanthropic Fundraising: We continue to actively pursue philanthropic support for the Cancer Institute over this legislative cycle. Through multiple efforts including individual appeals, fund raising events and broader marketing, we have successfully collaborated with the Vice Chancellor of Institutional advancement, John Erck,

to raise substantial monies. We have secured gifts and pledges totaling \$19.45M to date as we pursue our \$30M goal. These donations address the pledged matching funds from the Cancer Institute according to the agreed upon legislative monies.

Strategic Recruitment of Oncology Clinical Faculty and Staff: We have hired four additional hematology oncologists to join our impressive clinical team who will be starting in the summer of 2022 (**Table 4**): Anusha Jillella, MD and Sunny Singh, MD, will serve our cancer network, Cesar Gentile Sanchez, MD, is a transplant specialist, and Mamatha Gaddam, MD, is a transplant specialist who will also have an appointment at the Central Arkansas Veterans Healthcare System. We have also hired a radiation oncologist (Santanu Samanta, MD), a surgical oncologist (Sonia Orcutt, MD), and two palliative care physicians (Emily Newsome, MD and Natalie Brooke Peeples, MD). Their CVs are presented in **Appendix C**. We continue to utilize medical search firms and our own advertisements to recruit top medical oncologists from around the country.

Table 4. Clinical Oncology Recruitments December 1, 2021 – May 31, 2022.

Incoming	Anticipated Start Date	Clinic	Subspeciality	Previous Organization
Anusha Jillella, MD	8/1/2022	Medical Oncology	General Oncology	Hematology/Oncology Fellow at the University of Arkansas for Medical Sciences
Sunny Singh, MD	7/1/2022	Medical Oncology	General Oncology	Hematology/Oncology Fellow at the University of Arkansas for Medical Sciences
Santanu Samanta, MD	7/1/2022	Radiation Oncology	Radiation Oncology	University of Maryland
Sonia Orcutt, MD	8/1/2022	Surgical Oncology	General Surgical Oncology	University of Illinois
Mamatha Gaddam, MD	8/1/2022	Medical Oncology	Transplant	Mayo Clinic, Rochester, MN
Cesar Gentile Sanchez, MD	7/1/2022	Hematology/Oncology	Transplant	Stanford University
Emily Newsome, MD	7/1/2022	Palliative Care	Palliative Care	Palliative Care Fellow at the University of Arkansas for Medical Sciences
Natalie Brooke Peeples, MD	9/1/2022	Palliative Care	Palliative Care	Emory University

Community Outreach and Engagement: The Cancer Institute Community Outreach and Engagement (COE) office launched a patient navigation program with nine highly motivated persons assigned to cover all regions of Arkansas (**Figure 3**). The patient navigator focus is on increasing cancer screenings, health education, and improving cancer coordination care for patient and families. After engaging in more than 900 hours of specialized training, the patient navigators have provided services to more than 1000 Arkansans (**Vignettes 1 and 2**). In addition, the COE office has accelerated rural cancer research. A rural research network was launched and will engage in cancer research throughout rural Arkansas. The COE office began on a comprehensive cancer needs assessment which will be completed this fall. The needs assessment will inform and guide future community-based cancer research.

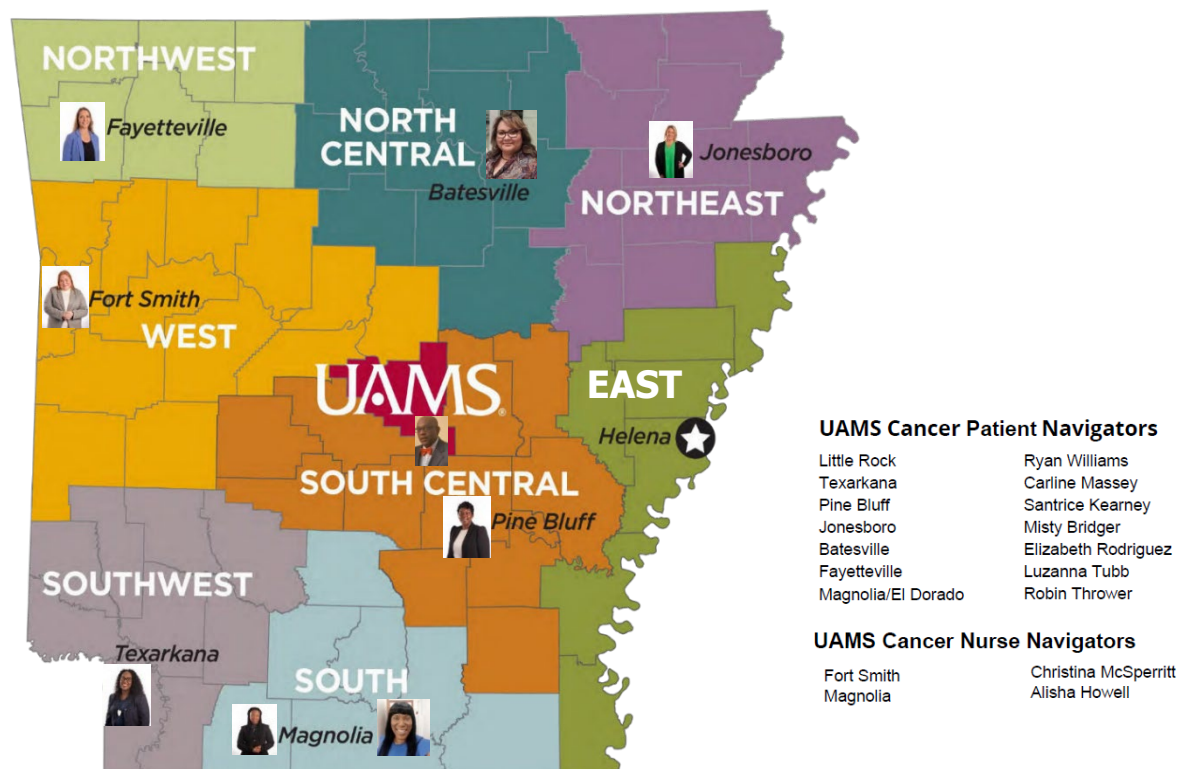


Figure 3. UAMS Cancer Navigators

Vignette 1. Navigator: Pine Bluff, AR

I began working with a stage 3 lung cancer and congestive heart failure patient after meeting him at a local community event. He was hospitalized after receiving chemotherapy. After he was released, I learned that he didn't have an adequate bed in which to recover. I immediately reached out to various resources and was able to secure a hospital bed for him. His residence needed maintenance and was not ideal for healing, so I contacted another resource to assist in home maintenance. I was also able to arrange for home health care. I continue to follow-up with him. I am proud I was able to make a difference in addressing the barriers he faced due to his cancer diagnosis.

Vignette 2. Navigator: Texarkana, AR

A metastatic cervical cancer patient was referred to me by a local pharmacist. I learned the patient was a mother of three and could not afford some of her medications. Her cancer had spread to her lymph nodes. I explained to her that part of my job as a Cancer Navigator was to help alleviate her stress by helping her find resources. I connected her with several local programs to help pay for doctor's visits and prescriptions. I was able to speak with her provider, and he stated that because of her diagnosis she would not be able to work. I immediately began working with her on social security disability benefits.

Clinical Trials: To provide the best cancer treatment options for Arkansans, The Cancer Institute continues to expand its clinical trials program. The Clinical Trials Office (CTO) has been reorganized with Matthew Kovak, MS, CCRP, serving as the Executive Director. A staff of 65 research nurses, research coordinators, and regulatory and financial specialists current support 267 clinical research studies in brain, breast, cutaneous, gastrointestinal, genitourinary, gynecological, head and neck, lung, and hematological cancers enrolling 60 participants in therapeutic trials during this reporting period. We also expanded our staff presence and clinical trial access to Northwest Arkansas and the Central Arkansas Veterans Healthcare System.

New Cancer Institute Senior Leadership: The Cancer Institute is excited to announce a new Cancer Institute leader who will help develop the infrastructure for the programs required for our NCI Designation application.

Pebbles Fagan, PhD, MPH, Professor of Health Behavior & Health Education in the College of Public Health, was appointed as Associate Director of Cancer Prevention and Control for the Winthrop P. Rockefeller Cancer Institute. She will play a role in expanding our capacity in cancer prevention and control through relevant research, programmatic development, and interactions with our Cancer Prevention & Populations Sciences Program Leaders.

Creation of the External Advisory Board: Over the last year, the WPRCI Director has personally solicited and engaged multiple cancer experts to participate in an External Advisory Board for the Cancer Institute. The Winthrop P. Rockefeller Cancer Institute External Advisory Board (EAB) is now established (**Figure 2**) and is comprised of ten diverse expert physicians and researchers from NCI Designated (and Comprehensive) Cancer Centers across the country. The EAB will address the status of the CI research programs, COE, leadership and clinical trial efforts. As such their detailed bios and career descriptions have been included (**Appendix D**). The EAB will provide us with critical guidance as we continue to move towards our proposal for NCI designation. The first EAB meeting is scheduled in August 2022.

Cancer Research Grant Activity: Table 5 summarizes grant activity occurring December 1, 2021 – May 31, 2022.

Table 5. Cancer Research Grant Activity.

	External Peer-Reviewed New Grants Submitted (#)	External Peer- Reviewed New Grants Awarded (#)	Awarded External Peer-Reviewed New Grant Funding (Project Period Total Costs)
Dec 1, 2021 – May 31, 2022	86	14	\$25,648,360

APPENDIX A

Expense Breakdown

Semiannual Report July 1, 2022 – Expense Breakdown

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Atiq, Omar, MD (COM Internal Medicine-Medical Oncology)	3012857	26,712.00	6,612.87	4,525.78	37,850.65	Support of head & neck clinical trial
Cancer Service Line Support	3012859	7,725.00	1,342.28	0.00	9,067.28	Clinical research effort for Jibran Ahmed, MD
Hauer-Jensen, Martin, MD, PhD (COP - Radiation Health)	3012860	0.00	0.00	11,252.10	11,252.10	Bridge funding for resubmission of COBRE grant
Cancer Institute Administration	3012861	30,517.18	6,828.27	4,595,725.46	4,633,070.91	Staff salaries, equipment, supplies, etc.
Cancer Institute Basic Research	3012862	0.00	0.00	16,538.08	16,538.08	For WPRCI Research Retreat
Cancer Clinical Trials Research Administration (CCTRA)	3012863 & 3013403	178,960.08	41,597.88	1,621.57	222,179.53	Cancer Clinical Trials
Lewis, Gary, MD (COM - Radiation Oncology)	3012865	37,999.98	6,060.60	0.00	44,060.58	Recruitment package support
Leung, Ricky, PhD (COM Pharmacology Toxicology)	3012866	46,665.00	11,046.39	28,726.33	86,437.72	Recruitment package support
Birrer, Michael, MD, (Cancer Institute)	3012954	15,000.00	0.00	32,395.05	47,395.05	Recruitment package support
Manzano, Mark, PhD (COM Microbiology & Immunology)	3012957	17,150.04	4,254.44	139.88	21,544.36	Recruitment package support
Zhan, Frank MD, PhD (COM Internal Medicine - Medical Oncology)	3012958	40,865.69	10,257.85	499.32	51,622.86	Recruitment package support
Belido, Teresita, PhD (COM Physiology and Biophysics)	3012983	27,132.49	5,693.17	12,322.65	45,148.31	Recruitment package support
Stephens, Kimberly, MD (COM Peds Care)	3012984	667.25	116.21	56.10	839.56	Recruitment package support
Su, Joseph, MD (CPH Epidemiology)	3012985	25,250.04	9,563.37	2,672.55	37,485.96	Recruitment package support
Cancer Institute Genomics Core Support	3012986	0.00	0.00	526,365.64	526,365.64	Supplement to Core for expense in excess of operating revenue
Cancer Institute Health Disparities - Ronda Henry-Tillman, MD	3012989	4,038.13	471.12	-96.97	4,412.28	Retention package support
Program Account Description	Fund Center	Salary	Fringe	M&O	Total Expense	Notes

	Account					
Core Voucher Program	3012996	0.00	0.00	62,016.00	62,016.00	Cancer core use vouchers for CI members
Cancer Pilot Program	3012997	0.00	0.00	600,000.00	600,000.00	Support for 4 cancer pilot projects at \$100K each, credit represents balance not yet spent
Amick, Benjamin III, PhD (CPH Epidemiology)	3013016	10,672.01	1,913.40	0.00	12,585.41	Recruitment package support
Cornett, Larry (AR INBRE grant support)	3013041	4,099.98	1,185.71	0.00	5,285.69	Program support
Ryan, Katie, PhD (COM Biochemistry)	3013042	57,587.65	12,216.20	14,476.77	84,280.62	Recruitment package support
Chiang, Rung-Chin, MD, (CPH Environmental & Occup Health)	3013043	31,319.65	7,419.04	0.00	38,738.69	Recruitment package support
Jones, Dina (CPH HBHE Center for Tobacco Study)	3013044	12,656.14	2,769.27	33,250.72	48,676.13	Recruitment package support
Xia, Fen (COM Radiation Oncology)	3013274	74,958.16	17,999.27	44,107.21	137,064.64	Recruitment package support
Proteomics Core (COM Biochemistry)	3013275	600.48	190.09	0.00	790.57	Proteomics Core support
Lu, Williams (COM Pathology)	3013283	0.00	0.00	107,291.87	107,291.87	Recruitment package support
Hsu, Ping-Ching (COPH EOH)	3013285	6,199.77	2,028.22	0.00	8,227.99	Recruitment package support
WPRCI Diversity	3013309	20,995.38	3,916.86	0.00	24,912.24	Support for Associate Director for Diversity, Equity, and Inclusion
Johann, Don (DBMI)	3013347	98,424.48	27,595.54	28,857.49	154,877.51	Research support
Chambers, Tim (COM Biochemistry)	3013360	0.00	0.00	2,852.23	2,852.23	Project Collaboration Support
Rahman, Mohammad (COM Biochemistry)	3013363	37,519.72	7,211.49	15,558.57	60,289.78	Recruitment package support
Racine-Miousse, Isabella (COM Biochemistry)	3013385	1,250.01	314.61	36,762.95	38,327.57	Recruitment package support
RRAP Pilots	3013468	0.00	0.00	99,750.00	99,750.00	Rural Research Awards Program
Travel Grant Program	3013472	0.00	0.00	7,391.45	7,391.45	Support for cancer related research travel
CTRM Scholars (TRI)	3013477	52,215.90	12,520.22	0.00	64,736.12	Translational Research support
Program Account Description	Fund Center	Salary	Fringe	M&O	Total Expense	Notes

	Account					
Koss, Brian (COM Biochemistry)	3013478	27,603.96	5,971.06	170,900.52	204,475.54	Recruitment package support
Tobacco Cessation	3013622	3,942.06	658.94	0.00	4,601.00	Tobacco cessation program support
Hallgren, Emily	3013683	45,000.00	11,242.65	0.00	56,242.65	Recruitment package support
Bioinformatics Core	3013689	26,875.00	6,649.06	14,872.95	48,397.01	Supplement to Core for expense in excess of operating revenue
Van Rhee, Fritz	3013696	0.00	0.00	4,750.00	4,750.00	Translational Research support
Schootman, Mario	3013703	90,579.73	22,945.24	0.00	113,524.97	Recruitment package support
Rodriguez, Analiz	3013709	72,614.78	9,607.95	0.00	82,222.73	Research support
Genomics Core Secondary	3013719	0.00	0.00	22,480.88	22,480.88	Additional support to the Core for expense not included in the recharge rate sheet.
Jaemsen, Joonas	3013737	0.00	0.00	10,195.23	10,195.23	Recruitment package support
Moldoveanu, Tudor	3013738	0.00	0.00	2,500.00	2,500.00	Recruitment package support
Total Expense		2,075,507.82	492,168.70	7,126,191.52	9,693,868.04	

APPENDIX B

Curricula Vitae of Cancer Research Recruits

Peter F. DelNero

Cancer Prevention Fellow
National Cancer Institute

9609 Medical Center Dr, 3E410
Rockville, MD 20850

peter.delnero@nih.gov
(913) 271-2229

EDUCATION

M.P.H., Quantitative Methods	Harvard University, Boston, MA	May 2019
Ph.D., Biomedical Engineering	Cornell University, Ithaca, NY	November 2017
M.S., Biomedical Engineering		March 2015
<i>Thesis Adviser: Claudia Fischbach, PhD</i>		
B.E., Chemical Engineering	Vanderbilt University, Nashville, TN	May 2011
<i>Magna Cum Laude, Minors: English, Chemistry, Materials Science</i>		

RESEARCH EXPERIENCE

Postdoctoral Fellow, National Cancer Institute	2018 – present
<ul style="list-style-type: none">• Fellowship in the NCI Division of Cancer Control and Population Sciences, specializing in implementation science. Mentored by Dr. David Chambers.• Created a geospatial dataset to characterize the population burden of cancer in NCI-designated catchment areas.• Conducted a systematic review of telehealth in cancer care delivery.	
Graduate Research Assistant, Cornell University	2011 - 2017
<ul style="list-style-type: none">• Investigated the tissue-level determinants of cancer development and progression, focusing on the relationship between blood vessels and tumor metabolism in the cancer microenvironment.• Used microfabrication technologies to pattern artificial vascular structures within cell-laden biomaterials, including collagen and alginate.• Performed a microarray gene expression analysis comparing hypoxia response of cancer cells embedded in micropatterned hydrogels to identify differentially-regulated signaling networks.	
Undergraduate Research Assistant, Vanderbilt University	2009 - 2011
<ul style="list-style-type: none">• Conducted multidisciplinary research in systems biology, bioengineering, and microfluidics• Awarded W. Dennis Threadgill Award for Outstanding Achievement in Chemical Engineering• Engineering design team received the Thomas G. Arnold Prize for BME Systems Design	

FELLOWSHIPS, GRANTS, & AWARDS

Cancer Prevention Fellowship	2018 - present
<i>National Cancer Institute, 4-year stipend</i>	
K. Patricia Cross Future Leaders Award	2017
<i>American Association of Colleges & Universities</i>	
NSF Graduate Research Fellowship	2012 - 2016
<i>National Science Foundation, 3-year stipend</i>	
Buttrick-Crippen Fellowship	2016 - 2017
<i>Cornell Knight Institute for Writing in the Disciplines, 1-year stipend</i>	

Engaged Cornell Graduate Student Grant
 Cornell Office of Engagement Initiatives, \$15,000

2016 - 2017

NSF Graduate K-12 Fellowship
 Cornell Learning Initiative in Medicine and Bioengineering, 1-year stipend

2014 - 2015

PUBLICATIONS

	<i>Impact Factor</i>
<u>DelNero P*</u> , Buller I*, Jones R, Tatalovich Z, Vanderpool R, Ciolino H, Croyle B. A national map of NCI-designated cancer center catchment areas on the 50 th anniversary of the Cancer Centers Program. <i>In prep.</i>	--
Mitchell S, DelNero P, Rising C, Livinsky A, Jacobsen P. Using telehealth to advance care delivery during and following treatment: a scoping review of empiric studies. <i>In prep.</i>	--
Tsai P*, Lee MS*, [et al., including <u>DelNero P</u>]. Adaptation of pancreatic cancer cells to nutrient deprivation is reversible and requires glutamine synthetase stabilization by mTORC1. <i>Proceedings of the National Academy of Sciences</i> , March 2021.	9.41
<u>DelNero P*</u> , Hopkins B*, Cantley L, Fischbach C. Cancer metabolism gets physical. <i>Science Translational Medicine</i> , May 2018.	17.20
<u>DelNero P*</u> , McGregor A*. From patients to partners. <i>Science</i> , October 2017.	41.05
<u>DelNero P</u> . Navigating a wayward path toward public engagement. <i>Michigan Journal of Community Service Learning</i> , Fall 2017.	--
<u>DelNero P</u> , Fischbach C. Engineered tumours: roll-on scaffolds. <i>Nature Materials</i> , February 2016 (Commentary).	39.73
<u>DelNero P</u> , Lane M, Verbridge S, Kwee B, Kermani P, Hempstead B, Stroock A, Fischbach C. 3D culture broadly regulates tumor cell hypoxia response and angiogenesis via pro-inflammatory pathways. <i>Biomaterials</i> , July 2015.	8.38
<u>DelNero P*</u> , Seo BR*, Fischbach C. In vitro models of tumor vessels and matrix: engineering approaches to investigate transport limitations and drug delivery in cancer. <i>Advanced Drug Delivery Reviews</i> , April 2014.	15.03
Verbridge S, Chakrabarti A, <u>DelNero P</u> , Kwee B, Varner JD, Stroock AD, Fischbach C. Physicochemical regulation of endothelial sprouting in a 3-D microfluidic angiogenesis model. <i>Journal of Biomedical Materials Research-A</i> , October 2013.	2.84
<u>DelNero P*</u> , Morgan J*, Zheng Y, Verbridge S, Chen J, Craven M, Choi NW, Diaz-Santana A, Kermani P, Hempstead B, Lopez JA, Corso TN, Fischbach-Teschl C, Stroock A. Formation of microvascular networks in vitro. <i>Nature Protocols</i> , September 2013.	7.78
<u>DelNero P*</u> , Song YH*, Fischbach C. Microengineered tumor models: insights & opportunities from a physical sciences-oncology perspective. <i>Biomedical Microdevices</i> , August 2013.	2.75

COMMUNITY ENGAGEMENT & TEACHING

Cancer Community Partnership, National Cancer Institute	2020 – present
<ul style="list-style-type: none"> Founding member of a steering committee to strengthen connections between trainees and cancer advocates: cancer.gov/grants-training/training/about/cancer-community-partnership 	
Patient-Researcher Partnership, Cancer Resource Center of the Finger Lakes	2013 – 2018
<ul style="list-style-type: none"> Initiated a partnership with a local cancer support organization to facilitate dialogue between scientists and community members, including lab tours and monthly seminars Evaluated a new, graduate-level curriculum for community engagement in cancer research blogs.cornell.edu/cancercommunitypartnership 	
Instructor, Undergraduate Seminar, Cornell University	Spring 2017
<ul style="list-style-type: none"> Created an engineering course entitled “Dimensions of Cancer” (blogs.cornell.edu/bme1130) 	
Students Mentored:	
Biomedical engineering master’s student, currently a doctoral candidate at DIPP	2014 - 2015
Chemical engineering bachelor’s student, currently a postdoctoral fellow at FDA	2011 – 2012

LEADERSHIP & PROFESSIONAL DEVELOPMENT

Associate Member Council, American Association for Cancer Research	2020 – present
Develop programs to support training and career development for early-stage scientists	
Cancer Brainstorming Club, Cornell University	2012 - 2017
Coordinated training and networking activities for young investigators in the Cornell Physical Sciences-Oncology Network, including site visits, conference receptions, and seminars	
Cornell Participatory Action Research Network, Cornell University	2015 - 2017
Organized meetings and social events; co-authored a year-end report and presented to the Provost	
Intergroup Dialogue Project & Inclusive Teaching Network, Cornell University	2013 – 2017
Led workshops, conference sessions, and certificate programs for teaching and intergroup dialogue	
Big Red Pumpkin Boat Race, Cornell University	Summer 2014
Founded an organization to grow and race giant pumpkins; hosted the first Cornell Pumpkin Regatta	
Graduate Research & Teaching Fellows Program, Cornell University	2016 - 2017
Planned and implemented teaching workshops on critical thinking, grading, research, and learning	

SELECTED PRESENTATIONS

(10 platform talks; 4 panels; 13 posters)

DelNero P, Riter B. Communicating science to survivors and patients. *Workshop: From Cells to Communities*. Baltimore, MD. June 29, 2021 (Platform).

Austin J, Chambers D, DelNero P, Doose M, Rodriguez S. Trainee and Early Investigator Post-Consortium Session.

Implementation Science Consortium in Cancer. Washington, DC. September 22-23, 2020 (Panel).

DelNero P. The transformative power of community dialogue in biomedical research. *Methodologies in Health Disparities Research Symposium*. San Juan, PR. January 30, 2020 (Platform).

DelNero P, McGregor A, Weiss R, Riter B. Cancer researchers collaborate with patients and survivors to forge community partnerships in biomedical science and engineering. *American Society for Engineering Education, St. Lawrence Section*. Ithaca, NY. April 9, 2016 (Platform).

DelNero P, Verbridge S, Lane M, Rabbany P, Kwee B, Zheng Y, Hempstead B, Stroock A, Fischbach C. 3D context regulates hypoxia response and angiogenesis in engineered models of the tumor microenvironment. *Tissue Engineering and Regenerative Medicine International Society – Americas*. Washington, D.C. December 13-16, 2014 (Poster).

DelNero P, Verbridge S, Kwee B, Lane M, Hempstead B, Stroock A, Fischbach C. Inflammatory signaling mediates pro-angiogenic coupling between hypoxia and culture dimensionality in tissue-engineered models of the tumor microenvironment. *Physical Sciences-Oncology Network Annual Meeting*. Bethesda, MD. April 1-4, 2014 (Platform & Poster).

DelNero P, Verbridge S, Kwee B, Lane M, Hempstead B, Stroock A, Fischbach C. Tissue-engineered models of the tumor microenvironment to study inflammation, hypoxia, and angiogenesis. *Biomedical Engineering Society Annual Meeting*. Seattle, WA. September 25-28, 2013 (Platform).

DelNero P, Verbridge S, Zheng Y, Kwee B, Morgan J, Lane M, Hempstead B, Stroock A, Fischbach C. Tissue- engineered models of tumor vasculature reveal pro-angiogenic synergies between hypoxia, inflammation, and culture dimensionality. *Gordon Research Conference on Angiogenesis*. Newport, RI. August 4-9, 2013 (Poster).

ACADEMIC SOCIETIES

Leadership & Service:

<i>Steering Committee</i> , Cancer Center Community Impact Forum	2021
<i>Steering Committee</i> , Cancer Consortium in Implementation Science	2021
<i>Judge</i> , Undergraduate Poster Competition, American Association for Cancer Research	2021
<i>Treasurer</i> , Biomedical Engineering Society, Cornell University	2011 – 2013
<i>Field Representative</i> , Graduate and Professional Student Assembly, Cornell University	2011 - 2013

Conference Awards:

Reviewer's Choice Award, <i>Biomedical Engineering Society</i>	2014
Travel Award, <i>Tissue Engineering and Regenerative Medicine International Society</i>	2014
STAR Travel Award, <i>Society for Biomaterials</i>	2012

Affiliations:

American Association for Cancer Research, American Society for Preventive Oncology

1. Name: KYOUNGHYUN KIM

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160 Panzeca way
Department of Environmental and Public Health Sciences
College of Medicine University of Cincinnati
Cincinnati, OH 45267

E mail: kyoungyunkim@gmail.com; kim2ku@uc.edu
Phone: (513) 558-4851 (office); (281) 250-4542 (cell)

2. EDUCATION

1. Texas A&M University, College Station, TX, USA, Ph.D. 2004 Molecular Toxicology
Thesis: *Domain Analysis for Estrogen Receptor/Sp1-Mediated Transactivation and Detection of Estrogen receptor/Sp1 Protein Interactions in Living Cells.*
Advisor: Dr. Stephen Safe
2. Rutgers University, New Brunswick, NJ, USA, M.S. 1997 Cell & Developmental Biology
Thesis: *Inhibitory Effects of Tea Polyphenols on Tumor cell growth and Induction of apoptosis in vitro.*
Advisor: Dr. Chung S Yang
3. Hallym University, ChunChen, Republic of Korea, B.S. 1993 Genetic Engineering.
Advisor: Choi, Soo Young

3. ACADEMIC APPOINTMENT

2013-Present	Assistant Professor in College of Medicine in University of Cincinnati.
2009-2012	Associate Research Scientist, IBT, Texas A&M Health Science Center
2008-2009	Assistant Research Scientist, IBT, Texas A&M Health Science center
2007-2008	Postdoctoral Research Associate, U.T. M.D. Anderson Cancer Center
2005-2006	Postdoctoral Research Associate, University of California - San Diego
2004-2005	Postdoctoral Research Fellow, Texas A&M University, Department of Veterinary Physiology & Pharmacology
1998-2004	Graduate Research Assistant, Interdisciplinary Faculty Program in Toxicology, Texas A&M University.
1996-1997	Graduate Research Assistant, Department of Pharmacology and Toxicology, Rutgers University.

4. ACADEMIC HONORS AND AWARDS

2004	George T. Edds Award for Outstanding Graduate Student in Toxicology, Texas A&M University
2001	Graduate Student Association Travel Award, College of Veterinary Medicine, Texas A&M University

5. PROFESSIONAL SOCIETIES

2010-Present Associate Faculty Member in Faculty of 1000 (<http://f1000biology.com/>).
2013-Present American Association of Cancer Research (AACR) Associate member
2013-Present Society of Toxicology (SOT) Full Member
2017-Present American Association For The Study of Liver Diseases (AALSD) Active Member

6. SERVICE

A. Committee and administrative Involvement

2013-Present: Member, Molecular Toxicology and Environmental Genetics division PhD Program Recruitment and Admissions Committee, University of Cincinnati College of Medicine
2013: Member, College of Medicine, M.D/Ph.D. Program admission committee, College of Medicine University of Cincinnati
2013: Member of Faculty Recruiting committee in Department of Environmental Health in University of Cincinnati
2014: Served as host for Dr. Thomas Kocarek from Wayne State University as our Dept Seminar Speaker. "Regulation of Xenobiotic Metabolism by the Mevalonate Pathway".
2014: Served as host for Dr. Stephen Safe from Texas A&M University. "The Nuclear Orphan Receptor TR3 (NR4A1) as a Drug Target"
2015: Served as host for Dr. Robert Roth from Dept of Pharmacology and Toxicology in Michigan State University "Inflammation as a determinant of individual Sensitivity to Hepatotoxicity?"
2016: Served as host for Dr. Chris Hong from Dept of Molecular Physiology and Genetics in College of Medicine in University of Cincinnati "Interconnected network of Circadian rhythms and cell cycle"
2017: Served as host for Dr. Cornelius Elferink from Department of Pharmacology and Toxicology University of Texas Medical branch in Galveston "New Insights into Aryl Hydrocarbon Receptor Biology".
2017: Served as host for Dr. Irfan Rahman in Department of Environmental Medicine in College of Medicine in University of Rochester. "Environmental exposures effect on mitochondrial dysfunction, and signaling through extracellular vesicles/exosomes".
2018: Served as host for Dr. Melissa Runge Morris from Wayne State University. "Developmental Regulation of Sulfotransferases: Implications for Maternal-Fetal Health".
2018: Served as host for Dr. Suh Nanjoo from College of Pharmacy in Rutgers University. "Tocopherols, Estrogen, and Breast Cancer".
2018: Served as host for Dr. Yan, Bingfan from College of Pharmacy in University of Cincinnati. "Shared transcriptional networking in: oncogenic signaling, circadian rhythmicity, nutritional status and regulated capacity for drug elimination".
2019: Served as host for Dr. Yana Zavros from Department of Pharmacology & Systems Physiology in College of Medicine in University of Cincinnati. "Increased Programmed Death-Ligand 1 is an early Cell response to Helicobacter pylori infection".
2019: Served as host for Dr. Divaker Chobey from Department of Environmental Health in College of Medicine in University of Cincinnati. "The interferon-inducible PHYIN-Family Proteins: Role in Inflammation and Autoimmune Diseases"
2019: Served as host for Dr. Ivan Rusyn from Department of Veterinary Integrative Biosciences Chair, Interdisciplinary Faculty of Toxicology, Principal Investigator, Laboratory of Environmental Genomics Texas A&M University. "A Population-based organotypic Culture Model for High-Throughput

Cardiotoxicity Risk Assessment”.

2019: Served as member of Faculty Search Committee in Department of Environmental Health

2020: A review board member for Graduate student Stipend and Research Cost Program for Faculty (URC)-
Student collaboration UC Life Science Graduate Student-Faculty Collaborator Program.

B. Professional activities

2013: University of Cincinnati Center for Environmental Genetics Grants Review Board Member.

2015: NIH/NIEHS funded Center for Translational Environmental Health Research (CTEHR) at Texas A&M University. P30 Pilot Grant Review Board Member.

2016: NIH/NIEHS funded Center for Translational Environmental Health Research (CTEHR) at Texas A&M University. P30 Pilot Grant Review Board Member.

2016: Department of Molecular Physiology and Genetics College of Medicine University of Cincinnati Presenting Seminar entitled “A role of microRNA-ZBTB4 signaling axis in cancer”

2017: NIH/NIEHS funded Center for Translational Environmental Health Research (CTEHR) at Texas A&M University. P30 Pilot Grant Review Board Member

2017: Department of Cancer Biology College of Medicine University of Cincinnati Presenting Seminar entitled “A novel role of orphan nuclear receptor NR2E3 in human diseases and cancer”

2018: Cincinnati Cancer Center Affinity Award Grant Review Board Member

2018: V Scholar Award Proposal Review

2018: CURES Pilot Project Grant Review Board Member in the Environmental Health Sciences Center for Urban Responses in Wayne State University

2019: Pilot Grant Review for Center for Integrated Environmental Health Science in University of Louisville School of Medicine.

2019: Pilot Grant Review for Center for Texas A&M and its Center for Environmental Health Research (TiCER) in Texas A&M University.

2020: Pilot Grant Review for Environmental Health Science Center for Urban Responses to Environmental stressors in Wayne State University.

2020: Center Grant Review for Center for Integrated Environmental Health Science in University of Louisville.

2021: Pilot Grant Review for Center for Integrated Environmental Health Science in University of Louisville School of Medicine.

2021: Pilot Grant Review for Center for Environmental Genetics in School of Medicine at University of Cincinnati.

C. National/International Distinguished Activities

2015: Annual Meeting of Society of Toxicology (San Diego, CA). Poster presentation

“Epigenetic Role of NR2E3, an Orphan Nuclear Receptor, in BaP-Mediated Gene Regulation”

2016: College of Medicine in Busan University (Busan, South Korea): “A novel role of an Orphan Nuclear Receptor NR2E3 in cancer”

2016: College of Oriental Medicine in Kyung hee University (Seoul, South Korea): “A novel role of an Orphan Nuclear Receptor NR2E3 in cancer”

2016: College of Natural Science in Hannam University (Daejeon, South Korea): “Targeting noncoding RNAs in cancer”

2016: College of Pharmacy in SookMyung Women's University (Seoul, South Korea): "A novel role of an Orphan Nuclear Receptor NR2E3 in cancer"

2016: Annual Meeting of Society of Toxicology (New Orleans, LA). **Platform presentation**
"Regulation of Ahr Expression by an Orphan Nuclear Receptor Nr2e3"

2016: Aryl Hydrocarbon Receptor AHR 2016 Meeting in Rochester, NY. Oral Presentation
"An orphan nuclear receptor NR2E3 is associated with good prognosis of liver cancer by impending LSD1-dependent repression of AHR expression"

2016: Jensen Symposium in Cincinnati, OH. Poster Presentation "An orphan nuclear receptor NR2E3 is associated with good prognosis of liver cancer by impending LSD1-dependent repression of AHR expression"

2017: The 12 th International Conference & 5 th Asian Congress on Environmental Mutagens (ICEM) Meeting. **Best Presentation Award**. Oral Presentaiton. "An orphan nuclear receptor NR2E3 is associated with good prognosis of liver cancer by impending LSD1-dependent repression of AHR expression"

2017: International Symposium "New Paradigm of Korean Medicine Research" in Kyounghee University. Oral Presenation. "A role of nuclear receptor NR2E3 in human diseases and cancer".

2018: American Association For The Study of Liver Diseases (AASLD) Annual Meeting (San Fransisco, CA). Poster presentation entitled "NR2E3 is a key component in p53 activation by regulating a long noncoding RNA DINO in acute liver injuries"

2020: Hallym International Symposium in Frontiers in Life Science and Nanobiotechnology (Seoul, South Korea, Jan, 2020), supported by Ministry of Education and National Research Foundation of South Korea. "A novel role of nuclear receptor NR2E3 in liver injuries and cancer.

2021: Center for Environmental Genetics Symposium (Cincinnati, OH,). Platform Presentation "NR2E3 is a Key Component in p53 Activation by Regulating a Long Noncoding RNA Dino in Acute Liver Injuries".

D. Editorial Service

2014 Guest Editor: Ko SG, Yin CS, Du B, Kim K. Herbal medicines for inflammatory diseases. Mediators Inflamm. 2014:982635. PMCID: PMC4290032.

2016 Guest Editor: Ko SG, Yin CS, Du B, Kim KH. Herbal Medicines for Inflammatory Diseases 2016. Mediators Inflamm. 2016; 2016:8270323. PMCID: PMC5099452.

2020-Present: Served as Associate Editor for Journal "Genes & Genomics".

E. Manuscript Review

International Journal of Cancer
Cancer Letters
Molecular Therapy - Oncolytics
Carcinogenesis
Molecular Carcinogenesis
Cell Death & Differentiation
Journal of Cellular Physiology
Cancer Letters
Aging

Cells
Scientific Reports
Experimental and Molecular Medicine
Toxicology letter
Molecules
Cells
International Journal of Molecular Sciences
Toxins
Mediators of inflammation



Publons Score from 2021: REVIEWS (LAST 12 month, 94 th percentile)

<https://publons.com/researcher/1321952/kyounghyun-kim/metrics/>

F. Local and Community Activities

2013-Present: Member, Breast Cancer Retreat Meeting in University of Cincinnati “Meet The Breast Cancer Team: Innovative Research and Patient Care”

2013-Present: A founding member and served as secretary (2014), Korean American Scientist Engineers Association (KSEA) in South West Ohio Chapter.

2017-Present: Member of Pancreatic cancer joint meeting in UC and CCHMC organized by Dr. Syed Ahmad in College of Medicine in University of Cincinnati

G. U.S. Patent



Patent No.: US 8957042

Inventors: Stephen Safe and Kyoungyun Kim (The Texas A&M University System)

Date of Patent: Feb. 17 2015.

Title: “CANCER TREATMENT TARGETING NON-CODING RNA-OVEREXPRESSION.”

ABSTRACT

Provided herein are methods directed to modulating the pro-oncogenic effects of noncoding RNAs (ncRNAs) through their interactions with specificity protein transcription factors (SpTFs). In one aspect, the disclosure provides a method of inhibiting growth of a cell, such as a transformed or cancer cell, characterized by overexpression of at least one specificity protein (Sp)-regulated ncRNA and expression of at least one Sp transcription factor (SpTF), the method comprising contacting the cell with an effective amount of an SpTF agent. In some embodiments, the ncRNA is a long noncoding RNA (lncRNA). In some embodiments, the ncRNA is a microRNA (miR). Also provided are methods of treating a cell proliferative

disease, predicting the response of a subject to SpTF agent-based treatment, and monitoring the efficacy of a SpTF agent-based treatment in a subject.

7. TEACHING

A. Teaching of medical/graduate student/resident/fellow

5% -10% effort per year

B. Participated Academic Courses

- 2015 - 2017: Survey of Toxicology (TOX7082): "Mutagenesis, Carcinogenesis and Epigenetics"
Introduction of biological processes of gene mutation, carcinogenesis and epigenetic changes to master of public health graduate students.
- 2014-Present: Environmental Genetics and Molecular Toxicology (EGMT) Seminar Series Fall.
EGMT Graduate program student seminar series
- 2015-Present: Environmental Genetics and Molecular Toxicology (26TOX8051, 26TOX8052):
"A Role of Noncoding RNAs in human diseases and cancer"
Introductory course for recent advances in RNA biology as diagnostic marker or molecular target for treatment of human diseases and cancers.
- 2017-2018: Environmental Public Health (PH-7020): "Environments and Epigenetics"
Effects of Gene-Environment interaction on epigenetic regulation in regards to human diseases
- 2019: Environmental Public Health (PH-7020): Evaluation of Seminar presentation with Dr. Leung YK.
Journal Club Presentation

C. Ph.D. Student Qualifying Committee

- 2013 Mei-Ling Bermudez (Lab rotation)
- 2014 Matthew De Gannes (Consulting)
- 2016 Dasom Kim and others. Providing Questionnaire for graduate student qualifying exam
- 2017 Dasom Kim and others. Providing Questionnaire for graduate student qualifying exam
- 2018 Allison Pacquet and Paul Deford (Questionnaire and attended Research Proposal Presentation)
- 2019 to present: Austin McDermott (A member of graduate student committee by advising research project: A role of Sp proteins in GPR30 expression in prostate cancer).

D. Training activities as mentor

- 2013-2014: Yang, WonSeok, PhD, A postdoctoral fellow. He published paper in *Neoplasia* (impact factor 4.9) as first author in 2014. Currently, He currently works as research fellow in University of

Hawai.

- 2014-2017: Tilak Khanal, PhD, A postdoctoral fellow. He published two papers in Toxicology Letters (impact factor 3.5) and Scientific Reports (impact factor 4.3). Currently, he works as research associate at Marshall University in West Virginia.
- 2015-2016: Choi, Miri, a research technician. Currently, she works at Chong-Kun-Dang, a pharmaceutical company (Seoul, South Korea).
- 2015-2017: Kim, Dasom, a research technician. She published two papers as co-authors in our laboratory. Currently, she is in PhD graduate program in immunology in Baylor College of Medicine (TX, Houston).
- 2016-2017: Lee Ji-eun, an undergraduate student via student internship program sponsored by Korean government from Department of Nano Medicine in Busan University.
- 2016-present Austin Mcdermott, a PhD graduate student in toxicology program, as a member of his graduate student dissertation committee, I have advised his prostate cancer research project.
- 2021 to present: Bo Xiao (Mentoring Bo Xiao , a graduate student: A role of NR2E3 in liver diseases and cancer.

8. RESEARCH

Current Research Summary: Our lab has focused on the novel role of nuclear receptor NR2E3 in liver diseases and cancer. Among 48 human nuclear receptors, the biological roles of NR2E3 remain largely unknown. Our long-term goal is to develop precision medicine for liver disease and cancer based on mechanism-based, gene-oriented epigenetic therapy. Our immediate objectives are to determine the roles of nuclear receptor NR2E3 in the epigenetic alterations that drive the sex-dependent development of liver diseases and cancer and to develop NR2E3 as a prognostic marker and molecular target for precision medicine. Low NR2E3 expressions are strongly correlated with poor clinical outcomes in liver cancer in multiple data sets (see research statement). Surprisingly, our unpublished results showed that the ablation of NR2E3 in mice drives epigenetic reprogramming, increasing liver fibrosis and tumor formation using NR2E3 knockout mice we generated. We recently received an impact score of 30 (12%) from the R01 grant we submitted last Feb 2021 (see attached CV). Around 16 % of FDA-approved drugs target nuclear receptors (NRs), including PPAR, FXR, etc.; we think our NR2E3 research program has high translational application potential.

In addition, our research has focused on the role of aryl hydrocarbon receptor (AHR), an environmental sensor and ligand-activated transcription factor, in pancreatic cancer. Recently, our lab has identified that ligand-activated AHR induced a pro-oncogenic long noncoding RNA MALAT1. The AHR ligands contain microbiome-derived metabolites, phytochemicals, and environmental toxicants. Typically, AHR can be activated or inhibited, depending on ligand type. This feature makes it an attractive selective molecular target. We previously received an impact score of 36 (19%) of R21 related to the AHR project (see attached CV). Overall, these research projects are innovative and impactful, and if time and resources are given, I am confident that the projects will be successful.

A. GRANTS AND CONTRACTS

Ongoing Research Support

1. Time Sensitive Award (Center for Environmental Genetics, P30 Center Core grants)(06/2021-05/2022).

“Role of AHR in Pancreatic Pathogenesis”.

Role: PI

2. Innovator Award (Center for Environmental Genetics, P30 Center Core grants) (10/2021-03/2022).

“Role of Nuclear Receptor NR2E3 in liver metabolism and pathogenesis”

Role: PI

Completed Research Support

1. Cincinnati Cancer Center Research Grant (2014-2015)

Title: “A novel epigenetic role of ZBTB4-microRNA signaling axis in breast cancer”

Role: PI.

2. CCTST T1 pilot grant (2014-2015)

Title: “A Role of NR2E3, an orphan nuclear receptor, links endocrine disruption to breast cancer”

Role: PI.

3. Center for Environmental Genetics (2015-2016)

Title: “A novel epigenetic role of NR2E3, an orphan nuclear receptor in gene-environmental interaction”

Role: PI

4. Steven Godman Pancreatic Cancer Foundation Grant (2016-2017)

Title: “A novel role of long non-coding RNA in pancreatic cancer”

Role: PI.

5. NIEHS P30 ES006096 CEG Innovator Award (2017-2019)

Title: “Dysregulation of protective long non-coding RNA in liver toxicity”

Role: PI

6. College of Medicine Faculty Research Cost Support Award (2019-2020).

“A role of NR2E3 in liver injury and cancer”

Role:PI

7. NIEHS P30 ES006096 Center Environmental Genetics Innovator Award (2019-2020).

“A role of environmental toxicant-induced long noncoding RNA in pancreatic disease and cancer”

Role: PI

8. College of Medicine Innovative Research Grant. (04/2020-05/2021)

“A role of NR2E3 in liver injury and cancer”.

Role: PI

GRANTS PENDING & SUBMITTED

1. **R21ES027497** (09/01/2020-08/31/2022) Direct cost \$ 275, 000.

Title: “ROLE OF AHR IN PANCREATIC PATHOGENESIS”. (**A1, impact score of 36, 19 percentile**).

Role: PI

SUMMARY STATEMENT
(Privileged Communication)

PROGRAM CONTACT: Carol Shreffler
984-287-3322
shreffl1@niehs.nih.gov

Release Date: 04/15/2021
Revised Date:

Principal Investigator
KIM, KYOUNGHYUN

Application Number: 1 R21 ES032525-01A1
Formerly: 1R21ES032525-01

Applicant Organization: UNIVERSITY OF CINCINNATI

Review Group: SIEE
Systemic Injury by Environmental Exposure

Meeting Date: 03/18/2021
Council: MAY 2021
Requested Start: 07/01/2021

RFA/PA: PA20-195
PCC: 2005C03V

Project Title: Role of AHR in Pancreatic Pathogenesis

SRG Action: Impact Score:36 Percentile:19 +
Next Steps: Visit https://grants.nih.gov/grants/next_steps.htm
Human Subjects: 10-No human subjects involved
Animal Subjects: 30-Vertebrate animals involved - no SRG concerns noted

Project Year	Direct Costs Requested	Estimated Total Cost
1	150,000	243,000
2	125,000	202,500
TOTAL	275,000	445,500

Summary: Pancreatic cancer is associated with an extremely poor prognosis among various human cancers. Many reports have shown that exposure to environmental toxicants, such as dioxins and polycyclic aromatic hydrocarbons, is a risk factor for pancreatic cancer, as these substances function as ligands for aryl hydrocarbon receptor (AHR). AHR is a ligand-activated transcription factor that is activated or inhibited by various ligands. Depending on the ligand type, AHR regulates different sets of genes, either oncogenic or tumor suppressive, making it an attractive molecular target in cancer prevention. The direct goal of this application is to determine the role of AHR in pancreatic cancer development. Our preliminary findings of interest showed that: a) AHR is highly correlated with poor clinical outcomes in pancreatic cancer; b) TCDD (2, 3, 7, 8-Tetrachlorodibenzodioxin), a potent AHR agonist, induced the expression of Metastasis Associated Lung Adenocarcinoma Transcript 1 (MALAT1), a pro-oncogenic long non-coding RNA, in both cell culture and animal models, while CH223191 (an AHR antagonist) inhibited the MALAT1 induction; c) The increased MALAT1 further enhanced the level and activity of EZH2, a pro-oncogenic histone methyltransferase, while MALAT1 depletion decreased the EZH2 level and activity; d) Correspondingly, treatment of TCDD decreased miR-200b, an EZH2 downstream target gene, whereas CH223191 prevented the reduction. Based on these compelling preliminary data, our central hypothesis is that AHR antagonism or AHR ablation prevents pancreatic cancer progression, while AHR agonism promotes it. To address this hypothesis, we will employ Pdx1-cre/LSL-KRAS_{G12D} transgenic mice that express KRAS_{G12D} mutant in the pancreas and conditional AHR knockout (AHR_{fx/fx}) mice. To address our hypothesis. In Aim 1, we will determine the effects of environmental toxicant-induced AHR activation and the AHR inhibition by antagonist on pancreatic ductal adenocarcinoma (PDA) progression using the Pdx1-cre/LSL-KRAS_{G12D} transgenic mouse as a model. In Aim 2, we will determine the effects of AHR ablation on PDA progression. We will generate pdx1-cre/LSL-KRAS_{G12D}, AHR^{-/-} mice that express KRAS_{G12D} mutant without AHR in the pancreas. The completion of the proposed study will reveal the role of AHR agonism, antagonism, or ablation in the PDA progression and provide proof of concept and evidence for developing AHR as a target in PDA progression. This study is to determine roles of AHR agonism, antagonism, or ablation in pancreatic cancer progression using murine model of pancreatic cancer.

2. R01 CA266176-01 (09/01/2021-08/31/2026) Direct cost \$ 1, 250, 000.

Title: "EPIGENETIC CONTROL OF LIVER METABOLISM AND PATHOGENESIS". (**A0, impact score of 30, 12 percentile**).

Role: PI

PROGRAM CONTACT: Ronald Johnson 240-276-6228 rjohnso2@mail.nih.gov		SUMMARY STATEMENT (Privileged Communication)	Release Date: 07/26/2021 Revised Date:	Summary:
Principal Investigator KIM, KYOUNGHYUN		Application Number: 1 R01 CA266176-01		
Applicant Organization: UNIVERSITY OF CINCINNATI				
Review Group: XNDA Xenobiotic and Nutrient Disposition and Action Study Section				
Meeting Date: 07/08/2021 Council: OCT 2021 Requested Start: 09/01/2021		RFA/PA: PA20-185 PCC: Y7DC Dual PCC: RAJ DUAL Dual IC(s): DK		
Project Title: EPIGENETIC CONTROL OF LIVER METABOLISM AND PATHOGENESIS				
SRG Action: Impact Score:30 Percentile:12 Next Steps: Visit https://grants.nih.gov/grants/next_steps.htm Human Subjects: 10-No human subjects involved Animal Subjects: 30-Vertebrate animals involved - no SRG concerns noted				

Project Year	Direct Costs Requested	Estimated Total Cost
1	250,000	403,760
2	250,000	403,760
3	250,000	403,760
4	250,000	403,760
5	250,000	403,760
TOTAL	1,250,000	2,018,800

Nonalcoholic fatty liver disease (NAFLD) is the most common liver disease and a major risk factor for Hepatocellular carcinoma (HCC) development in the US. Epigenetic dysregulation is a key driving force for NAFLD-associated HCC development. However, despite its key role, underlying mechanisms remain unclear. Our objectives are to characterize an epigenetic role of nuclear receptor NR2E3 and determine its prognostic and preventive capacity in NAFLD-associated HCC development and gender disparity. The Enhancer of Zest Homologue 2 (EZH2) is a catalytic subunit of the Polycomb Repressive Complex 2 (PRC2), which plays a key role in epigenetic silencing of genes by trimethylation of histone H3 (H3K27me3) via its histone methyltransferase (HMT) activity. Dysregulated EZH2 HMT activity is linked to NAFLD and NAFLD-associated HCC. Our laboratory's key observations led us to identify that nuclear receptor NR2E3 is a repressor of EZH2's HMT activity and EZH2-mediated epigenetic regulation, including the complex formation between EZH2 and Lysine Specific Demethylase 1 (LSD1), a histone demethylase. Indeed, NR2E3 loss also increased LSD1 enzymatic activity. Consistently, NR2E3 loss in vivo exacerbated liver injury and tumor formation, accompanied by repression of key genes in liver injury and metabolism, and gender disparity, including estrogen receptor aryl hydrocarbon receptor, PGC1 α , FOXA1, and p53, likely via dysregulated EZH2 and LSD1 activities induced by NR2E3 loss. Based on these compelling preliminary results, we hypothesize that NR2E3 prevents epigenetic dysregulation, however its loss promotes NAFLD-associated HCC development and disrupts its gender disparity. We also postulate that NR2E3 loss altered the distribution and/or activity of LSD1, EZH2, or LSD1/EZH2 complex in a gene context-dependent manner, and these changes promote NAFLD-associated HCC development. In Aim 1.

To determine the role of NR2E3 in NAFLD-associated HCC development and gender disparity. In Aim 2. To determine roles of interactions between NR2E3, LSD1, and EZH2 in NAFLD-associated HCC development. The completion of our proposed studies will establish the role of NR2E3 as an epigenetic repressor that maintains epigenetic stability and provides proof of concept and evidence for developing mechanism-based epigenetic therapy by examining the effects of inhibition of EZH2, LSD1, or both in NAFLD-associated HCC development.

B. PEER REVIEWED ARTICLES (Chronological order)

Research Gate h-index. 28; Google Scholar h-index, 29; Scopus h-index 26; Total Citation, 6471.

- <https://scholar.google.com/citations?hl=en&user=d7lYiWoAAAAJ>
- <http://www.ncbi.nlm.nih.gov/sites/myncbi/kyounghyun.kim.1/bibliography/47574466/public/?sort=date&direction=ascending>



[Research Gate](#)



[Google Scholar](#)



[Scopus](#)

Complete List of Published Work in My Bibliography:

****Highly cited papers (> 100 cited) are indicated.**

1. **Yang GY, Liao J, **Kim K**, Yurkow EJ, Yang CS. (1998). Inhibition of growth and induction of apoptosis in human cancer cell lines by tea polyphenols. **Carcinogenesis**, 19(4):611-6. PMID: 9600345. [Cited 622 times in Scopus].
2. Porter W, Wang F, Duan R, Qin C, Castro-Rivera E, **Kim K**, Safe S. Transcriptional activation of heat shock protein 27 gene expression by 17beta-estradiol and modulation by antiestrogens and aryl hydrocarbon receptor agonists.(2001). **J Mol Endocrinol.**, 26(1):31-42. PMID: 11174852
3. **Kim, K.**, Thu, N., Saville, B., Safe, S. (2003). Domains of estrogen receptor alpha (ERalpha) required for ERalpha/Sp1-mediated activation of GC-rich promoters by estrogens and antiestrogens in breast cancer cells. **Mol. Endocrinol.**, 17: 804-817. PMID: 12576490. [Cited 84 times in Scopus].
4. **Kim, K.**, Barhoumi, R., Burghardt, R. and Safe, S. (2005) Analysis of estrogen receptor α -Sp1 interactions in breast cancer cells by fluorescence resonance energy transfer. **Mol. Endocrinol.**, 19:843-854. PMID: 15637147. [Cited 54 times in Scopus].

5. **Safe S, **Kim K**. Nuclear receptor-mediated transactivation through interaction with Sp proteins. (2004). *Prog Nucleic Acid Res Mol Biol.*, 77:1-36. PMID: 15196889. [Cited 109 times in Scopus].
6. Lee, J.E., **Kim, K.**, Sacchettini, J.C., Smith, C.V. and Safe, S. Vitamin D-interacting protein 150 (DRIP150) coactivation of estrogen receptor α (ER α) in ZR-75 breast cancer cells is independent of LXXLL motifs. (2005). *J. Biol. Chem.*, 280:8819-8830. PMID: 15625066
7. **Abdelrahim, M., Ariazi, E., **Kim, K.**, Khan, S., Barhoumi, R., Burghardt, R., Liu, S., Hill, D., Finnell, R., Wlodarczyk, B., Jordan, V.C. and Safe, S. 3-Methylcholanthrene and other aryl hydrocarbon receptor agonists directly activate estrogen receptor α . (2006). *Cancer Res.*, 66:2459-467. PMID: 16489053. [Cited 104 times in Scopus].
8. Khan, S., Barhoumi, R., Burghardt, R., Liu, S., **Kim K**. and Safe, S. (2006). Molecular mechanism of inhibitory aryl hydrocarbon receptor-estrogen receptor/Sp1 crosstalk in breast cancer cells. *Mol. Endocrinol.*, 20:2199-214. PMID: 16675542
9. **Naugler, W.E., Sakurai, T., Kim, S., Maeda, S., **Kim, K.**, Elsharkwy, A.M. and Karin, M. (2007) Gender disparity in liver cancer due to sex differences in MyD88-dependent IL-6 production. *Science.*, 317:121-24. PMID: 17615358. [Cited 1311 times in Scopus].
10. **Safe, S. and **Kim, K**. (2008) Nonclassical genomic ER/Sp and ER/Ap-1 signaling pathways. (2008). *J. Mol. Endocrinol.*, 41:263-75. PMID: 18772268. [Cited 229 times in Scopus].
11. Wu F, Xu R, **Kim K**, Martin J, Safe S. (2008) In vivo profiling of estrogen receptor/specificity protein-dependent transactivation. *Endocrinology.*, 149:5696-705. PMID: 18635651
12. Li X, Mertens-Talcott SU, Zhang S, **Kim K**, Ball J, Safe S. (2010). MicroRNA-27a Indirectly Regulates Estrogen Receptor {alpha} Expression and Hormone Responsiveness in MCF-7 Breast Cancer Cells. *Endocrinology.*, 151(6):2462-73. [Cited 10 times in Scopus].
13. **Lee SO, Abdelrahim M, Yoon K, Chintharlapalli S, Papineni S, **Kim K**, Wang H, Safe S. (2010). Inactivation of the orphan nuclear receptor TR3/Nur77 inhibits pancreatic cancer cell and tumor growth. *Cancer Res.* 70(17):6824-36. PubMed PMID: 20660371. [Cited 102 times in Scopus].
14. Safe S, **Kim K**, Li X and Lee S (2011). NR4A orphan receptors and cancer. *Nucl Recept Signal* 9, e002.
15. Claerhout S, Lim JY, Choi W, Park YY, **Kim K**, Kim SB, Lee JS, Mills GB, Cho JY. (2011) Gene expression signature analysis identifies vorinostat as a candidate therapy for gastric cancer. *PLoS One.* 2011; 6(9): e24662. PubMed PMID: 21931799; PubMed Central PMCID: PMC3170379. [Cited 91 times in Scopus].
16. Yoon K, Lee SO, Cho SD, **Kim K**, Khan S, Safe S. (2011) Activation of nuclear TR3 (NR4A1) by a diindolylmethane analog induces apoptosis and proapoptotic genes in pancreatic cancer cells and tumors. *Carcinogenesis.* 32(6):836-42. PubMed PMID: 21362629; PubMed Central PMCID: PMC3106434. [Cited 54 times in Scopus].
17. Lee SO, Andey T, Jin UH, **Kim K**, Sachdeva M, Safe S. (2011) The nuclear receptor TR3 regulates mTORC1 signaling in lung cancer cells expressing wild-type p53. *Oncogene.* 31(27):3265-76. PMID: 22081070. [Cited 73 times in Scopus].
18. **Kim K**, Burghardt RC, Barhoumi R, Lee SO, Liu X, Safe S. (2011) Mdm2 Regulates Estrogen Receptor {alpha} and Estrogen-responsiveness in Breast Cancer Cells. *J. Mol. Endocrinol.*, 15; 46(2):67-79. PMID: 21169420. [Cited 17 times in Scopus].
19. Park YY*, **Kim K***, Kim SB, Hennessy B, Kim SM, Park ES, Lim JY, Li J, Lu Y, Ana Gonzalez-Angulo , Jeong WJ, Mills GB, Safe S, Lee JS. (2012) Reconstruction of nuclear receptor network reveals that

- NR2E3 is a novel upstream regulator of ESR1 in breast cancer. **EMBO Mol Med**. 4(1):52-67. *Co-first authors. [Cited 28 times in Scopus].
20. ****Kim K**, Chadalapaka G, Lee SO, Yamada D, Sastre-Garau X, Defossez PA, Park YY, Lee JS, Safe S. (2012) Identification of oncogenic microRNA-17-92/ZBTB4/specificity protein axis in breast cancer. **Oncogene**. 23: 31(8):1034-44. PMID: 21765466. [Cited 130 times in Scopus].
 21. **Kim K**, Chadalapaka G, Cho, SG, Jin UH, Satya P, Safe S. (2012) CDODA-Me mediated Anticancer effects are mediated through disruption of oncogenic miR-106b/ZBTB4/Sp protein signaling axis in prostate cancer. **Mol Cancer Ther**. 11(9):1852-62. [Cited 40 times in Scopus].
 22. Li X, Jutooru I, Lei P, **Kim K**, Lee SO, Brents LK, Prather PL, Safe S. (2012) Betulinic Acid Targets YY1 and ErbB2 through Cannabinoid Receptor-dependent Disruption of MicroRNA-27a: ZBTB10 in Breast Cancer. **Mol Cancer Ther**. 11(7):1421-31. [Cited 43 times in Scopus].
 23. Park YY, Jung SY, Jennings NB, Rodriguez AC, Peng G, Lee SR, Kim SB, **Kim K**, Leem SH, Lin SY, Lopez BG, Sood AK, Lee JS. (2012) FOXM1 mediates Dox resistance in breast cancer by enhancing DNA repair. **Carcinogenesis**. 33(10):1843-53. PMID:22581827. [Cited 82 times in Scopus].
 24. Zhang S, **Kim K**, Jin UH, Pfent C, Cao H, Amendt B, Liu X, Wilson-Robles H, Safe SH. (2012) Aryl Hydrocarbon Receptor (AHR) Agonists Induce MicroRNA-335 Expression and Inhibit Lung Metastasis of Estrogen Receptor Negative Breast Cancer Cells. **Mol Cancer Ther**. 11(1):108-18. PubMed PMID: 22034498. [Cited 46 times in Scopus].
 25. ****Kim K**, Jutooru I, Chadalapaka G, Johnson G, Frank J, Burghardt R, Safe S. (2013) HOTAIR is a negative prognostic factor and exhibits pro-oncogenic activity in pancreatic cancer. **Oncogene**. 28; 32(13):1616-25. PMID: 22614017. [Cited 639 times in Scopus].
 26. **Gandhy SU, **Kim K**, Larsen L, Rosengren RJ, Safe S. (2013) Curcumin and synthetic analogs induce reactive oxygen species and decreases specificity protein (Sp) transcription factors by targeting microRNAs. **BMC Cancer**. 30; 12:564. PMID: 23194063. [Cited 106 times in Scopus].
 27. Chadalapaka G, Jutooru I, Sreevalsan S, Pathi S, **Kim K**, Chen C, Crose L, Linardic C, Safe S. (2013) Inhibition of rhabdomyosarcoma cell and tumor growth by targeting specificity protein (Sp)transcription factors. **Int J Cancer**. 15; 132(4):795-806. PMID: 22815231. [Cited 30 times in Scopus].
 28. Zhang Z, **Kim K**, Li X, Moreno M, Sharp T, Goodheart M, Safe S, Dupuy A, Amendt BA. (2014) MicroRNA-26b Represses Colon Cancer Cell Proliferation by Inhibiting Lymphoid Enhancer Factor 1 (LEF-1) Expression. **Mol Cancer Ther** 13(7):1942-51. PMID 24785257. [Cited 46 times in Scopus].
 29. Jutooru I, Guthrie AS, Chadalapaka G, Pathi S, **Kim K**, Burghardt R, Jin UH, Safe S. (2014) Mechanism of Action of Phenethylisothiocyanate and Other ROS-Inducing Anticancer Agents. **Mol Cell Biol** 34(13):2382-95. PMID: 24732804. [Cited 80 times in Scopus].
 30. Yang WS, Chadalapaka G, Cho SG, Lee SO, Jin UH, Jutrooru I, Leung YK, Ho SM, Safe S, **Kim K**. (2014) The transcriptional repressor ZBTB4 regulates EZH2 through a microRNA-ZBTB4-Specificity protein signaling axis. **Neoplasia** 16(12):1059-69. PMID: 25499219. [Cited 28 times in Scopus].
 31. Ko SG, Yin CS, Du B, **Kim K**. Herbal medicines for inflammatory diseases. (2014) **Mediators Inflamm**. 2014:982635.PubMed Central PMCID: PMC4290032.
 32. Khanal T, Kim D, Abby J, Choubey D, **Kim K**. (2015) Deregulation of NR2E3, an orphan nuclear receptor, by benzo(a)pyrene-induced oxidative stress is associated with histone modification status change of the estrogen receptor gene promoter. **Toxicology Letters**. 2015 Sep 17;237(3):228-36. PMID:26149760. [Cited 9 times in Scopus].

33. Gandhi SU, Imannirad P, JIn UH, Nair V, Hedrick E, Cheng Y, Corton JC, **Kim K**, Safe S. (2015) Specificity protein (Sp) Transcription factors and metformin regulate expression of the long non-coding RNA HULC. **Oncotarget**. 2015 22;6(28):26359-72 PMCID: PMC 4694907. [Cited 19 times in Scopus].
34. Hedrick E, Cheng Y, Jin UH, **Kim K**, Safe S. (2016) Specificity protein (Sp) transcription factors Sp1, Sp3 and Sp4 are non-oncogene addiction genes in cancer cells. **Oncotarget**. 19; 7(16):22245-56. PubMed PMID: 26967243. [Cited 57 times in Scopus].
35. Ko SG, Yin CS, Du B, **Kim K**. (2016) Herbal Medicines for Inflammatory Diseases (2016). **Mediators Inflamm**. 2016:8270323. PubMed Central PMCID: PMC5099452.
36. Khanal T, Choi K, Leung YK, Wang J, Kim D, Janakiram V, Cho SG, Puga A, Ho SM, **Kim K**. (2017) Loss of NR2E3 represses AHR by LSD1 reprogramming, is associated with poor prognosis in liver cancer. **Sci Rep**. 7(1):10662. PubMed Central PMCID: PMC5587550. [Cited 5 times in Scopus].
37. Khanal T, Leung YK, Wang J, Timchenko N, Ho SM, **Kim K**. (2019) NR2E3 is a key component in p53 activation by regulating a long noncoding RNA DINO in acute liver injuries. **FASEB J**. 33(7):8335-8348. PubMed PMID: 30991008. [Cited 7 times in Scopus].
38. Lee JE, Cho SG, Ko SG, Ahrmad SA, Puga A, **Kim K**. Regulation of a long noncoding RNA MALAT1 by aryl hydrocarbon receptor in pancreatic cancer cells and tissues. (2020) **Biochem Biophys Res Commun**. 532(4):563-569. PMID: 32900487; PMCID: PMC7572814. [Cited 4 times in Scopus].
39. McDermott A, Kim K, Kasper S, Ho SM, Leung YK. The androgen receptor inhibits transcription of GPER1 by preventing Sp1 and Sp3 from binding to the promoters in prostate cancer cells. **Oncotarget**. 2022 Jan 7;13:46-60.

Papers to be submitted:

1. Lee HS, Na HY, Kim CS, **Kim K**, Chang SS, Kim SY, Yang M. "An approach for Precision Prevention by Biomonitoring of Tobacco Smoking". (submitted to Arch Toxicol).
2. Leung YK, Choi K, Xiao B, Lee SG, Israel JW, Timchenko NA, Friedman S, Wang J, Park CG, **Kim K**. "A tumor suppressive epigenetic role of NR2E3 in Hepatocellular Carcinoma". (To be submitted to Genes & Development, PNAS, or Cancer Research).

We previously reported that NR2E3 is a key component in p53 activation by regulating a lncRNA DINO expression, indicating its potential tumor-suppressive role (37). Indeed, NR2E3 ablation in vivo facilitated liver tumor formation in chemical carcinogen (diethylnitrosamine, DEN)-induced murine hepatocarcinogenesis model. Genome-wide chromatin accessibility and differential gene expression analyses showed that the loss of NR2E3 altered chromatin accessibility both in vivo and in vitro at genome-wide level and increased expression of key oncogenes such as EGFR, EpCAM, and β -catenin. Here, we reported tumor suppressive and epigenetic regulative roles of NR2E3 in liver cancer and thereby provide a scientific basis for developing NR2E3 as a biomarker for precision medicine.

3. Kirely T, Cho SG, Kim IK, **Kim K**. Targeting NR2E3 in liver injury and fibrosis (To be submitted to Molecular Pharmacology or FASEB)

NR2E3 contains a potential chemical binding pocket in the Ligand Binding Domain. However, there has been no NR2E3 ligand, endogenous or synthetic, identified yet. By integrating in silico molecular modeling, differential gene expression analysis-based connectivity map analysis, and results from a mammalian two-hybrid assay, we determined that NR2E3 interacts with several structurally related phytochemicals which regulate NR2E3's

function in chromatin accessibility and gene expressions. The loss of NR2E3 impaired the preventive activities of phytochemicals in toxicant-induced liver injury and fibrosis.

4. **Kim K.** A novel role of nuclear receptor NR2E3 in cancers (Review) (To be submitted).

This review will describe a novel tumor suppressive and epigenetic regulative role(s) of NR2E3 in cancers and discuss about a potential of NR2E3 as a drug target.

5. **Kim K.** "Endocrine disruption and pancreatic cancer" Invited to publish review paper in International Journal of Molecular Sciences (IJMS). Special issue in "Endocrine Disruptors: A Causal Link between Environment and Cancers". (Due on Dec 31st, 2021).

This review will delineate how exposure to environmental toxicants, including dioxins, polyaromatic hydrocarbons, and cigarette smoke, is an established risk factor in pancreatic cancer, linked to pancreatitis and pancreatic ductal development adenocarcinoma, a major form of pancreatic cancer.

APPENDIX C

Curricula Vitae of Oncology Clinical Faculty

Anusha Jillella

21 Kanis Creek place little rock, Arkansas, 72223
+1501-563-9555
ajillella@uams.edu

PERSONAL INFORMATION

DOB: 11 July, 1990
Citizenship: United States of America
VISA status: Citizen of United States
Languages: English, Telugu (Native language), Hindi

CURRENT ACADEMIC POSITION

Fellow (PGY-6), Department of Internal Medicine/ Hematology-Oncology
University of Arkansas for Medical Sciences

MEDICAL EDUCATION

2019-Present	Hematology/Oncology Fellowship
2016-2019	Internal Medicine Residency University of Arkansas for Medical Sciences Little Rock, AR
2008-2015	MBBS (Bachelor of Medicine and Bachelor of Surgery) Gandhi Medical College, Hyderabad, India

USIWE SCORES

All steps passed in first attempt and ECFMG certified

Step1
Step2 CK
Step2 CS
Step3

CLINICAL EXPERIENCE

2019-present	Hematology/Oncology fellowship
2016-2019	Internal Medicine Residency University of Arkansas for Medical Sciences Little Rock, AR

RESEARCH EXPERIENCE

2015-PRESENT **Independent and coordinated research** on various projects as described subsequently

PROFESSIONAL RESPONSIBILITY

- 2012** **Event organizer/Member of organizing committee(s)**
 ESPARTO, Annual College Day Celebrations, Gandhi medical College,. India
- Medical camp conducted by doctors of Gandhi hospital in Mahabubnagar, September
 - Creating awareness of organ donation among people with Mohan foundation in Hyderabad
- 2009**
- Malaria Eradication Program started by Government of India
 - Anti - Tobacco awareness program conducted by the department of community medicine, Gandhi Medical College

VOLUNTEER EXPERIENCE

- 2011-2014** **Medical Health Volunteer**
 Rural Health Camp, Andhra Pradesh State, India
- 2011** Pulse Polio Immunization Program

MEMBERSHIPS

- 2016 - PRESENT Member of American College of Physicians
- 2019 - PRESENT member of American society of hematology
- 2019 - PRESENT Member of American College of Medical Oncology

CERTIFICATIONS

2019-PRF.SENr	ABIM- Board Certified In Internal Medicine (NPI: 1760845804)
2015 -PRF.SENr	ECFMG Certified
2015- PRFSENT	BL.5 and ACL.5 Certified
2014 - PRESENT	CM and HIPM Certified

AWARDS AND HONORS

1. **Secured 280 rank** in EAMCET (Engineering and Medical Common Entrance Test) among **90,000 people** in 2008
2. **Student scholarship** award at Gandhi Medical College, India for enrollment in medical school under full scholarship program
3. **Secured 98.9% in biology** in Board of Intermediate Education (2005-2007)
4. **Secured distinction** in various subjects including Physiology, Microbiology, Ophthalmology, Obstetrics and gynecology.
5. **Thomas Andreoli Award for excellence in Internal Medicine** University of Arkansas for Medical Sciences (UAMS), little Rock, AR

PUBLICATIONS

Bano, Kulsum, Manojna Kanda, Dinesh Atwal, Richa Parikh, Aneesha Ananthula, Anusha Jillella, Aasiya Matin, and Appalanaidu Sasapu. "Retrospective Review of Patients with Large Granular Lymphocyte (LGL) Leukemia in a Single Institution over a Period of 11 Years." (2019): 5279- 5279.

Kanda, Manojna, Arya Mariam Roy, Anusha Jillella, Akshay Goel, and Appalanaidu Sasapu. "Potentially Modifiable Risk Factors for 30-Day Readmission in Adults with Sickle Cell Disease: A National Database Study." (2019): 4857-4857.

Atwal, Dinesh, Krishna Joshi, Anusha Jillella, Pooja Motvanni, Appalanaidu Sasapu, and Muthu Veeraputhiran. "Low Dose Donor Lymphocyte Infusion (DLI) Is Effective As Prophylactic Therapy for Mixed Chimerism in the Setting of In-Vivo T Cell Depleted Allogeneic Hematopoietic Cell Transplantation." Blood 130, no. Supplement 1 (2017): 5507-5507.

Joshi, Krishna Prasad, Dinesh Atwal, Eric R Siegel, Anusha Jillella, Manojna Kanda, Richa Parikh, Aneesha Ananthula et al. "Absolute lymphocyte count (ALC) as predictor of Pneumocystis Jiroveci Pneumonia (PCP) infection in patients on immune checkpoint inhibitors (ICPi)." (2019): e14255-e14255.

Palagiri, Raga Deepak Reddy, Kshitij Chatterjee, Anusha Jillella, and Drayton A. Hammond. "A Case Report of Hypertensive Emergency and Intracranial Hemorrhage Due to Intracavernosal Phenylephrine." Hospital pharmacy 54, no. 3 (2019): 186-189.

Jillella, A, R. D.R. Palagiri, N. Ibanez, and R. Jagana. "An Unusual Presentation of Hemophagocytic Lymphohistocytosis Syndrome." In D46. CRITICAL CARE CASE REPORTS: HEMATOLOGY, ONCOLOGY, RHEUMATOLOGY AND IMMUNOLOGY, pp. A6523-A6523. American Thoracic Society, 2019.

Jillella, Anusha, Raga Deepak Reddy Palagiri, John Kincaid, and Emily Kocurek. "1719: A CASE OF SHOCK SECONDARY TO DOCE TAXEL-INDUCED SYSTEMIC CAPILLARY LEAK SYNDROME." Critical Care Medicine 47, no. 1 (2019): 833.

Tart, Anna, Raga Palagiri, Jeanette Ramos, Vikas Koppurapu, Jennifer Forsyth, Anusha Jillella, Hanneen Goraya, and Mw-at Goraya. "Intravascular Large B-cell Lymphoma (IVL) with Endocrine Organ Involvement." In JOURNAL OF NEUROPATHOLOGY AND EXPERIMENTAL NEUROLOGY, vol. 77, no. 6, pp. 518-518. JOURNALS DEPT, 2001 EVANS RD, CARY, NC 27513 USA: OXFORD UNIVERSITY PRESS INC, 2018.

Palagiri, R. D. R., A. Jillella, F. Habash, and H. Paydak. "Dizziness as the Initial Presentation of Sarcoidosis." In D33. ILD: CASE REPORTS III, pp. A6532-A6532. American Thoracic Society, 2018.

POSTER PRESENTATIONS

Palagiri Raga Deepak Reddy, Jillella A, Habash F, Paydak H. "Dizziness as the initial presentation of sarcoidosis. ATS 2018."

ORAL PRESENTATIONS

Jillella Anusha • D.Sai Divya, Dr. J.V Reddy Factors responsible for Pregnancy Induced Hypertension at KUHS, National Conference On student medical Research.

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Rochester, MN 55901

Phone: 702-858-4704
Email: dr.mamatha.gaddam@gmail.com

Resident Status: J1 visa

Date Available: July 1, 2022 (expected date of graduation June 30, 2022)

EDUCATION

Bone Marrow Transplant Fellowship

Mayo Clinic, Rochester MN

July 2021 - Present

Hematology and Oncology Fellowship

Gundersen Health System, La Crosse WI

July 2018 - June 2021

Board Eligible

Internal Medicine Residency

Allegheny General Hospital, Pittsburgh PA.

July 2015 - June 2018

Board Certified

Bachelor of Medicine and Bachelor of Surgery (MBBS)

Government Medical College, Anantapur, A.P, India.

August 2005 - March 2011

CERTIFICATIONS

American Board of Internal Medicine

July 2018 - Present

Provider, Basic & Advanced Cardiac Life Support

July 2015 - Present

LICENSURE

Training License, Wisconsin State Medical Board, Active.

Training License, Minnesota State Medical Board, Active.

PROFESSIONAL AFFILIATIONS

American Society of Hematology.

American Society of Clinical Oncology.

Wisconsin Association of Hematology and Oncology.

Pennsylvania Society of Oncology and Hematology.

American College of Physicians.

American Medical Association.

Medical Council of India.

EHR SKILLS

EPIC (Outpatient and Inpatient)

Sunrise (Inpatient)

Allscripts (Outpatient)

USMLE SCORES

USMLE Step 1: 254/Passed in 1st attempt

USMLE Step 2 CK: 259/Passed in 1st attempt

USMLE Step 2 CS: Passed in 1st attempt
ECFMG Certified: 03/2014
USMLE Step 3: 229/Passed in 1st attempt.

CLINICAL EXPERIENCE

Observer, Department of Internal Medicine

Detroit Medical Center, Wayne State University, Detroit MI

Supervisor: Dr. Diane Levime, MD, FACT

October 2014 – November 2014

Extern, Department of Internal Medicine

Mercy Hospital, Ada OK

Supervisor: Dr. Vigil Luis, MD

July 2014 – September 2014

Extern, Department of Internal Medicine

Mercy Hospital, Ada OK

Supervisor: Dr. Zhao Weidong, MD

May 2014 – July 2014

Extern, Department of Critical Care, Pulmonary and Sleep Medicine

University of Nevada School of Medicine, Las Vegas NV

Supervisor: Dr. Prabhu Rachakonda, MD

November 2012 – January 2013

Duty Doctor, Department of Internal Medicine

Guardian Multispecialty Hospital, India

Supervisor: Dr. R Balaji, MD

June 2011 – December 2011

Intern

Government General Hospital, Anantapur India

March 2010 – March 2011

RESEARCH EXPERIENCE

PUBLICATIONS

Comparison of Two MDS Prognostic Scoring Systems in Patients Undergoing Allogeneic Transplant. N Daboul, **M Gaddam**, G Berteotti, S Fazal, S Sadashiv, P Mewawalla. *Biology of Blood and Marrow Transplantation*. Volume 24, issue 3., S 344. March 2018.

Confirming the Presence of a Smoldering T and B PLL Associated with Improved 5-year OS. Using the National Cancer Data Base. B Parsons, P Peter, RS Go, A Borgert, **M Gaddam**, S Narayana. *Blood* Volume 132 supplement 1. Nov 2018

In-hospital mortality in acute promyelocytic leukemia patients: A study of national inpatient sample. D Uprety Y Vallatharasu, A Bista, **M Gaddam**, A Borgert, L Rosenstein. *Journal of Clinical Oncology* 37 no.15_suppl May 2019

Implementation of a multidisciplinary quality improvement initiative to improve molecular testing rates in advanced non-squamous non-small cell lung cancer. Zachary O, Rao R, **Gaddam M**, Martin S, Finley G. *Journal of Clinical Oncology* 35, no. 15_suppl May 2017

Physician attitudes and prevalence of molecular testing in lung cancer. Rao R Zachary O, Bartock M, **Gaddam M**, Zaidi A, Jobe Blair, Finley G. *Journal of Community and Supportive Oncology*. E153 Volume 15 June 2017

Role of stereotactic body radiotherapy in early stage pancreatic cancer. Bista A, Borget A, Uprety D, Vallatharasu Y, Arjyal L, Rajyaguru D, Polewski P, **Gaddam M**, Narayana S. *Anticancer research* vol 39, No 10

POSTER PRESENTATIONS

Does Thromboelastography predict clinical outcomes in COVID-19? International society of thrombosis and Hemostasis July 2021.

Incidence of heparin induced thrombocytopenia in DOAC era. National data base study. International society of thrombosis and Hemostasis July 2021.

Immune checkpoint Inhibitor toxicity and associated outcomes in a Geriatric population. American society of clinical oncology 2020.

Role of stereotactic body radiotherapy in early stage pancreatic cancer. Wisconsin association of hematology and oncology, 2019.

Paraneoplastic cerebellar degeneration as an initial presentation of endometrial cancer. Pennsylvania Society of Hematology and Oncology, Hershey, PA. September 2016

Leptomeningeal carcinomatosis, A rare presentation of esophageal adenocarcinoma. Pennsylvania Society of Hematology and Oncology, Hershey, PA. September 2016

MEDICAL SCHOOL AWARDS

Best Outgoing Student 2011.

Received Four Gold medals for securing highest scoring in Microbiology, Ophthalmology, Pediatrics, and ENT. Received Gold Medal from the Governor of the state for securing the highest score in ENT in state of Andhra Pradesh.

Won championship in Table Tennis twice during medical school in 2009 and 2010.

FELLOWSHIP AND RESIDENCY ACCOMPLISHMENTS

Updates in CAR-T cell therapy in hematological malignancies and future directions. Grand rounds, Gundersen Health System.

Completed Fellows as Clinical Educators (FACE) training in collaboration with University of IOWA.

Investigate the reason(s) for lack of compliance with NCCN imaging guidelines for patients with pancreatic cancer. Department of hematology and oncology, Gundersen Health System.

Retrospective study comparing the efficacy and cost effectiveness of different weight-based regimens of Iv Ig in ITP. Department of hematology, Allegheny General Hospital.

Implementing PDSA cycle to improve the diabetic foot screening in the outpatient setting. Department of Internal Medicine. Allegheny General hospital.

Multiple Oral Presentations on various topics in ambulatory lectures, resident and fellow journal club.

Member of the 'Resident Research Task Force' which is actively involved in encouraging and guiding residents interested in scholarly activity.

Scored 90th Percentile in ITE.

HOBBIES AND INTERESTS

Yoga and Meditation.

Traveling and exploring local cultures. Nature lover.

Playing Table tennis. Painting and craft making. Cooking.

SUNNY RK SINGH M.D.

Medical Education

Hematology Oncology Fellowship (07/2021-6/2022) University of Arkansas for Medical Sciences, Little Rock

Hematology Oncology Fellowship (07/2019-6/2021) Henry Ford Hospital, Detroit

Chief Medical Resident (07/2018 - 06/2019)
John H Stroger Jr. Hospital of Cook County, Chicago

Internal Medicine Residency (07/2015 - 06/2018) John H Stroger Jr. Hospital of Cook County, Chicago

Bachelor of Medicine, Bachelor of Surgery (MBBS)
King George's Medical University, India 07/2008 - 03/2013

Membership and Honorary/Professional Societies

American Society of Clinical Oncology (ASCO) American Society of Hematology (ASH) European Society of Medical Oncology (ESMO)
Michigan Society of Hematology and Oncology (MSHO)

Certification/Licensure

ECFMG, ACLS, BLS

Committee Participation/Volunteering

Henry Ford Cancer Institute scientific review committee (2020-2021) Covid-19 and Cancer Consortium (CCC19) Collaborator

Vice-President, House staff Association: John H Stroger Jr Hospital (07/2017 - 06/2018) Secretary of Physiology Society: King George's Medical University (07/2008 - 07/2009)

Awards/Accomplishments

Henry Ford Cancer Institute ASCO Travel award (2020) Henry Ford Cancer Institute ASCO Travel award (2021) Department of Medicine Clinical Skills and Scholarship Award (2017)
Honors in Pediatrics, Pathology, Microbiology, ENT and Surgery (2013)

Journal Reviewer

Current Problems in Cancer: Case Reports World Journal of Surgical Oncology BMC Health Services Research

Case Report

Desperate times, desperate measures: successful use of chemotherapy in treatment of haemophagocytic lymphohistiocytosis (HLH) due to disseminated histoplasmosis. Singh SRK, Thanikachalam K, Donthireddy V. BMJ Case Rep. 2020 Sep 2;13(9):e235144. doi: 10.1136/bcr-2020-235144. PMID: 32878853; PMCID: PMC7470499.

Epidermal Growth Factor Receptor-mutated Lung Cancer as the Initial Manifestation of Germline TP53 Mutation Associated Cancer. Pathak S, Singh SRK, Katiyar V, McDunn S. Cureus. 2018 Mar 30;10(3):e2395. doi: 10.7759/cureus.2395. PMID: 29854570; PMCID: PMC5976273.

Multiple System Atrophy Mistaken for Autoimmune Cerebellar Degeneration. Mathevosian S, Singh SR, Pu CY. Am J Med. 2016 Sep;129(9):e183-4. doi: 10.1016/j.amjmed.2016.03.034. Epub 2016 Apr 21. PMID: 27107926.

Acute ST elevation myocardial infarction following an initial sipuleucel-t infusion for castration resistant prostate cancer. Balanchivadze N*, Afana M, Al-Saheli Z, Singh S, Hwang C. Biom Case Rep Open A Open J. 2021; 2(1): 41-43. doi: 10.33169/biomcase.BACROAOJ-2-114

Book Chapter

Leptomeningeal Carcinomatosis. Singh SRK, Malapati SJ, Mattour A. Accepted for publication in “Cancer Metastasis Through the Lymphovascular System” (Springer), 2021

Manuscript

NCDB Analysis of Melanoma 2004-2015: Epidemiology and Outcomes by Subtype, Sociodemographic Factors Impacting Clinical Presentation, and Real-World Survival Benefit of Immunotherapy Approval. Singh SRK, Malapati SJ, Kumar R, Willner C, Wang D. Cancers (Basel). 2021 Mar 22;13(6):1455. doi: 10.3390/cancers13061455. PMID: 33810182; PMCID: PMC8004999.

Association of Clinical Factors and Recent Anti-Cancer Therapy with COVID-19 Severity among Patients with Cancer: A Report from the COVID-19 and Cancer Consortium. Grivas P, Khaki AR, Wise- Draper TM, French B, Hennessy C, Hsu CY, Shyr Y, Li X, Choueiri TK, Painter CA, Peters S, Rini BI, Thompson MA, Mishra S, Rivera DR, Acoba JD, Abidi MZ, Bakouny Z, Bashir B, Bekaii-Saab T, Berg S, Bernicker EH, Bilen MA, Bindal P, Bishnoi R, Bouganim N, Bowles DW, Cabal A, Caimi PF, Chism DD, Crowell J, Curran C, Desai A, Dixon B, Doroshow DB, Durbin EB, Elkrif A, Farmakiotis D, Fazio A, Fecher LA, Flora DB, Friese CR, Fu J, Gadgeel SM, Galsky MD, Gill DM, Glover MJ, Goyal S, Grover P, Gulati S, Gupta S, Halabi S, Halfdanarson TR, Halmos B, Hausrath DJ, Hawley JE, Hsu E, Huynh-Le M, Hwang C, Jani C, Jayaraj A, Johnson DB, Kasi A, Khan H, Koshkin VS, Kuderer NM, Kwon DH, Lammers PE, Li A, Loaiza- Bonilla A, Low CA, Lustberg MB, Lyman GH, McKay RR, McNair C, Menon H, Mesa RA, Mico V, Mundt D, Nagaraj G, Nakasone ES, Nakayama J, Nizam A, Nock NL, Park C, Patel JM, Patel KG, Peddi P, Pennell NA, Piper-Vallillo AJ, Puc M, Ravindranathan D, Reeves ME, Reuben DY, Rosenstein L, Rosovsky RP, Rubinstein SM, Salazar M, Schmidt AL, Schwartz GK, Shah MR, Shah SA, Shah C, Shaya JA, Singh SRK, Smits M, Stockerl-Goldstein KE, Stover DG, Streckfuss M, Subbiah S, Tachiki L, Tadesse E, Thakkar A, Tucker MD, Verma AK, Vinh DC, Weiss M, Wu JT, Wulff-Burchfield E, Xie Z, Yu PP, Zhang T, Zhou AY, Zhu H, Zubiri L, Shah DP, Warner JL, Lopes GD Jr. *Ann Oncol.* 2021 Mar 18: S0923-7534(21)00874-7. doi: 10.1016/j.annonc.2021.02.024. Epub ahead of print. PMID: 33746047; PMCID: PMC7972830.

COVID-19 and Cancer: Lessons Learnt from a Michigan Hotspot. Singh SRK, Thanikachalam K, Jabbour-Aida H, Poisson LM, Khan G. Cancers (Basel). 2020 Aug 22;12(9):2377. doi: 10.3390/cancers12092377. PMID: 32842584; PMCID: PMC7565165.

Outcomes of in-hospital cardiopulmonary resuscitation for cardiac arrest in adult patients with metastatic solid cancers: A Nationwide Inpatient Sample database analysis from 2012 to 2014. Malapati S, Singh SRK, Kumar R, Hadid T. *Cancer*. 2021 Mar 9. doi: 10.1002/cncr.33451. Epub ahead of print. PMID: 33687740.

Knowledge, Attitudes, and Practices Pertaining to Lung Cancer Screening Among Primary Care Physicians in a Public Urban Health Network. Mukthinuthalapati VVPK, Putta A, Farooq MZ, Singh SRK, Gupta S, Smith S. *Clin Lung Cancer*. 2020 Sep;21(5):450-454. doi: 10.1016/j.clcc.2020.03.005. Epub 2020 Apr 11. PMID: 32389506.

Incidence and outcomes of heparin-induced thrombocytopenia in solid malignancy: an analysis of the National Inpatient Sample Database. Kumar R, Bhandari S, Singh SRK, Malapati S, Cisak KI. *Br J Haematol*. 2020 May;189(3):543-550. doi: 10.1111/bjh.16400. Epub 2020 Jan 28. PMID: 31990984.

Life and training in the time of Corona. Malapati S, Singh SR. *Cancer Res Stat Treat* 2020; 3, Suppl S1:92-3

Abstract/Poster

Primary Pancreatic Adenocarcinoma (PPDA) and Metastatic Pancreatic Adenocarcinoma (MPDA): Are they Genomically Distinct? Sunny R K Singh, Shravan Leonard-Murali, Ruicong She, Chun-Hui Lin, Laila Poisson, Jonathan Freaney, Gazala Khan. Accepted for online publication ASCO 2021

Infectious mononucleosis manifesting with cold-type autoimmune hemolytic anemia. Kevin Ginnebaugh, MD, Harshita Mehrotra, MD, Sunny R K Singh, MD, Zaher K. Otrrock, MD. Accepted for poster presentation at International Symposium on Technical Innovations in Laboratory Hematology 2021

Incidence and Outcomes of Acute Transfusion Reactions in Hospitalized Patients in the United States. Rohit Kumar, Sindhu Malapati, Sunny R K Singh, Bokhodir Mamedov, Myra R Shah, Shruti Bhandari; *Blood* 2020; 136 (Supplement 1): 30–31. doi: <https://doi.org/10.1182/blood-2020-138982>

Survival outcomes of neoadjuvant versus adjuvant chemotherapy in early-stage pancreatic adenocarcinoma: A subgroup analysis of the National Cancer Database. Rohit Kumar, Shruti Bhandari, Sunny R K Singh, Sindhu Janarthanam Malapati, and Adam Rojan. *Journal of Clinical Oncology* 2020 38:15_suppl, e16777-e16777

Perioperative chemotherapy versus adjuvant chemoradiation in resectable gastric cancer: A national cancer database analysis. Malapati, Sindhu & Singh, Sunny & Kumar, Rohit & Abdalla, Ahmed & Hadid, Tarik. (2020). Abstract accepted for poster presentation in ASCO 2020. *Journal of Clinical Oncology*. 38. 7066- 7066. 10.1200/JCO.2020.38.15_suppl.7066.

Neoadjuvant treatment with chemotherapy or chemoradiation in stage III non-small cell lung cancer: Analysis of the National Cancer Database. Malapati, Sindhu & Singh, Sunny & Kumar, Rohit & Hadid, Tarik. (2020). Abstract accepted for poster presentation in ASCO 2020. *Journal of Clinical Oncology*. 38. 7046- 7046. 10.1200/JCO.2020.38.15_suppl.7046.

Etanercept with extracorporeal photopheresis (ECP) for steroid-refractory acute graft versus host disease following allogeneic hematopoietic stem cell transplantation. Singh, Sunny & Malapati, Sindhu & Neme, Klodiana & Michael, Angela & Mikulandric, Nancy & Vulaj, Vera & Emole, Josephine (2020). Abstract accepted for poster presentation in ASCO 2020. *Journal of Clinical Oncology*. 38. 7543-7543. 10.1200/JCO.2020.38.15_suppl.7543.

Clinical outcomes of patient migration in locally advanced rectal cancer from community cancer centers: An analysis of the National Cancer Database. Rohit Kumar, Shruti Bhandari, Phuong Ngo, **Sunny R K Singh**, Sindhu Janarthanam Malapati, Adam Rojan. Abstract accepted for poster presentation at Gastrointestinal Cancer Symposium 2020.

Plasma Exchange in Thrombotic Microangiopathy: Is It Time Sensitive? Sindhu Malapati, MD, **Sunny R K Singh, MD**, Rohit Kumar, MD, Jason Mouabbi, MD and Tarik Hadid, MD, MS. Abstract accepted for poster presentation at ASH annual meeting 2019, Orlando

In-Hospital Outcomes in Elderly Acute Myeloid Leukemia (AML) Receiving Aggressive Inpatient Care: An Analysis of National Inpatient Sample (NIS) Database between Years 2005 and 2014. Sindhu Malapati, MD, **Sunny R K Singh, MD**, Rohit Kumar, MD, Jibran Ahmed, MD, Ishaan Vohra, MD and Vatsala Katiyar, MD. Abstract accepted for poster presentation at ASH annual meeting 2019, Orlando

Elective Splenectomy in Immune Thrombocytopenic Purpura: An Analysis of National Inpatient Sample (NIS) Database between Years 2006 and 2014. **Sunny R K Singh, MD**, Sindhu Malapati, MD, Rohit Kumar, MD, Prasanth Lingamaneni, Leila Khaddour, MD and Vijayalakshmi Donthireddy. Abstract accepted for poster presentation at ASH annual meeting 2019, Orlando

Predictors of Transfer to Different Facility at Discharge in Patients Admitted with Hematologic Malignancy: A Nationwide Inpatient Sample (NIS) Database Analysis. **Sunny R K Singh, MD**, Sindhu Malapati, MD, Rohit Kumar, MD, Oleksandra Lupak, MD and Philip Kuriakose, MD. Abstract accepted for poster presentation at ASH annual meeting 2019, Orlando

Therapeutic Plasma Exchange (PLEX) in Thrombotic Microangiopathy (TMA): Experiences of an Inner-City Hospital over a Decade. Aakash Putta, Hafeez Shaka, Shristi Upadhyay Banskota, **Sunny RK Singh**, Sindhu Malapati, Muhammad Zain Farooq, Kumar Kunnal Batra. Abstract accepted for poster presentation at ASH annual meeting 2019, Orlando

Bilateral mastectomy in ductal carcinoma in situ: 10-year analysis of national inpatient sample database. Sindhu Janarthanam Malapati, **Sunny RK Singh**, Rohit Kumar, Jason Mouabbi, Ahmed Abdalla, Carrie Dul and Tarik Hadid. Abstract accepted for poster presentation at the San Antonio Breast Cancer Symposium 2019

Cultural disparities in end-of-life choices and advanced care planning in cancer patients. Vatsala Katiyar, Ishaan Vohra, Sindhu Janarthanam Malapati, **Sunny Singh**, Prasanth Lingamaneni, Orlanda Mackie, Ruhi Shariff. Abstract accepted for poster presentation Supportive Care in Oncology Symposium 2019, San Francisco

Predictors of transfer to different facility at discharge in patients admitted with metastatic solid malignancy: Five-year National Inpatient Sample (NIS) database analysis. **Singh SRK**, Malapati S, Kumar R, Thanikachalam K, Al Khatib Y. Abstract accepted for poster presentation Supportive Care in Oncology Symposium 2019, San Francisco

Geographic distribution of clinical trials for breast cancer across the United States, 2011-2015. Malapati S, **Singh SRK**, Kumar R, Ahmed J, Katiyar V, Vohra I. Abstract accepted for poster presentation at ASCO Quality Symposium 2019, San Diego.

Retrospective Audit of Malignant Epidural Spinal Cord Compression (MESCC) in an Inner-City Safety Net Hospital. Rayli, P., Putta, A., Katiyar, V., **Singh, S.**, Batra, K., Malapati, S. Abstract accepted for poster presentation at ASTRO meeting 2019, Chicago

Regorafenib tolerance and outcomes in inner-city minority colorectal cancer population. Journal of Clinical Oncology. 2018, Feb; 36(4_suppl): 722-722. Ahmed, T.A., Malapati, S., Yim, B., **Singh, S.R.K.**, and Gupta, S. Abstract accepted for poster presentation at The Gastrointestinal Cancers Symposium 2018, San Francisco

Factors affecting adherence to standard cisplatin-based chemotherapy regimen for locally advanced squamous cell head and neck cancer in an inner-city safety net hospital. Journal of Clinical Oncology. 2017, Nov; 35(31_suppl): 252. Singh, S., Malapati, S., Lu, P. & Rosen, F. Abstract accepted for poster presentation at Palliative and Supportive Care in Oncology Symposium 2017; San Diego

Efficacy of olanzapine for prevention of chemotherapy-induced nausea and vomiting: A systematic review and meta-analysis. Kumar, R., Singh, N., Thekkekkara, R.J., Singh, SRK., Harrington, S.E., & Shah, M. (Abstract) Journal of Clinical Oncology. 2017, May; 35(15_suppl): e21692.

Outcomes in left versus right metastatic colorectal cancer (mCRC) in patients presenting to an inner-city safety net hospital. Singh, S.R.K., Lu, P., Malapati, S.J., Ahmed, T.A. & Mullane, M. (Abstract) Journal of Clinical Oncology. 2018, May; 36(15_suppl): e15542.

Language Fluency

English, Hindi and Urdu

Hobbies & Interests

Music

Indian cooking, trying new cuisines and restaurants Watching movies

Gardening

Santanu Samanta, MD, MBBS
Resident Physician, Department of Radiation Oncology
University of Maryland School of Medicine

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Business address: Department of Radiation Oncology
22 S Greene Street,
Baltimore, Maryland 21201

Business Phone: 4103286080

Cell phone: 2407600433

FAX: 4103285279

Email: ssamanta@som.umaryland.edu
: docsantanu@gmail.com

Education:

2002 – 2007: Bachelor of Medicine, Bachelor of Surgery (M.B.B.S)
N.R.S Medical College, University of Calcutta, India
2007 – 2008: Internship at N.R.S Medical College, University of Calcutta, India

Post Graduate Education and Training

2012 – 2014: Residency in Radiation Oncology (DMRT program), CMC Vellore, India
2014 – 2016: Residency in Radiation Oncology (MD program), CMC Vellore, India
2018 – 2022: Residency in Radiation Oncology, University of Maryland
(Expect to graduate in Jun 2022)

Certifications

2009 ECFMG certification (USA) on completion of USMLE
2021 BLS certification

Medical Licenses

2008 Active, India (MBBS)
2016 Active, India (MD)
2018 Active, Maryland USA

Employment

Academic Appointments

2016—2017: Visiting Instructor, Non-tenure track, Division of Translational Radiation Sciences (DTRS),
Dept. of Radiation Oncology, University of Maryland
2017---2018: Post-Doctoral Research Fellow, Division of Translational Radiation Sciences (DTRS), Dept.
of Radiation Oncology, and University of Maryland

Non-academic appointments

2008 –2009: Research scholar, Department of Biotechnology, West Bengal University of Technology, India, (Mentor: Dr. SR Chaudhuri)

2009 –2010: Research Volunteer and clinical observer, Center for Clinical Global Health, Johns Hopkins school of Medicine, Baltimore, (Mentor: Dr. Celine Gounder and Dr. Amita Gupta)

2010 –2011: Junior Research Fellow, All India Institute of Medical Sciences, New Delhi, India

Professional Society Membership

2014-present	Life Member, Association of Radiation Oncologists of India (AROI)
2017-present	Resident Member, American College of Radiology (ACR)
2017-present	Resident Member, American Society for Radiation Oncology (ASTRO)
2017-present	Resident Member, American Brachytherapy Society (ABS)
2017-present	Resident Member, American college of radiation Oncology (ACRO)
2018-present	Resident Member, Radiological Society of North America (RSNA)
2018-present	Resident member, American Board of Radiology (ABR)

Honors and Awards

2005 Honors, University of Calcutta, awarded for distinguished marks in MBBS

2014 Neil Joseph Fellowship Award, Association of Radiation Oncologists of India, AROICON, 36th Annual Conference, India; for excellence in research and clinical skills awarded to top resident graduate

2014 Best Poster Award AROI TNPY 29th Annual conference, India

2014 Oral Presentation Award in Annual Research Day, CMC Vellore, India

2018 Abstract selected - Best of Physics, ASTRO 2018, San Antonio

2018 Abstract selected - Best of ASTRO 2018, San Diego

2019 Outstanding clinical research award, University of Maryland

2020 Chief Resident, Department of Radiation Oncology, University of Maryland

2021 Travel grant award: Astro refresher course

2021 Abstract selected for Travel grant award –ACRO 2021

Clinical Expertise

External Beam Radiotherapy

Pencil Beam Scanning Proton Therapy Image

Guided Radiotherapy

Advanced localization systems (SDX, AlignRT) Photon/Proton

GRID and Proton LATTICE treatment Stereotactic Treatments

Stereotactic Body Radiation Therapy (lung, liver, bone and various soft tissue sites) Varian Edge

Linac-based SRS (brain metastases)

Gamma Knife radiosurgery (brain metastases, meningioma, arteriovenous malformations, trigeminal neuralgia).

Gamma Pod (breast)

Brachytherapy

Prostate Brachytherapy – Ultrasound-guided I125 permanent seed implants using MIC applicators. Prostate HDR brachytherapy

HDR Brachytherapy – Placement of intracavitary and interstitial HDR implants for gynecological malignancies including vaginal cylinders, tandem and ring, and Syed applicators.

Hyperthermia – external and interstitial thermal therapy to concurrent radiation (Pyrexar BSD-500 Deep Thermal Therapy (BSD-2000))

Unsealed Sources – Administration of Oral I¹³¹ and Liver directed Y90 (Sir-Spheres, ThereSphere)

Administrative service

Departmental Service

- 2019 Member, lung and lymphoma Practice Guidelines Committee, created proton guidelines on thoracic sub site, modified lymphoma and lung practice guidelines
- 2020 Member, Inter-Departmental Radiation Oncology Network (IRON) – committee for electronic variance forms, inter-departmental transfer process and new employee orientation tool
- 2020 Residency interview selection committee
- 2021 Member, Billing and compliance committee services, Department of Radiation Oncology, University of Maryland Medical Center
- 2021 Member, the Diversity and Inclusion committee, Dept. of Radiation Oncology

Leadership role

- 2021: Organized hands-on workshop on prostate space OAR with Boston Scientific - Augmenix, Inc for residents
- 2021: Organized 'Radiation Oncology Awareness Event' for medical students of University of Maryland
- 2021: Introduction of Physics tech rounds as a part of morning didactics for residents

Teaching service

Medical student teaching

- 2020: Medical student small group preceptor sessions
10-15 2nd and 3rd year medical students. 3-4 contacts hours/year
- 2018-2020 Departmental Clinical Review Series, 10 clinical residents, 2 contact hours/week

Mentoring service

- 2018: Sandrine Soman, Master Student, UMSOM, role- Postdoc research mentor
- Shriya Kumlapurkar- Master Student, UMSOM, role- Postdoc research mentor
- 2019: Serena Mao, MS-4, Albert Einstein College of Medicine, Visiting med student
3 hours per week,
- 2019: Philip Damron, MS-1, UMSOM-2019 Radiation Oncology Summer Fellow
3 hours/ week,
- 2021: Kara Branson, MS-4, University of Massachusetts, Visiting medical student 4 hrs/week

Mentee Awards

2019 Philip Damron, MS-1, UMSOM: 2019 Radiation Oncology Summer Fellowship Award
(Role: Resident mentor)

Editorial activities

2020 – *Ad Hoc* reviewer of Integrative Cancer Therapies

2019 – *Ad Hoc* reviewer of Journal of Molecular Oncology Research

Publications

Original research / Peer-Reviewed Journal Articles

1. Chaudhuri, SR., Thakur A.R., Nandy P, **Samanta, S.** Urinary tract infection- a survey of local population. American Journal of Infectious Disease. 2008, Jul; 4(2):117-123
2. WT Yang, C Gounder, T Akande, JW De Neve, KN McIntire, A Chandrasekhar, AL Pereira, N Gummadi, **S Samanta** and A Gupta. Barrier and delays in Tuberculosis Diagnosis and treatment services: Does Gender matter. Tuberculosis Research and Treatment. 2014, Apr 2014(461935)
3. Das S, **Samanta S**, Mathew M, John R, Peedicayil A, John S, Current role of Magnetic Resonance Imaging in Evaluation and Radiotherapy in Locally Advanced Carcinoma Cervix. Indian Journal of Gynecology Oncology 14(2).2016, May
4. **S Samanta**, S. Balukrishna, KM Rafic, BST Peace, IR Singh, Simon SP. Adding another dimension to plan evaluation: visualizing the dose–volume histogram band in head and neck radiotherapy and exploring its utility. March 2017; Journal of Radiotherapy in Practice. Cambridge University press 16 (4), 403
5. J Mahmood, CQ Connors, AA Alexander, RPavlovic, **S Samanta**, S Soman, H Matsu, NA. Sopko, T Bivalacqua, D Weinreich, CY Ho, J Eley, A Sawant, IL. Jackson, and Z Vujaskovic. Cavernous Nerve Injury by radiotherapy may potentiates erectile dysfunction in rats. 2017, June; International Journal of Radiation Oncology, Biology, Physics
6. JK Molitoris, T Diwanji, **S Samanta**, N Lamichhane, A Chhabra: Improving outcomes through immune system modulation in the treatment of Gynecological cancer, Mar2017, Reproductive Immunol Open Access
7. JK. Molitoris, T Diwanji, JW. Snider III, S Mossahebi, **S Samanta**, SN. Badiyan, CB. Simone II, P Mohindra. Advances in the use of motion management and image guidance in radiation therapy treatment for lung cancer, Jan 2018, Journal of Thoracic Disease
8. A Modiri, N Kazemzadeh, **S Samanta**, Y Yan, R Bland, T Rozario, H Wibowo, P Iyenger, C Ahn, R Timmerman, A Sawant. Virtual bronchoscopy-guided treatment planning to map and mitigate radiation-induced airway injury in lung SABR, April 2018, International Journal of Radiation Oncology, Biology, Physics
9. J Mahmood, HD Shukla, S Soman, **S Samanta**, P Singh, S Kamlapurkar, ASaeed, NP Amin, Z Vujaskovic. Immunotherapy, radiotherapy, and hyperthermia: A combined therapeutic approach in pancreatic cancer treatment. Cancers Dec 2018 10(12) , 469
10. JK Molitoris, T Diwanji, JW Snider III, S Mossahebi, **S Samanta**, N Onyeuku, P Mohindra, JI Choi, CB Simone. Optimizing immobilization, margins, and imaging for lung stereotactic body radiation therapy, Feb 2019, Translational lung cancer research
11. **S Samanta**. Management of early stage Endometrial Cancer, a single institutional experience, review. University Journal of Medicine and Medical specialties, Dec2020

12. O Siddiqui, A Pollock, **S Samanta**, A Kaiser, JK Molitoris. Proton Beam Therapy in Liver Malignancies Current oncology reports, Mar2020
13. J Mahmood, AA Alexander, **S Samanta**, S Kamlapurkar, P Singh, A Saeed, F Carrier, X Cao, HD Shukla, Z Vujaskovic A Combination of Radiotherapy, Hyperthermia, and Immunotherapy Inhibits Pancreatic Tumor Growth and Prolongs the Survival of Mice, Cancers, April2020
14. J Remick, E Kowalski, **S Samanta**, S Choi, JD Palmer, MV Mishra. Health-Related Quality of Life and Patient-Reported Outcomes in Radiation Oncology Clinical Trials, Current Treatment Options in Oncology, Nov2020
15. A Das, S Mahapatra, D Bandyopadhyay, **S Samanta**, S Chakraborty, LL Philpotts, E Jahangir, B B Roy. Bleeding with vascular endothelial growth factor tyrosine kinase inhibitor: A network meta-analysis. Critical Reviews in Oncology/Hematology, 2020
16. F Lutfi, A Kansagra, MM Ali, A Bukhari, J Siglin, J Yan, S Samanta, NG Holtzman, D Gottlieb, D Kim, ST Lee, MH Kocoglu, JA Yared, NM Hardy, JK Molitoris, P Mohindra, A P Rapoport, S Dahiya. The Impact of Bridging Therapy prior to CD19 Directed Chimeric Antigen Receptor-T Cell Therapy in Patients with Large B-Cell Lymphoma. British Journal of Hematology, July 2021

Manuscript under preparation

17. D Leiser, **S Samanta**, J Strauss, BS; J Eley, M Creed, T Kingsbury, PN Stats, A Acharya, B Bhandary, M Chen, T Dukic, S Roy, J Mahmood, Z Vujaskovic. Caveolin-1 as a biomarker for radiation resistance and tumor aggression in lung cancer. Lung Cancer (manuscript submitted under review)
18. **S Samanta**, E Nichols, M Zakhary, M Guerrero, B Zhang, A Pollock, N Lamichhane, S Becker. Comparison between a breast specific radiosurgery device and intensity modulated proton therapy for accelerated partial breast irradiation.
19. **S Samanta**, P Damron, YPoirier, S Mao, N Lamichhane, S Dahiya, J Yared, A Rapoport, N Hardy, JK Molitoris, A Kaiser, BY Yi, P Mohindra. Dose To Lungs And Kidneys During Total Body Irradiation: Are We Delivering The Expected Dose?
20. **S Samanta**, S Mossahebi, MR Mundis, T Houser, R Miller, JK Molitoris. Utilizing robustly optimized intensity modulated proton therapy (IMPT) for reducing toxicities in nasopharyngeal cancer.

Abstracts

Oral presentations

1. **Santanu S**, Balukrishna S, Selvamani B, Title: Generation of DVH BAND in Conformal therapy as plan evaluation tool. AROICON 27th Annual State conference at Tamil Nadu & Pondicherry; Chennai, India, Oct2013
2. **Samanta S**, Balukrishna S, Rabirajasingh I, Selvamani B. Title: Toxicity of Simultaneous Integrated Boost Technique and Low Dose Conformity Index (LDCI) in Head and Neck cancer patient undergoing Intensity Modulated Radiation Therapy. AROICON 28th Annual State Conference at Tamil Nadu & Pondicherry; Coimbatore, India, Oct2014
3. **Samanta S**, Balukrishna S, Timothy P, and Title: Toxicity of Simultaneous Integrated Boost Technique in Head and Neck Cancer and 1 Gy Volume per day: Can it be a prospective constraint? Annual Research Day, Christian Medical College, Vellore, India, Oral Presentation, Oct 2014
4. **S Samanta**, Javed Mahmood, John Eley, Allen Alexander, Sandrine Soman, Michael Creed, Tami Kingsbury, Soren Bentzen, Charles Simone, Zeljko Vujaskovic. Mitigating Caveolin-1 mediated

radioresistance in A549 resistant non-small cell lung cancer through enhanced relative biological effectiveness with proton therapy. PTCOG-NA, Chicago, October 23-25, 2017

5. J. Cohen, A. Anvari, **S. Samanta**, Y. Poirier, S. Soman, A. Alexander, M. Ranjbar, R. Pavlovic, A. Zodda, I. Jackson, J. Mahmood, Z. Vujaskovic, A. Sawant. Mild hyperthermia as a localized radiosensitizer for deep-seated tumors – Investigation in an orthotopic prostate cancer model in mice. Fourth International Conference on Precision Image-Guided Small Animal Radiotherapy Research 12-14 March 2018 Lisbon, Portugal
6. A Modiri, **S Samanta**, A Hagan, T Rozario, Y Yan, H Wibowo, J Yu, R Timmerman, A Sawant. Patient-specific mapping, modeling and mitigating radiation-induced airway injury in lung SABR. AAPM July 29-Aug2, 2018, Nashville TN
7. **S Samanta**, A Modiri, T Rozario, J Yu, Y Yan, R Timmerman, A Sawant. Virtual bronchoscopy-guided dose response modeling of airways to mitigate radiation induced airway injury in lung SABR. ASTRO Oct 21-24, 2018, San Antonio, TX
8. **S Samanta**, A Modiri, T Rozario, J Yu, Y Yan, R Timmerman, A Sawant. Virtual bronchoscopy-guided dose response modeling of airways to mitigate radiation induced airway injury in lung SABR. Best of ASTRO Nov30-Dec01, 2018, San Francisco, CA.
9. C DeCesaris, O Siddiqui, **S Samanta**, E Kowalski, S Rice, JK Molitoris, D Rodrigues, JW Snider, Z Vujaskovic. Toxicity and efficacy outcomes of concurrent radiation and hyperthermia in soft tissue. Society for thermal medicine, Apr2019
10. JW Snider, JK Molitoris, S Rice, C DeCesaris, O Siddiqui, **S Samanta**, E Kowalski, D Rodrigues, Z Vujaskovic. Concurrent pencil beam scanning proton therapy and external thermal therapy: Growing clinical experience with promising future. Society for Thermal Medicine, Apr 2019.
11. **S Samanta**, JW Snider, JK Molitoris, S Rice, C DeCesaris, O Siddiqui, E Kowalski, D Rodrigues, Z Vujaskovic. Similar rates of skin toxicity associated with concurrent external thermal therapy when delivered with pencil beam scanning proton therapy or photon/ electron techniques for breast cancer. Society for Thermal Medicine, Apr2019.
12. O Siddiqui, JW Snider, JK Molitoris, S Rice, C DeCesaris, **S Samanta**, E Kowalski, D Rodrigues, Z Vujaskovic. A single institution experience of concurrent external thermal therapy with radiation therapy as palliative cancer treatment. Society for Thermal Medicine, Apr 2019
13. **S Samanta**, J Mahamood, P Singh, S Bentzen, J Eley, S Mossahebi, Z Vujaskovic. Hyperthermia increases sensitization of proton beam therapy in chordoma cell lines. Society for Thermal Medicine, Apr 2019
14. JW Snider, JK Molitoris, **S Samanta**, O Siddiqui, Z Vujaskovic. Hyperthermia cases and Clinical Practice Guidelines for Superficial Thermal Therapy. Thermal Therapy School, University of Maryland.

Poster presentations

1. **Samanta S**, Das s, Rajesh I, John S. Title: Management of early stage Endometrial Cancer, a single institute experience. AROICON- 36th Annual Conference, by Association of Radiation Oncologist of India; Manipur, Imphal, India, Poster, Nov2014
2. J Mahmood, A Alexander, **S Samanta**, S Soman, H Shukla, E Davila, F Carrier, I Jackson, Z Vujaskovic. Radiotherapy in combination with hyperthermia and immunotherapy inhibit pancreatic tumor growth and modulate tumor microenvironment in mice, ASTRO Oct21-24, 2018, San Antonio, TX

3. **S Samanta**, M Creed, A Anvari, J Mahmood, T Kingsbury, A Sawant. Novel strategy to develop orthotopic prostate tumor using androgen dependent LNCaP transduced with miR133b. ASTRO Oct21-24, 2018, San Antonio, TX
4. **S Samanta**, J Mahmood, A Alexander, S Soman, H Shukla, T Kingsbury, M Creed, J Eley, A Sawant, Z Vujaskovic. CRISPR Cas9 mediated Caveolin-1 knockout sensitizes radioresistant non-small cell lung cancer. ASTRO Oct, 2018, San Antonio, TX.
5. JW Snider, JK Molitoris, SR Rice, C DeCesaris, ES Kowalski, OM Siddiqui, **S Samanta**, D Rodrigues, AM Sharma, V Smith, M Guerrero, S Chen, Z Vujaskovic. Concurrent Superficial Thermal Therapy and Pencil Beam Scanning Proton Therapy: Initial Clinical Experience and Safety Profile. ASTRO 2019.
6. **S Samanta**, SR Rice, OM Siddiqui, C DeCesaris, ES Kowalski, D Rodrigues, JK Molitoris, Z Vujaskovic, JW Snider, EM Nichols. Concurrent External Thermal Therapy and Pencil Beam Scanning Proton Therapy or Photon/Electron Therapy for Recurrent Breast Cancer: Early Outcomes and Toxicity. ASTRO 2019.
7. P Damron, **S Samanta**, Y Poirier, S Mao, N Lamichhane, B Yi, P Mohindra. Dose to Lungs and Kidneys during Total Body Irradiation: Are We Delivering the Expected Dose? Radiation research 2019
8. J.W. Snider, JK Molitoris, S Rice, C Decesaris, O Siddiqui, E Kowalski, **S Samanta**, D Rodrigues, WF. Regine, Z Vujaskovic. PTCOG-NA Oct 2019.
9. **S Samanta**, S Mossahebi, MR Mundis, T Houser, R Miller, JK Molitoris. Utilizing robustly optimized intensity modulated proton therapy (IMPT) for reducing toxicities in nasopharyngeal cancer. ACRO 2020.
10. **S Samanta**, P Damron, YPoirier, S Mao, N Lamichhane, S Dahiya, J Yared, A Rapoport, N Hardy, JK Molitoris, A Kaiser, BY Yi, P Mohindra. Dose To Lungs And Kidneys During Total Body Irradiation: Are We Delivering The Expected Dose? ATSTRO2020.
11. **AE Pollock**, SJ Becker, N Lamichhane, M Guerrero, **S Samanta**, B Zhang, M Zakhary, SA McAvoy, EM Nichols. Accelerated Partial Breast Irradiation (APBI): A Comparison Between a Breast-Specific Radiosurgery Device and Volumetric Modulated Arc Therapy (VMAT). ASTRO 2020.
12. **S Samanta**, E Nichols, M Zakhary, M Guerrero, B Zhang, A Pollock, N Lamichhane, S Becker. Comparison between a breast specific radiosurgery device and intensity modulated proton therapy for accelerated partial breast irradiation. San Antonio Breast cancer symposium 2020
13. F Lutfi, A Kansagra, M mustafa Ali, A Bukhari, J Siglin, J Yan, **S Samanta**, NG Holtzman, D Gottlieb, D Kim, ST Lee, MH Kocoglu, JA Yared, NM Hardy, Jk Molitoris, P Mohindra, Aaron P Rapoport, S Dahiya. The Impact of Bridging Therapy Prior to CAR-T Cell Therapy on Clinical Outcomes of Patients with Relapsed Refractory Large B-Cell Lymphoma. Transplantation & Cellular Therapy Meetings of ASTCT 2020.
14. JN Malinou, H Alkhaldi, S Dahiya, O Goloubeva, A Bukhari, F Lutfi, G Sanchez-Petitto, **S Samanta**, AP Rapoport, NM Hardy, N Minas, K Ruehle, N Gahres, L Ridge, P Mohindra, J Molitoris, Jean A Yared. Long-Term Outcomes of Busulfan, Fludarabine and 400 cGy Total Body Irradiation Versus Busulfan and Fludarabine Reduced-Intensity Conditioning Regimens for Allogeneic Stem Cell. American Society of Hematology 2020
15. **S Samanta**, S Mossahebi, MR Mundis, T Houser, R Miller, JK Molitoris. Utilizing robustly optimized intensity modulated proton therapy (IMPT) for reducing toxicities in nasopharyngeal cancer: ACRO Feb 2021

Book chapter

S. Samanta, S Mossahebi, Robert C Miller. FLASH (ultra-high dose rate) radiotherapy for Principles and Practice of Particle Therapy (in press)

References:

Available on request

Sonia Tewani Orcutt, MD, FACS
Curriculum Vitae

Maiden Name - Sonia Kamlesh Tewani

Current Position:

Surgeon and Partner
Springfield Clinic Peoria
Springfield Clinic, LLC

Chief, Section of Surgical Oncology
Department of Surgery
University of Illinois College of Medicine at Peoria

Assistant Program Director
Department of Surgery
University of Illinois College of Medicine at Peoria

Current Academic Appointment:

Assistant Professor of Clinical Surgery
University of Illinois College of Medicine at Peoria
624 NE Glen Oak Avenue, Suite 2679
Peoria, IL 61603
storcutt@uic.edu

Education:

2001-2005 Bachelor of Arts, Medical Sciences, Seven-Year Liberal Arts/Medical Education Program
Boston University, Boston, MA
Summa cum laude, Phi Beta Kappa Honor Society

2004-2008 Doctor of Medicine
Boston University School of Medicine, Boston, MA
Magna cum laude, Alpha Omega Alpha Honor Society (Junior year)

Postgraduate Training:

2008-2010 Intern/Junior Resident, General Surgery
Baylor College of Medicine, Houston, TX

2010-2012 Research Fellow, Division of Surgical Oncology
Baylor College of Medicine, Houston, TX

2012-2015	Senior and Chief Resident, General Surgery Baylor College of Medicine, Houston, TX
2014-2015	Administrative Chief Resident (shared) Baylor College of Medicine, Houston, TX
2015-2017	Fellow, Complex General Surgical Oncology H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL
2016-2017	Administrative Fellow H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL

Employment:

2015-2017	Instructor in General Surgery H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL
2017-2020	Medical Director, PSG Surgical Oncology Peoria Surgical Group, Ltd, Peoria, IL
2020-Present	Surgeon and Partner Springfield Clinic Peoria, LLC

Academic Appointment:

2017-2020	Assistant Professor of Surgery Department of Surgery University of Illinois College of Medicine at Peoria, Peoria, IL
2020-Present	Assistant Professor of Clinical Surgery Department of Surgery University of Illinois College of Medicine at Peoria, Peoria, IL
2021-Present	Chief, Section of Surgical Oncology Department of Surgery University of Illinois College of Medicine at Peoria, Peoria, IL

Medical Licensure:

2011-2018	Physician, State of Texas. License Number N8552 Physician,
2015-2018	State of Florida. License Number ME123568 Physician, State
2017-Present	of Illinois. License Number 036.142348

Board Certification:

2015-Present	American Board of Surgery in Surgery Certificate Number 060763
2018-Present	American Board of Surgery in Complex General Surgical Oncology Certificate Number 000188

Teaching Experience:

University

2018 - Present (Every 2 months)	Course Instructor: Pancreas School of Medicine - Surgery Clerkship Lectures University of Illinois College of Medicine at Peoria, Peoria, IL
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2018 - Present (Every 2 months)	Course Instructor: Surgical Oncology School of Medicine - Surgery Clerkship Lectures University of Illinois College of Medicine at Peoria, Peoria, IL
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2018 - Present (Twice per month)	Early Longitudinal Immersion Interprofessional Team Experience School of Medicine - First and Second Year Medical Student Experience University of Illinois College of Medicine at Peoria, Peoria, IL
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2018 - Present (3 hours once/year)	Breast Cancer Core Case School of Medicine - Second Year Medical Student Lectures University of Illinois College of Medicine at Peoria, Peoria, IL
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2018 - Present (4 hours once/year)	Transition to Residency Program School of Medicine - Fourth Year Medical Student Program University of Illinois College of Medicine at Peoria, Peoria, IL
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2018 - Present	Director, Advanced General Surgery Elective, Department of Surgery School of Medicine - Fourth Year Medical Student Experience University of Illinois College of Medicine at Peoria, Peoria, IL
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Teaching Lectures

November 2018	"Paternalism in Medicine." Caterpillar Faculty Scholars Fellowship Scholar's Hour, Peoria, IL.
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May 2019	"Hyperthermic Intraperitoneal Chemotherapy (HIPEC)." Caterpillar Faculty Scholars Fellowship Scholar's Hour, Peoria, IL.
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August 2019	"Women in Medicine." Caterpillar Faculty Scholars Fellowship Scholar's Hour, Peoria, IL.
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Clinical Training of Residents:

2017 -Present	Teaching rounds 3 days/week
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Department of Surgery
University of Illinois College of Medicine at Peoria, Peoria, IL

2017 - Present	Surgical oncology clinic and case review twice/month University of Illinois College of Medicine at Peoria, Peoria, IL
2017 - Present	Intraoperative teaching 3 days/week University of Illinois College of Medicine at Peoria, Peoria, IL
2017 - Present	Preoperative residents' conference once/week University of Illinois College of Medicine at Peoria, Peoria, IL
2017 - Present	Journal club twice/year University of Illinois College of Medicine at Peoria, Peoria, IL
2017 - Present	Morbidity and mortality conference once/week University of Illinois College of Medicine at Peoria, Peoria, IL
2017 - Present	Oral board preparation 4 times/year University of Illinois College of Medicine at Peoria, Peoria, IL

Honors and Awards:

2001-2005	Dean's List, Boston University
2002	Distinguished Sophomore, Boston University
2005	College Prize for Excellence in Medical Sciences, Boston University Phi Beta
2005	Kappa Honor Society, Boston University
2006	Association of Pathology Chairs Honor Society, Boston University School of Medicine Alpha Omega Alpha Honor Society, Junior year, President, Boston University
2007	School of Medicine Peter J. Mozden, MD Cancer Award, Boston University School of Medicine Dean
2008	Eleanor Tyler Memorial Award, Boston University School of Medicine Merck Manual
2008	Award, Boston University School of Medicine
2008	Best Clinical Presentation by a Resident Award (2 nd place), Association of
2012	Veterans Affairs Surgeons Annual Meeting Finalist for Best Quickshot by a New Association for Academic Surgery Member
2012	Award, Association for Academic Surgery, Academic Surgical Congress McCollum Academic Achievement Award, Department of Surgery, Baylor College of Medicine
2014	Resident All-Star Team, Surgical Jeopardy, Department of Surgery, Baylor College of Medicine
2014,2015	Outstanding Veterans Affairs General Surgery Chief Resident Award, Department of Surgery, Baylor College of Medicine
2015	

2015	Raleigh Ross Scholarship Award, Texas Surgical Society
2015	Poster Grand Rounds, Society of Surgical Oncology Annual Cancer Symposium
2015	Conquer Cancer Foundation of American Society of Clinical Oncology Merit Award, American Society of Clinical Oncology Gastrointestinal Cancers Symposium Florida Society of Clinical Oncology Travel Award to attend the Society of Surgical Oncology Annual Meeting
2017	Caterpillar Faculty Scholars Fellowship- competitively selected to a 16 month faculty development program in teaching, leadership, and research Fellow, American College of Surgeons
2018	Teaching Award, Surgery Residency Program, Department of Surgery, University of Illinois College of Medicine at Peoria
2019	University of Illinois College of Medicine at Peoria Outstanding Clinical, Technological, Or Scholarly Achievements Applied to Medical Research Award
2020	

Research Support:

Internal Grant:

Name of PI: Dates:	Orcutt, ST
Funding Source: Title:	6/2019-11/2021
%Effort:	Warren and Clara Cole Advisory Board
Role in the Study: Total	Virtual Reality for Preoperative Surgical Planning 20%
Amount:	(no salary support) Principal Investigator \$90,000

Active Research Activities

Principal Investigator: Virtual Reality for Preoperative Surgical Planning

Co-Principal Investigator: Targeting Urokinase Plasminogen Activator to Overcome Chemoresistance in
Pancreatic Cancer

Molecular Characteristics of Colloid Carcinoma

Understanding the Clinical Characteristics of Young-Onset Colorectal Cancer

Committees and Administrative Services:

2008-2010, 2012-2015	Surgery Education Committee, Department of Surgery, Baylor College of Medicine
2010-2012	Suture Course, Department of Surgery, Baylor College of Medicine
2010-2011	Internal Reviewer, Baylor College of Medicine

2013	Member, American Board of Surgery In-Training Exam Task Force, Department of Surgery, Baylor College of Medicine
2014	Member, Clinical Learning Environment Review, Department of Surgery, Baylor College of Medicine
2014-2015	Administrative Chief Resident, Baylor College of Medicine
2015-2017	Member, Clinical Pathways Development, Department of Gastrointestinal Oncology, Moffitt Cancer Center
2016-2017	Florida Society of Clinical Oncology Surgical Fellow Specialty Liaison
2016-2017	Administrative Fellow, Moffitt Cancer Center
2016-2017	Member, Moffitt Graduate Medical Education Committee, Moffitt Cancer Center
2017	Chair, Clinical Mentor of the Year Committee, Moffitt Cancer Center
2017 - Present	Member, Gastrointestinal Tumor Board, OSF Saint Francis Medical Center
2017 - Present	Member, Liver Tumor Board, OSF Saint Francis Medical Center
2017 - Present	Member, Gastrointestinal Tumor Board, Unity Point Methodist Hospital
2017 - Present	Member, Cancer Committee, OSF Saint Francis Medical Center
2018 - Present	Member, Cancer Quality Assurance Committee, OSF Saint Francis Medical Center
2018 - Present	Member, Faculty Search Committee, University of Illinois College of Medicine at Peoria Department of Surgery
2019-2020	Member, Chairman Search Committee, University of Illinois College of Medicine at Peoria Department of Surgery
2019 - Present	Member, Breast Program Leadership Program, OSF Saint Francis Medical Center
2021 - Present	Executive Committee, University of Illinois College of Medicine at Peoria
2021 - Present	Women in Medicine and Science Council, University of Illinois College of Medicine at Peoria

Additional Scholarly Activities:

2019 - Present	Creation of a HIPEC (Hyperthermic Intraperitoneal Chemotherapy) program, OSF Saint Francis Medical Center
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Community Service:

2017	"Mole Patrol" Community Skin Cancer Screening, Clearwater, Florida Presentation
2018	at Safety Saves Forum, OSF Saint Francis Medical Center, Peoria, IL
	Contributor, Cancer Program Annual Report Newsletter, OSF Saint Francis Medical Center, Peoria, IL
2019	Panelist. Advancing a Cure: Colorectal Cancer Program. Illinois CancerCare, Peoria, IL
2019	American Cancer Society ResearchHERS Central/Southern Illinois Ambassador
2020 - 2021	

Memberships in Professional Societies and Organizations:

2010-2011	Association for Academic Surgery, Resident member
2008-2010, 2016-2017	American College of Surgeons, Resident member American
2014-2018	Society of Clinical Oncology, Resident member Society of
2015-2017	Surgical Oncology, Candidate member
2016-2017	Florida Society of Clinical Oncology, Associate member
2017-2017	Florida Chapter of the American College of Surgeons, Resident member
2017 -2019	American College of Surgeons, Associate fellow member
2017 - Present	Society of Surgical Oncology, Member
2017 - Present	American Hepato-Pancreato-Biliary Association, Member
2017 - Present	Illinois State Medical Society, Member
2018 - Present	American Society of Clinical Oncology, Member
2019 - Present	American College of Surgeons, Fellow
2019 - Present	Association of Women Surgeons

Ad hoc Journal Reviewer:

2021 - Present	Annals of Surgical Oncology Journal
2021 - Present	of Surgical Research

Peer Reviewed Publications:

1. Carter AS, Black DO, **Tewani S**, Connolly CE, Kadlec MB, Tager-Flusberg H. Sex differences in toddlers with autism spectrum disorders. Journal of Autism and Developmental Disorders. 2007 January; 37(1):86-97.
2. Loebe M, **Tewani S**, Bruckner BA, Disbot M. Qualitätssicherung in der Herzchirurgie in den USA [Quality Management in Cardiac Surgery in the USA]. Deutsche Medizinische Wochenschrift. 2009 October; 134 (Supplement 6):S234-6.
3. **Orcutt ST**, Marshall CL, Robinson CN, Balentine CJ, Anaya DA, Artinyan A, Awad SS, Berger DH, Alba D. Minimally invasive surgery in colon cancer patients leads to improved short-term outcomes and excellent oncological results. American Journal of Surgery. 2011 November; 202(5):528-31.
4. **Orcutt ST**, Balentine CJ, Marshall CL, Robinson CN, Anaya DA, Artinyan A, Awad SS, Berger DH, Alba D. Use of a Pfannenstiel incision in minimally invasive colorectal cancer surgery is associated with a lower risk of wound complications. Techniques in Coloproctology. 2012 Apr; 16(2):127-32.
5. Artinyan A, Marshall CL, Balentine CJ, Alba D, **Orcutt ST**, Awad SS, Berger DH, Anaya DA. Clinical outcomes of oncologic gastrointestinal resections in patients with cirrhosis. Cancer. 2012 July 15; 118(14):3494-500.

6. **Orcutt ST**, Marshall CL, Balentine CJ, Robinson CN, Anaya DA, Artinyan A, Berger DH, Albo D. Hand-assisted laparoscopy leads to efficient colorectal cancer surgery. *Journal of Surgical Research*. 2012 Oct; 177(2):e53-8.
7. **Orcutt ST**, Nguyen NT, Harring TR, Wosik J, Chang A, Lee P, Steinberg M, Tomlinson JS, Bodei L, Paganelli G, Brunicardi FC. Subatomic medicine and the atomic theory of disease. *Translational Medicine*. 2012 Sept; 2:108.
8. **Orcutt ST**, Bechara CF, Pisimisis G, Barshes NR, Kougias P. Impact of perioperative events on mortality after major vascular surgery. *American Journal of Surgery*. 2012 Nov;204(5):586-90.
9. Kougias P, Tiwari V, **Orcutt ST**, Pisimisis G, Barshes NR, Bechara CF, Berger DH. Derivation and out of sample validation of a modeling system to predict operative length. *American Journal of Surgery*. 2012 Nov;204(5):563-8.
10. **Orcutt ST**, Artinyan A, Li LT, Silberfein EJ, Berger DH, Albo D, Anaya DA. Postoperative mortality and need for transitional care following liver resection for metastatic disease in the elderly: a population-level analysis of 4,026 patients. *HPB (Oxford)*. 2012 Dec; 14(12):863-70.
11. Kougias P, **Orcutt ST**, Pak T, Lin PH, Pisimisis G, Barshes NR, Bechara CF. Impact of postoperative nadir hemoglobin and blood transfusion on outcomes after operations for atherosclerotic vascular disease. *Journal of Vascular Surgery*. 2013 May;57(5):1331-7.
12. Fernandez R, Anaya DA, Li LT, **Orcutt ST**, Awad SA, Berger DH, Albo DA, Artinyan A. Laparoscopic versus robotic rectal resection for rectal cancer in a veteran population. *American Journal of Surgery*. 2013 Oct;206(4):509-17.
13. Li LT, Barden GM, Balentine CJ, **Orcutt ST**, Naik AD, Artinyan A, Sansgiry S, Albo D, Berger DH, Anaya DA. Postoperative transitional care needs in the elderly: an outcome of recovery associated with worse long-term survival. *Annals of Surgery*. 2015 Apr;261(4):695-701.
14. Artinyan A, **Orcutt ST**, Anaya DA, Chen GJ, Berger DH. Infectious post-operative complications decrease long-term survival in patients undergoing curative surgery for colorectal cancer: a study of 12,410 patients. *Annals of Surgery*. 2015 Mar;261(3):497-505.
15. **Orcutt ST**, Sultenfuss MA, Anaya DA. A large liver mass with acute hemorrhage. *JAMA Surgery*. 2016 Jan 1;151(1):83-4.
16. **Orcutt ST**, Kobayashi K, Sultenfuss M, Hailey BS, Sparks A, Satpathy B, Anaya DA. Portal vein embolization as an oncosurgical strategy prior to major hepatic resection: anatomic, surgical and technical considerations for successful outcomes. *Frontiers in Surgical Oncology*. 2016 Mar 11;3:14.
17. **Orcutt ST**, Li LT, Balentine, CJ, Artinyan A, Naik AD, Petersen NJ, Albo D, Awad SS, Berger DH, Anaya DA. Ninety-day readmission after colorectal cancer surgery in a Veterans Affairs cohort. *Journal of Surgical Research*. 2016 Apr;201(2):370-7.

18. **Orcutt ST**, Coppola D, Hodul PJ. Colloid Carcinoma of the Pancreas: Case report and review of the literature. *Case Reports in Pancreatic Cancer*. 2016 June;2(1):50-52.
19. Permuth JB, Choi J, Balarunathan Y, Kim J, Kim J, Chen D, Chen L, **Orcutt ST**, Dopeker M, Gage K, Zhang G, Latifi K, Roffe, S, Jiang K, Coppola D, Centeno BA, Magliocco A, Li Q, Trevino J, Merchant N, Gillies R, Malafa M; Florida Pancreas Collaborative. Combining radiomic features with a miRNA classifier may improve prediction of malignant pathology for pancreatic intraductal papillary mucinous neoplasms. *Oncotarget*. 2016 Dec 27;7(52):85785-97.
20. **Orcutt ST**, Massarweh NN, Li LT, Artinyan A, Richardson PA, Petersen NJ, Albo D, Berger DH, Anaya DA. Patterns of care for colorectal liver metastasis within an integrated healthcare system: secular trends and outcomes. *Annals of Surgical Oncology*. 2017 Jan;24(1):23-30.
21. Li LT, Lau KSW, Ramanathan V, **Orcutt ST**, Sansgiry S, Albo D, Berger DH, Anaya DA. Ileostomy creation during colorectal cancer surgery: acute kidney injury-related readmission and risk of chronic kidney disease. *Journal of Surgical Research*. 2017 Apr;210:204-212.
22. **Orcutt ST**, Anaya DA, Malafa M. Case report: minimally invasive appendectomy for resection of appendiceal mucocoele. *International Journal of Surgery Case Reports*. 2017 May;37:13-16.
23. **Orcutt ST**, Kis B, Malafa M. Case report: irreversible electroporation for locally advanced pancreatic cancer. *International Journal of Surgery Case Reports*. 2017 Sept;40:54-57.
24. **Orcutt ST**, O'Donoghue C, Smith P, Laronga C. Expanding eligibility criteria for nipple-sparing mastectomy. *Southern Medical Journal*. 2017 Oct;110(10):654-659.
25. **Orcutt ST**, Abuodeh Y, Naghavi A, Frakes J, Roffe S, Kis B, Anaya DA. Kinetic analysis of contralateral liver hypertrophy following radioembolization of primary and metastatic liver tumors. *Surgery*. 2018 May;163(5): 1020-1027.
26. **Orcutt ST** and Anaya DA. Surgical management and onco-surgical strategies for primary liver cancer. *Cancer Control*. 2018 Jan-Mar;25(1):1-15.
27. Perez M, **Orcutt ST**, Zager J. Current standards of surgical management in primary melanoma. *Giornale Italiano di Dermatologia e Venereologia*. 2018Feb;153(1):56-67.
28. Pera S, Huh N, **Orcutt ST**. Duplicate gallbladder: a case report of a patient with cholecystitis after cholecystectomy. *International Journal of Surgery Case Reports*. 2019;65:156-160.
29. Nitz JA, Huckleby J, Hwang EH, Medina MG, Pera SJ, **Orcutt ST**. Symptomatic Extra-Adrenal Myelolipoma in the Spleen. *Case Reports in Surgery*. 2020 Jul;2020:8839178.

Non Peer-Reviewed Publications:

1. **Orcutt ST**, Gangi A, Hodul P, Anaya DA. Resectable pancreatic neuroendocrine tumor with liver metastases. Americas Hepato-Pancreato-Biliary Association Case of the Month. February 2017. <https://ahpba.org/case-month.phtml>.

Book Chapters:

1. O'Donoghue C, **Orcutt ST**, Pal T, Laronga C. Risk reducing surgery for BRCA 1/2 genetic mutation carriers. In: Chagpar A, editor. Managing BRCA Mutation Carriers. New York: Springer; 2017.

Oral Presentations/Poster Presentations/Scientific Abstracts:

Abstracts published in peer-reviewed journals:

1. **Orcutt ST**, Marshall CL, Robinson CN, Balentine CJ, Anaya DA, Artinyan A, Albo D. Microwave ablation produces good short-term outcomes in patients with hepatocellular carcinoma. Journal of Surgical Research. 2011 February;165(2): 173.
2. **Orcutt ST**, Marshall CL, Robinson CN, Balentine CJ, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Hand-assisted laparoscopy improves operative efficiency, decreases conversion rates, and improves lymphadenectomy in colorectal cancer resections when compared to conventional laparoscopy. Journal of Surgical Research. 2011 February;165(2): 173.
3. Marshall CL, **Orcutt ST**, Liebig CA, Berger DH, Ayala GE, Albo D. Perineural invasion correlates with neurogenesis in colorectal cancer. Journal of Surgical Research. 2011 February;165(2):299-300.
4. Marshall CL, **Orcutt ST**, Balentine CJ, Robinson CN, Artinyan A, Anaya DA, Berger DH, Albo D. Minimally invasive surgery results in improved short-term outcomes and better lymphadenectomy for distal rectal cancer. Journal of Surgical Research. 2011 February;165(2):300.
5. Robinson CN, Balentine CJ, Marshall CL, **Orcutt ST**, Solnick, R, Kulkarni S, Rahman U, Anaya DA, Artinyan A, Awad SS, Albo D, Berger DH. Socioeconomic status does not influence stage of presentation for colorectal cancer. Journal of Surgical Research. 2011 February;165(2):198-199.
6. Li LT, Cormier JN, Feig BW, **Orcutt ST**, Petersen NJ, Sansgiry S, Artinyan A, Albo D, Berger DH, Anaya DA. The association between insurance coverage and increasing age leads to a lower risk of metastatic colon cancer in the elderly. Journal of Surgical Research. 2012 February;172(2):193.
7. **Orcutt ST**, Li LT, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Minimally invasive surgery for rectal cancer results in improved short-term outcomes without compromising

- oncological results compared to open surgery. *Journal of Surgical Research*. 2012 February;172(2):192.
8. **Orcutt ST**, Li LT, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Perineural invasion is associated with poor outcomes in rectal cancer. *Annals of Surgical Oncology*. 2012 February;19(1):S101.
 9. Kougias P, **Orcutt ST**, Lin PH, Pisimisis G, Barshes NR, Bechara CF. Impact of transfusion and nadir postoperative hemoglobin on short- and long-term outcomes after interventions for peripheral arterial disease (PAD). *Journal of Vascular Surgery*. 2012 June;55(6):16S.
 10. Lau KS, Li LT, Ramanathan V, **Orcutt ST**, Barden GM, Petersen NJ, Sansgiry S, Naik AD, Artinyan A, Albo B, Berger DH, Anaya DA. Ileostomy creation during colorectal cancer surgery is associated with increased risk of acute kidney injury. *Journal of Surgical Research*. 2013 February;192(2):335.
 11. **Orcutt ST**, Permuth-Wey J, Choi JW, Chen D, Chen L, Malafa MP. Noninvasive markers can predict malignant intraductal papillary mucinous neoplasms of the pancreas. *Annals of Surgical Oncology*. 2016 February;23(1):S157.
 12. **Orcutt ST**, Permuth-Wey J, Choi JW, Chen D, Chen L, Malafa MP. Noninvasive markers can predict malignant intraductal papillary mucinous neoplasms of the pancreas. *Journal of Clinical Oncology*. 2016;34(4):204.
 13. Permuth JB, Choi J, Balarunathan Y, Kim J, Chen D, Jiang K, **Orcutt ST**, Chen L, Quinn K, Carvajal R, Gonzalez-Calderon G, Fournier M, Abdalla M, Garcia A, Bouton A, Yakoub D, Lechner S, Trevino J, Merchant N, Gillies R, Malafa M. Using a radiogenomic approach to classify pancreatic cancer precursors. *Cancer Research*. 2016 July 15;76(S14):970A.
 14. **Orcutt ST**, Abuodeh Y, Naghavi A, Dong Y, Frakes J, Roffe S, Kis B, Anaya DA. Kinetic analysis of contralateral liver hypertrophy following radioembolization of primary and metastatic liver tumors. *HPB (Oxford)*. 2017 April;19(S1):S106.

Scientific Abstracts/Oral and Poster Presentations:

1. **Orcutt ST**, Marshall CL, Balentine CJ, Robinson CN, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Use of hand-assisted laparoscopy in a colorectal cancer practice leads to a rapid and safe adoption of minimally invasive techniques. Poster presentation. Dan L. Duncan Cancer Center Symposium, November 11, 2010, Baylor College of Medicine, Houston, TX.
2. **Orcutt ST**, Marshall CL, Robinson CN, Balentine CJ, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Microwave ablation results in good short-term outcomes in patients with hepatocellular carcinoma. Oral presentation. Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.

3. **Orcutt ST**, Marshall CL, Balentine CJ, Robinson CN, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Hand-assisted laparoscopy improves operative efficiency, decreases conversion rates and improves lymphadenectomy in colorectal cancer resections when compared to conventional laparoscopy. Oral presentation. Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.
4. Marshall CL, **Orcutt ST**, Akay CA, Berger DH, Ayala GE, Albo D. Perineural invasion correlates with neurogenesis in colorectal cancer. Oral presentation. Association for Academic Surgery, Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.
5. Marshall CL, **Orcutt ST**, Robinson CN, Balentine CJ, Bechara C, Awad SS, Koungias P, Lin PH, Albo D. Combination therapy of radiofrequency ablation and transarterial chemoembolization provides survival benefit for patients with unresectable hepatocellular carcinoma. Oral presentation. Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.
6. Marshall CL, **Orcutt ST**, Balentine CJ, Robinson CN, Artinyan A, Anaya DA, Berger DH, Albo A. Minimally invasive surgery results in improved short-term outcomes and better lymphadenectomy for distal rectal cancer. Oral presentation. Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.
7. Robinson CN, Balentine CJ, Marshall CL, **Orcutt ST**, Solnick R, Kulkarni S, Rahman U, Berger DH. Socioeconomic status does not influence stage of presentation for colorectal cancer. Oral presentation. Association for Academic Surgery, Academic Surgical Congress, February 1-3, 2011, Huntington Beach, CA.
8. Robinson CN, Sansgiry S, Balentine CJ, Marshall CL, **Orcutt ST**, Berger DH. Healthcare disparities exist in laparoscopic colectomy for cancer. Poster presentation. Society of Surgical Oncology Annual Cancer Symposium, March 2-5, 2011. San Antonio, TX.
9. Marshall CL, **Orcutt ST**, Ayala GE, Balentine CJ, Robinson CN, Akay CA, Berger DH, Abo D. Stage II colorectal cancer patients with perineural invasion benefit from adjuvant chemotherapy. Poster presentation. Society of Surgical Oncology Annual Cancer Symposium, March 2-5, 2011, San Antonio, TX.
10. **Orcutt ST**, Marshall CL, Balentine CJ, Robinson CN, Albo D. Laparoscopic abdominoperineal resection without a perineal incision. Poster presentation. Society of American Gastrointestinal and Endoscopic Surgeons Annual Meeting, March 30-April 2, 2011, San Antonio, TX.
11. **Orcutt ST**, Marshall CL, Robinson CN, Balentine CJ, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. The use of minimally invasive techniques in colon cancer leads to improved short-term outcomes and maintains survival. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 9-11, 2011, Irvine, CA.
12. **Orcutt ST**, Balentine CJ, Marshall CL, Robinson CN, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Use of a Pfannenstiel incision for hand access or specimen extraction in minimally invasive colorectal cancer surgery leads to a decreased risk of wound complications. Oral

- presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 9-11, 2011, Irvine, CA.
13. Balentine CJ, Anaya DA, Naik A, Robinson CN, Marshall CL, **Orcutt ST**, Sansgiry S, Peterson N, Albo D, Berger DH. Identifying risk factors for readmission following colorectal surgery. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 9-11, 2011, Irvine, CA.
 14. **Orcutt ST**, Marshall CL, Balentine CJ, Robinson CN, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Use of hand-assisted laparoscopy in a colorectal cancer practice leads to a rapid and safe adoption of minimally invasive techniques. Poster presentation. The Society for Surgery of the Alimentary Tract Annual Meeting, May 8-10, 2011, Chicago, IL.
 15. **Orcutt ST**, Li LT, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Perineural invasion is associated with poor outcomes in rectal cancer. Poster presentation. Dan L. Duncan Cancer Center Symposium, November 29, 2011, Baylor College of Medicine, Houston, TX.
 16. **Orcutt ST**, Artinyan A, Li LT, Berger DH, Albo D, Anaya DA. Postoperative and transitional outcomes following liver resection for metastatic disease in the elderly. Poster presentation. Dan L. Duncan Cancer Center Symposium, November 29, 2011, Baylor College of Medicine, Houston, TX.
 17. **Orcutt ST**, Li LT, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Minimally invasive surgery for rectal cancer results in improved short-term outcomes without compromising oncological results compared to open surgery. Oral presentation. Academic Surgical Congress, February 14-16, 2012, Las Vegas, NV.
 18. Li LT, Cormier JN, Feig BW, **Orcutt ST**, Petersen NJ, Sansgiry S, Artinyan A, Albo D, Berger DH, Anaya DA. The association between insurance coverage and increasing age leads to a lower risk of metastatic colon cancer in the elderly. Oral presentation. Academic Surgical Congress, February 14-16, 2012, Las Vegas, NV.
 19. **Orcutt ST**, Li LT, Anaya DA, Artinyan A, Awad SS, Berger DH, Albo D. Perineural invasion is associated with poor outcomes in rectal cancer. Poster presentation. Society of Surgical Oncology Annual Cancer Symposium, March 21-24, 2012, Orlando, FL.
 20. **Orcutt ST**, Li LT, Balentine CJ, Artinyan A, Sansgiry S, Petersen NJ, Albo D, Awad SS, Berger DH, Anaya DA. Characterization and predictors of unplanned readmissions following colorectal cancer surgery. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.
 21. **Orcutt ST**, Bechara CF, Pisimisis G, Barshes NR, Kougiaris P. Impact of perioperative events on mortality after major vascular surgery. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.

22. **Orcutt ST**, Li LT, Artinyan A, Richardson PA, Petersen NJ, Albo D, Berger DH, Anaya DA. Utilization patterns of surgical treatment for colorectal liver metastasis. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.
23. **Orcutt ST**, Li LT, Artinyan A, Richardson PA, Petersen NJ, Albo D, Berger DH, Anaya DA. Treatment patterns in patients with colorectal cancer liver metastasis: secular trends and predictors of substandard therapy. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.
24. Li LT, Berger DH, Cormier JN, Feig BW, Artinyan A, **Orcutt ST**, Petersen NJ, Sansgiry S, Anaya DA. Lack of insurance coverage results in higher risk of metastatic colon cancer at presentation. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.
25. Kougias P, Tiwari V, **Orcutt ST**, Pisimisis G, Barshes NR, Bechara CF, Berger DH. Derivation and out of sample validation of a modeling system to predict operative length. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 2-4, 2012, Miami, FL.
26. Kougias P, **Orcutt ST**, Lin PH, Pisimisis G, Barshes NR, Bechara CF. Impact of transfusion and nadir postoperative hemoglobin on short- and long-term outcomes after interventions for peripheral arterial disease. Oral presentation. Society for Vascular Surgery Vascular Annual Meeting, William J. von Liebig Plenary Session, June 7-9, 2012, Washington, D.C.
27. Barden GM, Li LT, **Orcutt ST**, Balentine CJ, Naik AD, Artinyan A, Petersen NJ, Sansgiry S, Albo D, Awad SS, Berger DH, Anaya DA. The need for transitional care following colorectal cancer surgery is driven by increasing age. Oral presentation. Academic Surgical Congress, February 5-7, 2013, New Orleans, LA.
28. Lau, KS, Li LT, Ramanathan V, **Orcutt ST**, Barden GM, Petersen NJ, Sansgiry S, Naik AD, Artinyan A, Albo D, Berger DH, Anaya DA. Ileostomy creation during colorectal cancer surgery is associated with increased risk of acute kidney injury. Oral presentation. Academic Surgical Congress, February 5-7, 2013, New Orleans, LA.
29. **Orcutt ST**, Albo D, Anaya DA, Awad SS, Berger DH, Artinyan A. Transanal endoscopic microsurgery using single-incision laparoscopic/transanal ports in the management of rectal cancer. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 21-23, 2013, Milwaukee, WI.
30. Vo E, Barden GM, Kobayashi K, **Orcutt ST**, Poppelaars V, Walder A, Artinyan A, Silberfein EJ, Albo DA, Awad SS, Berger DH, Anaya DA. Safety and efficacy of portal vein embolization as a bridge to hepatectomy in a high-risk veteran population. Oral presentation. Association of Veterans Affairs Surgeons Annual Meeting, April 21-23, 2013, Milwaukee, WI.
31. **Orcutt ST**, Li LT, Artinyan A, Richardson PA, Petersen NJ, Albo D, Berger DH, Anaya DA. Treatment patterns in patients with colorectal cancer liver metastasis: secular trends and

- predictors of substandard therapy. Oral presentation. Michael E. DeBakey Department of Surgery Research Day, June 5, 2013, Baylor College of Medicine, Houston, TX.
32. Lau KSW, Li LT, Venkataraman R, **Orcutt ST**, Barden GM, Peterson NJ, Sansgiry S, Naik AD, Artinyan A, Albo D, Berger DH, Anaya DA. Ileostomy creation during colorectal cancer surgery is associated with increased risk of acute and chronic kidney dysfunction. Oral presentation. Michael E. DeBakey Department of Surgery Research Day, June 5, 2013, Baylor College of Medicine, Houston, TX.
 33. **Orcutt ST**, Li LT, Balentine CJ, Artinyan A, Naik AD, Petersen NJ, Albo D, Awad SS, Berger DH, Anaya DA. Characterization, impact, and predictors of unplanned readmissions following colorectal cancer surgery. Oral presentation. Michael E. DeBakey Department of Surgery Research Day, June 4, 2014, Baylor College of Medicine, Houston, TX.
 34. **Orcutt ST**, Massarweh, NN, Li LT, Artinyan A, Richardson PA, Petersen NJ, Albo D, Berger DH, Anaya DA. Patterns of care for colorectal liver metastasis within an integrated health system: secular trends and outcomes. Oral presentation. Michael E. DeBakey Department of Surgery Research Day, June 3, 2015, Baylor College of Medicine, Houston, TX.
 35. **Orcutt ST**, Wey JP, Choi JW, Chen DT, Chen Lu, Malafa MP. Noninvasive markers can predict malignant intraductal papillary mucinous neoplasms of the pancreas. Poster presentation. American Society of Clinical Oncology Gastrointestinal Cancers Symposium, January 21-23, 2016, San Francisco, CA.
 36. **Orcutt ST**, Wey JP, Choi JW, Chen DT, Chen Lu, Malafa MP. Noninvasive markers can predict malignant intraductal papillary mucinous neoplasms of the pancreas. Poster presentation. Society of Surgical Oncology Annual Cancer Symposium, March 2-5, 2016, Boston, MA.
 37. Permuth JB, Choi J, Balarunathan Y, Kim J, Chen D, Jiang K, **Orcutt ST**, Chen L, Quinn K, Carvajal R, Gonzalez-Calderon G, Fournier M, Abdalla M, Garcia A, Bouton A, Yakoub D, Lechner S, Trevino J, Merchant N, Gillies R, Malafa M. Using a radiogenomic approach to classify pancreatic cancer precursors. Poster presentation. American Association for Cancer Research Annual Meeting, April 16-20, 2016, New Orleans, LA.
 38. Abuodeh Y, Naghavi A, Ahmed K, **Orcutt ST**, Frakes J, El-Haddad G, Kis B, Kim R, Kothari N, Roffe S, Anaya DA. Contralateral liver hypertrophy following intra-arterial radioembolization for liver tumors. Poster presentation. Annual Meeting of the American Radium Society, April 16-19, 2016, Philadelphia, PA.
 39. **Orcutt ST**, Kobayashi K, Sultenfuss M, Hailey B, Sparks A, Satpathy B, Anaya DA. Portal vein embolization as an oncosurgical strategy prior to major hepatic resection: anatomic, surgical, and technical considerations for successful outcomes. Poster presentation. Moffitt Scientific Symposium, May 6, 2016, Tampa, FL.
 40. **Orcutt ST**, Abuodeh Y, Naghavi A, Dong Y, Frakes J, Roffe S, Kis B, Anaya DA. Kinetic analysis of contralateral liver hypertrophy following radioembolization of primary and metastatic

liver tumors. Oral presentation. Americas Hepato-Pancreato-Biliary Association Annual Meeting, March 30-April 1, 2017, Miami, FL.

41. Gangi A, **Orcutt ST**, Kumar A, Scott M, Malafa M, Hodul P, Pimiento J, Anaya DA. Postoperative outcomes of local excision versus radical excision for pancreatic neuroendocrine tumors. Poster presentation. Americas Hepato-Pancreato-Biliary Association Annual Meeting, March 30-April 1, 2017, Miami, FL.
42. **Orcutt ST**, Gangi A, Kumar A, Kim R, Roffe S, Frakes J, Anaya DA. Treating facility, quality of surgical care, and outcomes for non-metastatic resectable gallbladder cancer. Poster presentation. Florida Chapter, American College of Surgeons Annual Meeting, April 28-29, 2017, Orlando, FL.
43. Pera, SJ, Khazi Z, **Orcutt ST**. Cholecystitis after cholecystectomy: A case of duplicate gallbladder. Oral presentation. Midwest Surgical Association Annual Meeting, August 5-7, 2018, Mackinac Island, MI.
44. Huh, N, Pera SJ, **Orcutt ST**. Cholecystitis after cholecystectomy: An uncommon clinical dilemma. Poster presentation. University of Illinois College of Medicine at Peoria Research Day. May 1, 2019. Peoria, IL.
45. Abou-Hanna J, Kennedy L, Fayoumi N, Anderson R, **Orcutt ST**. Free air, up there? Tension pneumothorax from gastric ulcer perforation. Oral presentation. Midwest Surgical Association Annual Meeting, August 2-4, 2020, Mackinac Island, MI.
46. Lyukesemburg, V, Abou-Hanna J, Marshall JS, Stroumpi E, Pieta S, Bramlet M, **Orcutt ST**. Virtual reality for preoperative planning in complex surgical oncology: the initial experience. Poster presentation. American College of Surgeons Clinical Congress, October 3-7, 2020, virtual due to the Covid-19 pandemic.

Invited Lectures:

1. "Minimally invasive techniques in colorectal cancer surgery and colon cancer management in the elderly." Michael E. DeBakey Department of Surgery Grand Rounds. April 25, 2012, Baylor College of Medicine, Houston, TX.
2. "A history of cancer." Michael E. DeBakey Department of Surgery Grand Rounds. May 27, 2015, Baylor College of Medicine, Houston, TX.
3. "Multidisciplinary management of colorectal liver metastasis with intact primary." Hepatobiliary Symposium: Multidisciplinary Management of Colorectal Metastasis - Current Practice and Future Perspectives. March 6, 2017, Moffitt Cancer Center, Tampa, FL.
4. "Multidisciplinary management of liver tumors." Annual Gastroenterology Nurse Course. October 21, 2017. OSF Saint Francis Medical Center, Peoria, IL.

5. "Multidisciplinary management of colorectal liver metastases." Department of Surgery Grand Rounds. November 3, 2017, University of Illinois College of Medicine at Peoria, Peoria, IL.
6. "Current status and management of pancreatic cancer." OSF Primary Care General Meeting. August 23, 2018. OSF Saint Francis Medical Center, Peoria, IL.
7. "Evolution of surgical treatment of melanoma." Department of Surgery Grand Rounds. November 2, 2018, University of Illinois College of Medicine at Peoria, Peoria, IL.
8. "Liver metastases." Advancing a Cure: Colorectal Cancer Program. June 27, 2019, Illinois CancerCare, Peoria, IL.
9. "Hyperthermic intraperitoneal chemotherapy for peritoneal disease." Department of Surgery Grand Rounds. January 17, 2020, University of Illinois College of Medicine at Peoria, Peoria, IL.
10. "Current status and management of pancreatic cancer." Basic Science Clinical Science Collaborative. February 28, 2020, University of Illinois College of Medicine at Peoria, Peoria, IL.

Invited Panelist Participation / Moderator:

1. Moderator, "ePosters: Cytoreductive and Palliative Surgery", Society of Surgical Oncology, 2020 (Session Cancelled due to the Covid-19 Pandemic).

Other Education:

2008-Present	Advanced Trauma Life Support
2008-Present	Advanced Cardiac Life Support
	Association of Academic Surgery Fundamentals of Research and Career Development Course
2011	Fundamentals of Laparoscopic Surgery, Houston, TX
2015	Society of Surgical Oncology Fellows Institute, Houston, TX
2015	Da Vinci robotic system training as a console surgeon, Celebration, FL
2016	Association of Academic Surgery Career Development Course

CURRICULUM VITAE

CESAR GENTILLE SANCHEZ, MD
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832-969-8898
gentille@stanford.edu

I. EDUCATION

2006-2012 MD Cayetano Heredia University, Lima, Peru

II. POSTGRADUATE TRAINING

2015-2018 Internal Medicine Residency
Houston Methodist Hospital, Houston, TX

2018-2020 Hematology/Oncology Fellowship
Houston Methodist Hospital, Houston, TX

2021-2022 Blood and Marrow Transplantation/Cellular Therapy Fellowship
Stanford University, Stanford, CA

III. PROFESSIONAL APPOINTMENTS

2013 Coordinator of Course “Emergencias y Desastres en el primer nivel de atención”
School of Medicine. Universidad Peruana Cayetano Heredia. Lima, Peru

2013 Coordinator Assistant of the Gorgas Tropical Medicine Course, “Instituto de
Medicina Tropical Alexander Von Humboldt”
School of Medicine. Universidad Peruana Cayetano Heredia. Lima, Peru

2013 Coordinator Assistant of the Clinical Ultrasound in Tropical Medicine Course,
“Instituto de Medicina Tropical Alexander Von Humboldt”
School of Medicine. Universidad Peruana Cayetano Heredia. Lima, Peru

2013-2015 Hospital Assistant
“San Felipe” Clinic, Lima, Peru

2014-2015 Adjunct Professor of Neuroanatomy Course
Universidad Peruana Cayetano Heredia. Lima, Peru

IV. HONORS AND AWARDS

2012 Scholarship for Academic Excellence
Universidad Peruana Cayetano Heredia, Lima, Peru

- 2013, 2010 Scholarship for International Travel
Universidad Peruana Cayetano Heredia, Lima, Peru
- 2016 The 2nd place of Best Research Poster.
Leukapheresis Reduces 4-Week Mortality in Acute Myeloid Leukemia Patients with Hyperleukocytosis--a Retrospective Study from a Tertiary Center
ACP Associates Day, April 30, 2016, Houston, TX
- 2017 Hematology Opportunities for the Next-Generation of Research Scientists (HONORS) Award
American Society of Hematology 2017
- 2018-2019 Fellow of the Year
Hematology-Oncology Fellowship program 2018-2019. Houston Methodist Hospital, Houston, TX
- 2019 Outstanding Fellow
Texas Society of Clinical Oncology. TxSCO Annual Conference, September 14th, 2019. San Antonio, TX
- 2020 American Society of Hematology Abstract Achievement Award
62nd American Society of Hematology Annual meeting, December 4th-8th, 2020

V. PROFESSIONAL AND SOCIETY MEMBERSHIPS

American Society of Hematology
American Society of Clinical Oncology
American Society for Transplantation and Cellular Therapy
American College of Physicians
Peruvian Medical Association

VI. PUBLICATIONS

De Ferrari A., **Gentile C.**, Davalos L., Huayanay L., Malaga G. Attitudes and relationship between physicians and the pharmaceutical industry in a public general hospital in Lima, Peru. *PLoS One* 2014 Jun 30;9(6) 2014. doi: 10.1371/journal.pone.0100114.

Gentile C., Arriaga M, Peckins C. Paget-Schroetter: Primary axillo-subclavian vein thrombosis in a young patient. *American Journal of Medical Case Reports*. Vol. 4, No. 9, 2016, pp 315-318.

Nan X, Qin Q, **Gentile C.**, Puppala M, Ensor J, Leveque C, Pingali S R, Rice L, Phan A, Iyer S. Leukapheresis Reduces 4-Week Mortality in Acute Myeloid Leukemia Patients with Hyperleukocytosis--a Retrospective Study from a Tertiary Center. *Leukemia & Lymphoma* 2017 Jan 31:1-11.

Gentile C, Qin Q, Barbieri A, Pingali SR, Iyer S. Use of asparaginase in enteropathy-associated T-cell lymphoma, a disease with diagnostic and therapeutic challenges. *Ecancermedicalscience* 2017, 11:771.

Sun K, **Gentile C**, Pingali S R, Iyer S. Use of PEG-asparaginase in a case of Hepatosplenic $\gamma\delta$ T-cell lymphoma with long-term remission after stem cell transplantation. *Ecancermedicalscience* 2018; 12: 872.

Burns EA, **Gentile C**, Kasparian S, Pingali SR. A Case of Histiocytic Sarcoma Arising from Mycosis Fungoides. *Case Reports in Hematology* 2019;2019:7834728.

Kasparian S, **Gentile C**, Burns E, Bernicker EH. Hyperprogressive non-small cell lung cancer with two immune-checkpoint inhibitors, *JTO Clinical and Research Reports* 2020; 1 (2): 2666-3643.

Gentile, C, Anand, K, Dalwadi, S, Puri, A, Farach, A, Pingali, SR. Radiation therapy in primary mediastinal large B-cell lymphoma treated with DA-R-EPOCH. *Clinical Case Reports* 2020; 8: 1153– 1155.

Mooneyham J, **Gentile C**, Barbieri A, Shah S. Use of rituximab in lymphomatoid granulomatosis with isolated central nervous system involvement. *BMJ Case Reports CP* 2020;13:e235412.

Burns EA, **Gentile C**, Trachtenberg B, Pingali SR, Anand K. Cardiotoxicity Associated with Anti-CD19 Chimeric Antigen Receptor T-Cell (CAR-T) Therapy: Recognition, Risk Factors, and Management. *Diseases* 2021; 9(1):20.

Sarfraz, H., **Gentile, C.**, Ensor, J., Wang, L., Wong, S., Ketcham, M., Joshi, J. and Pingali, S. Primary Cutaneous Anaplastic Large-Cell Lymphoma (PC-ALCL): A review of the SEER database from 2005-2016. *Clinical and Experimental Dermatology* 2021 Jun 3. doi: 10.1111/ced.14777

VII. ABSTRACTS AND ORAL PRESENTATIONS

Gentile C, Iqbal S, Cherry M, Zimmerman J. Bickerstaff brainstem encephalitis. An uncommon presentation of Anti-GQ1b antibody syndrome. Poster presented at the American College of Physicians Associates Day, April 30th, 2016, Houston, TX

Qin Q, Nan X, **Gentile C**, Fosso C, Donohue R, Zieske A, Blieden C, Sarna A, Iyer S, Pingali S. A Case of Isolated Pulmonary Nodular AL amyloidosis: Diagnostic Challenges and Therapeutic Options. Poster presented at the Texas American College of Physicians, November 5th, 2016, Houston, TX

Nan X, Qin Qian, Greenwood M, **Gentile C**, Xing Y, Zeiski A, Ibrahim I, Baker K, Rice L, Merritt B, Pingali S R, Olsen R, Iyer S. An Integer Weighted Genomic Mutation Scoring (IWGMS) Using the Trusight Myeloid Sequencing Panel (Illumina) Shows Higher Mortality in Patients with Intermediate Risk Acute Myeloid Leukemia- a Retrospective Study. Poster presented at the American Society of Hematology 58th Annual meeting, December 3rd-6th, 2016, San Diego, California

Gentile C, Iqbal S, Kumar K. Unexpected cause of obstructive jaundice in a patient with ulcerative colitis. Poster presented at the American College of Physicians Associates Day, April 29th, 2017, Houston, Texas

Agrawal T, **Gentile C**, Perez J. An unusual complication in ALL blast crisis. Poster presented at American College of Physicians Associates Day, April 29th, 2017, Houston, Texas

Qin Qian, Nan X, **Gentile C**, Miller T, Ewton A, Fisher R, Teh B, Farach A, Gonzalez-Bonilla H, Pingali SR, Iyer S. The Synergistic Effects of Nivolumab and Radiation on Refractory Nodular-Sclerosing Hodgkin's Lymphoma - Sustained Remission through the Abscopal Effect? Poster presented at the American College of Physicians Associates Day, April 29th, 2017, Houston, TX

Gentile C, Sun K, Teegavarapu P, Qin Q, Mamta P, Wong S, Ibrahim I, Rice L, Pingali SR, Iyer S. Escape drug-resistant infections in hematological malignancies. Dare to review! Poster presented at the 22nd European Hematology Association annual conference June 22th-25th, 2017, Madrid, Spain.

Gentile C, Qin Q, Ensor J, Mamta P, Wong S, Ibrahim I, Rice L, Pingali SR, Iyer S. Infections in Patients with Myelodysplastic Syndrome. Looking for the Escape Clause! Poster presented at the American Society of Hematology 59th annual meeting, December 9th-12th, 2017, Atlanta, Georgia.

Qin Q, **Gentile C**, Nan X, Rice L. Acquired Thrombotic Thrombocytopenic Purpura and Acute Pancreatitis: Variable and Reciprocal Pathophysiologic Relationships. Poster presented at the American Society of Hematology 59th annual meeting, December 9th-12th, 2017, Atlanta, Georgia.

Burns E, **Gentile C**, Pingali SR. A case of Histiocytic Sarcoma arising from Mycosis Fungoides. Poster presented at 1st Annual Hematologic Malignancies Symposium Baylor St. Luke's and Dan L Duncan Comprehensive Cancer. November 3rd, 2018, Houston, Texas.

Gentile C, Anand K, Puri A, Farach A, Pingali SR. Use of Radiation Therapy in Primary Mediastinal Large B-Cell Lymphoma (PMLBCL) Treated With DA-R-EPOCH. Poster presented at the Texas Society of Clinical Oncology. September 13th-14th, 2019, San Antonio, Texas.

Puri A, Puri A, **Gentile C**, Pingali SR. Prurigo Nodularis: An association with CD 30 positive lymphomas. Poster presented at the Texas Society of Clinical Oncology. September 13th-14th, 2019, San Antonio, Texas.

Mooneyham J, **Gentile C**, Barbieri A, Shah S. Use of rituximab in Lymphomatoid Granulomatosis with primary central nervous system involvement. Poster presented at the 2nd Annual Hematologic Malignancies Symposium. Baylor St. Luke's and Dan L Duncan Comprehensive Cancer Center. November 2nd, 2019, Houston, Texas.

Gentile C, Ensor J, Puri A, Randhawa J, Shilpan S, Pingali SR. Primary Cutaneous Anaplastic Large-Cell Lymphoma: A Surveillance, Epidemiology, and End Results Database Analysis from 2005-2016. Poster presented at American Society of Hematology 61st Annual Meeting, December 7th-10th, 2019, Orlando, Florida.

Gentile C, Ensor A, Ensor E, Anand K. Diffuse Large B-cell Lymphoma of the Uterus: A Look at the Texas Cancer Registry. Poster presented at the 8th Annual Houston Methodist Cancer Symposium. August 7th, 2020, Houston, Texas.

Gentile C, Ensor A, Ensor J, Anand K. ABCL-325: Diffuse Large B-Cell Lymphoma of the Uterus: A SEER Database Analysis. Clinical Lymphoma Myeloma and Leukemia. 2020 Sep;20:S273. Poster presented at Society of Hematologic Oncology, September 9th-12th, 2020, Houston, Texas.

Gentile C, Sarfraz H, Randhawa J, Shah S, Pingali SR. TCL-404: Use of Brentuximab-ICE and Romidepsin-ICE in Relapsed/Refractory Peripheral T-Cell Lymphoma. Clinical Lymphoma Myeloma and Leukemia. 2020 Sep;20:S257. Poster presented at Society of Hematologic Oncology, September 9th-12th, 2020, Houston, Texas.

Gentile C, Lulla P. Donor Considerations. Clinical Vignette presented at the Extension for Community Healthcare Outcomes (ECHO): Heal Sickles, October 12th, 2020.

Gentile C, Burns E, Muhsen I, Sarfraz H, Guerrero C, Rogers JT, et al. Primary and Secondary Central Nervous System Lymphoma: Outcomes from Houston Methodist Cancer Center. Blood. 2020 Nov 5;136(Supplement 1):16–7. Poster presented at American Society of Hematology 62nd Annual Meeting, December 4th-8th, 2020.

Gentile C, Burns E, Muhsen I, Sarfraz H, Guerrero C, Randhawa JK, et al. Central Nervous System Lymphoma: Analysis of the Texas Cancer Registry. Blood. 2020 Nov 5;136(Supplement 1):45–6. Poster presented at American Society of Hematology 62nd Annual Meeting, December 4th-8th, 2020.

Emily Mosow Newsome

2018 Rodeo Drive Bryant, Arkansas 72022

Phone: 662-822-1917 E-Mail: emosow89@gmail.com

Education:

Millsaps College, Jackson Mississippi	B.S. in Biology	2007-2011
William Carey University College of Osteopathic Medicine	D.O.	2013-2017

Post Graduate Education:

Resident in Internal Medicine/Pediatrics UAMS	2017-2021
Fellow in Hospice and Palliative Care	2021-Present

Employment:

Biological Science Assistant for USDA-ARS	Summers 2007-2011
- Division: Southern Insect Management Research	
-	
Biological Science Technician for USDA-ARS	2011-2013
- Division: Southern Insect Management Research	

Licensures and Certifications:

Passed Complex Level 1, Complex Level 2 CE, Complex Level 2 PE, and Complex Level 3 First Attempts	
Arkansas State Medical License	Current
BLS/PALS	Expires June 2021

Honors/Awards:

Phi Beta Kappa Scholar	2017
Magna Cum Laude Graduate from Millsaps College	2017

Memberships:

American Academy of Pediatrics- Resident Member	2017-present
American College of Physicians- Resident Member	2017-present

Quality Improvement Projects:

Improvement in Transitions into Adult Care in Teenage Pediatric Patients	June 2021
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Natalie Brooke Peeples (Brooke), M.D.

Atlanta, GA 30306

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natalie.peeples89@gmail.com

Titles

- Assistant Professor, Division of Palliative Medicine at Emory University School of Medicine (September 2021 - present)

Education

- Doctor of Medicine: University of Arkansas for Medical Sciences, August 2013 - May 2017
- Bachelor of Science: University of Arkansas at Fayetteville, August 2008 - May 2013

Postgraduate Training

- Hospice and Palliative Medicine Fellowship, University of Arkansas for Medical Sciences, 2020-2021
- Internal Medicine Residency, University of Arkansas for Medical Sciences, 2017-2020

Licensures/Boards

- Board Eligible for Hospice and Palliative Medicine
- Board Certified in Internal Medicine by the American Board of Internal Medicine, August 2020
- BLS Certification (4/30/2020, expires 4/30/2022)
- AR State Medical License (#E-13534)
- GA State Medical License (#89323)

Honors/Awards

- Emergency Department Consultant of the Month, University of Arkansas for Medical Sciences, May 2020

Society Memberships

- AAHPM

Abstract Presentations

- Regional: "A Rare Case of Temporalis Muscle Abscess Secondary to Mayfield Clamp Pin Sites in a Post-Operative Neurosurgery Patient." Presented at Southern Society for Clinical Investigation Southern Regional Meeting in February 2019 (poster)

Lectures/Didactics

- Quality Improvement in Palliative Care: Appropriateness of Narcan Prescribing in Outpatient Palliative Care Clinic, June 2021
- ECMO and Palliative Care, June 2021
- Journal Club: Voluntary Stopping Eating and Drinking, May 2021
- Serious Illness Communication During a Pandemic, September 2020

APPENDIX D

2022 WPRCI EAB Bios

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Adekunle "Kunle" Odunsi, MD, PhD (Chair)

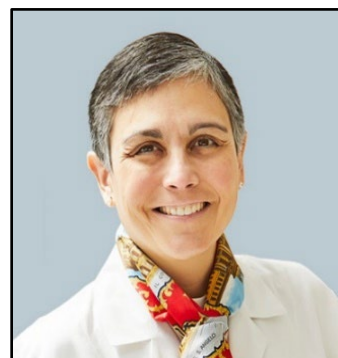
*Director, University of Chicago Medicine Comprehensive Cancer Center
Dean for Oncology, Biological Sciences Division
The Abbvie Foundation Distinguished Service Professor
Department of Obstetrics and Gynecology
University of Chicago
Chicago, IL*



Adekunle "Kunle" Odunsi, MD, PhD, FRCOG, FACOG, is an expert in immunotherapy and vaccine therapy for cancer. Dr. Odunsi pioneered the development of antigen-specific vaccine therapy and "next generation" adoptive T-cell immunotherapies to prolong remission rates in women with ovarian cancer. Dr. Odunsi received his medical degree from the University of Ife and his doctoral degree from the Imperial Cancer Research Fund Laboratories, MRC Weatherall Institute of Molecular Medicine, John Radcliffe Hospital, in Oxford, United Kingdom. He completed his residencies in obstetrics and gynecology at the Rosie Maternity and Addenbrooke's Hospitals, University of Cambridge, and Yale University School of Medicine. His fellowship in gynecologic oncology was at Roswell Park Comprehensive Cancer Center, in Buffalo, New York, where he joined the faculty in 2001 and remains. Dr. Odunsi's research interests focus on understanding the mechanisms of immune recognition and tolerance in human ovarian cancer, and the translation of the findings to clinical immunotherapy trials.

Marcela G. del Carmen, MD, MPH

*Professor of Obstetrics, Gynecology and Reproductive Biology
Executive Vice President at Mass General Brigham
President of the Massachusetts General Physicians Organization
Division of Gynecologic Oncology
Massachusetts General Hospital
Boston, MA*



Marcela G. del Carmen, MD, MPH, is a graduate of the Johns Hopkins School of Medicine. She completed her OB/GYN residency at Johns Hopkins Hospital and her fellowship in gynecologic oncology at Massachusetts General Hospital, and she has an MPH from the Harvard School of Public Health. Dr. del Carmen was on the faculty at Johns Hopkins before returning to join the faculty at Massachusetts General Hospital. She is a professor of obstetrics, gynecology, and reproductive biology at Harvard Medical School. Dr. del Carmen's research interests include the surgical treatment of gynecologic malignancies, specifically ovarian cancer; the management of rare gynecologic tumors; and improving access to health care services for underserved populations.

Edward Chu, MD, MMS

*Director, Albert Einstein Cancer Center
Vice President for Cancer Medicine, Montefiore Medicine
Professor, Department of Medicine (Oncology)
Professor, Department of Molecular Pharmacology
Carol and Roger Einiger Endowed Professor of Cancer Medicine
Albert Einstein College of Medicine
Bronx, New York*



Edward Chu, MD, MMS, received his undergraduate, graduate, and medical degrees from the Brown University Program in Liberal Medical Education and continued at Brown to complete his internal medicine residency. Dr. Chu currently serves as the Deputy Director of the University of Pittsburgh Medical Center's (UPMC) Hillman Cancer Center (HCC), Co-leader of the HCC Cancer Therapeutics Program, Director of the HCC Phase I Program, Associate Director of the University of Pittsburgh Drug Discovery Institute, and Chief of the Division of Hematology-Oncology. In addition to his leadership positions, Dr. Chu is a National Institutes of Health-funded basic, translational, and clinical investigator. As well as clinical oncologist with a long history of developing and leading phase I and phase II clinical trials, particularly for colorectal cancer and other gastroenterology cancers. With his expertise in cancer pharmacology and drug development, he has been active in designing and developing novel agents and treatment approaches.

E. Claire Dees, MD, ScM

*Professor of Medicine, Division of Oncology
Breast Oncology and Developmental Therapeutics
Director, Early Phase Clinical Trials Group
Co-Lead, Clinical Research Program
UNC Lineberger Comprehensive Cancer Center
Chapel Hill, NC*



E. Claire Dees, MD, ScM, is an experienced medical oncologist and clinical trialist. She is a Professor of Medicine at the University of North Carolina School of Medicine, and a member of The UNC Lineberger Comprehensive Cancer Center and the UNC Breast Center. She founded the Developmental Therapeutics (Phase I trials) Working Group at UNC-LCCC, and she now directs the early phase clinical trials program and the breast cancer clinical trials group. Dr. Dees co-leads the LCCC Clinical Research Program. Her research focuses on early phase clinical trials of novel therapeutics, especially those focused on breast cancer. She has been the principal investigator for over 100 trials including 10 currently open early phase trials.

Chad A. Ellis, PhD

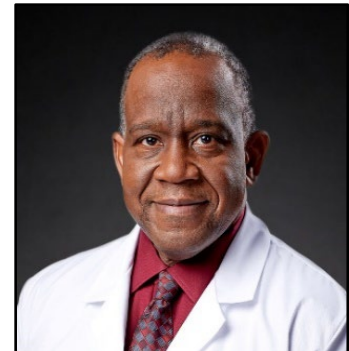
*Deputy Director, Research Administration
Hillman Cancer Center
University of Pittsburgh Medical Center
Pittsburgh, PA*



Chad Ellis, PhD, earned his bachelor's degree in microbiology and cell science from the University of Florida and his doctorate in pharmacology from the University of Illinois School of Medicine. He joined the NCI as a postdoctoral fellow in 1999 where he focused on the regulation, activation, and signaling pathways of the *Ras* proteins and identified and oversaw a patent application for the novel protein, *Rig*. Dr. Ellis served as Deputy Director of Research Affairs at the Yale Comprehensive Cancer Center, where he led strategic planning activities for the center, oversaw cancer research activities, managed key infrastructure and administrative tasks, and handled faculty retention and recruitment. In 2014, he was appointed Associate Director of Administration at UNC Lineberger Comprehensive Cancer Center. Dr. Ellis also spent several years as a research scientist and consultant to private companies, including Rexahn Corporation, FBA, Inc., and Cellectricon Inc.

John Farley, MD, COL (ret), FACOG, FACS

*Division of Gynecologic Oncology
Center for Women's Health
Dignity Health Cancer Institute
Phoenix, AZ*



John Farley, MD, COL (ret), is a board-certified gynecologic oncologist at Dignity Health – Cancer Institute and the Division of Gynecologic Oncology at the Center for Women's Health at Dignity Health St. Joseph's Hospital and Medical Center. He is dual board certified in obstetrics and gynecology. Dr. Farley's expertise includes clinical trial design, new drug development, and treatment of complex gynecologic malignancies. He is a member of NRG Oncology, American Association of Cancer Research, Society of Gynecologic Oncologists, American Society of Clinical Oncology, and is a Fellow of the American Congress of Obstetricians and Gynecologists. In 2020, he received the Uniformed Services University of the Health Sciences Distinguished Alumni Award and the Society of Gynecologic Oncology Ambassador Award. Dr. Farley is a highly decorated Colonel in the US Army and was awarded the Bronze Star Medal in 2005 and Meritorious Service Medal in 2006. He received his undergraduate degree from the United States Military Academy. He then received his medical degree from Uniformed Services University of the Health Sciences. He later completed his residency in Obstetrics and Gynecology and fellowship in Gynecologic Oncology at Walter Reed Army Medical Center.

Andrew K. Godwin, Ph.D.

Chancellors Distinguished Chair in Biomedical Sciences Endowed Professor
Professor, Department of Pathology & Laboratory Medicine
Division Director, Genomic Diagnostics, Department of Pathology & Laboratory Medicine.

Director, Molecular Oncology

Deputy Director, University of Kansas NCI-Designated Cancer Center

Founding Director, Kansas Institute for Precision Medicine COBRE

Professor, Department of Cancer Biology (secondary)

Professor, Department of Internal Medicine (secondary)

Professor, Department of Microbiology, Molecular Genetics and Immunology (secondary)

Biorepository Coordinator for the HICTR Translational Technologies Resource Center

Director, Biospecimen Shared Resource

Director, Biospecimen Repository Core Facility

KBA Eminent Scholar

Kansas University Medical Center

University of Kansas

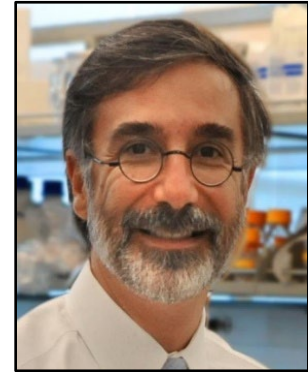
Kansas City, KS



Andrew K. Godwin, PhD, is the Chancellors Distinguished Chair in Biomedical Sciences Endowed Professor and Division Director of Genomic Diagnostics in the Department of Pathology at KUMC. He serves as a professor of Pathology and Laboratory Medicine and is the founding director of the Clinical Molecular Oncology Laboratory, a CLIA-certified, CAP-accredited molecular diagnostics laboratory for the KU Health System. Dr. Godwin also serves as the founding director of the KU Cancer Centers' Biospecimen Shared Resource and the KU Medical Center's Biospecimen Repository Core Facility, as well as the founding scientific director for the Biomarker Discovery Laboratory (BDL) which supports integral and integrated biomarker studies for clinical trials. He is a leader in the field of translational research and precision medicine, and his laboratories at KUMC continue to focus on various aspects of both basic and translational research, with an emphasis on the early detection of cancer, predictive and prognostic biomarkers, liquid biopsies based on extracellular vesicles, molecular therapeutics, companion diagnostics, clinical trials, and biosample ascertainment. He is currently a member of the Early Therapeutics and Rare Cancers Committee and vice chair of the Breast Translational Medicine Subcommittee of the Southwest Oncology Group (SWOG), Dr. Godwin remains active in ovarian cancer advocacy.

Samir N. Khleif, MD

*Professor of Oncology
Georgetown University
Washington D.C.*



Samir N. Khleif, MD, is an immunologist and immune therapist. His research program "Translational Tumor Immunology" focuses on understanding mechanisms through which the immune system and cancer cells interact and how to overcome tumor tolerance in developing therapeutic approaches. Specifically, his research interests include developing novel immune therapeutics, cancer vaccines and delineating the mechanisms of resistance to immunotherapy. From 2006-2009, Dr. Khleif was asked by the US government to develop and direct the King Hussein Cancer Centre in Amman. Dr. Khleif served as Director of Georgia Cancer Center at Augusta University. As Director of the Georgia Cancer Center, Dr. Khleif oversaw the development of a large integrated program of basic scientists and clinicians merging the Cancer Center's strengths in immunology, inflammation, tolerance, basic science, and immune therapy. Dr. Khleif was an intramural NIH scientist for 20 years. While at NCI, he served as a leader of the Cancer Vaccine Section, leading a nationally active Immune Therapy Program. His laboratory has conducted some of the earliest clinical trials in antigen vaccines and was the first to conduct vaccines against mutant oncogenes. He has published several studies on the mechanisms of tumor-induced suppression in animal models and has overcome such inhibition by developing strategies that have been translated into clinical trials.

Timothy Richard Rebbeck, PhD

*Vincent L. Gregory, Jr. Professor of Cancer Prevention
Director, Zhu Family Center for Global Cancer Prevention
Director, Center for Cancer Equity and Engagement
Harvard T.H. Chan School of Public Health
Dana-Farber Cancer Institute
Harvard Medical School
Boston, MA*



Timothy Rebbeck, PhD, is the Vincent L. Gregory, Jr. Professor of Cancer Prevention at the Harvard TH Chan School of Public Health and Professor of Medical Oncology at the Dana-Farber Cancer Institute. Dr. Rebbeck's research focuses on the etiology and prevention of cancer with an emphasis on cancers with a genetic etiology and those that are associated with disparities in incidence or mortality by race. He has directed multiple large molecular epidemiologic studies and international consortia that have been used to identify and characterize genes involved in cancer etiology, understand the relationship of allelic variation with biochemical or physiological traits, and explore interactions of inherited and somatic genomic variation with epidemiological risk factors. He has also led studies of BRCA1 or BRCA2 mutations to understand breast, ovarian, and prostate cancer risk and precision prevention interventions that may reduce that risk. In addition to his research activities, Dr. Rebbeck leads several initiatives on the Harvard Campus. He serves as Associate Director for Equity and Engagement in the Dana-Farber / Harvard Cancer Center and Co-Director for the Collective Impact Program of Harvard Catalyst.

Sora Park Tanjasiri, DrPH, MPH

Professor, Department of Epidemiology & Biostatistics
Equity Advisor, Program in Public Health
Associate Director, Cancer Health Equity & Community Engagement
Chao Family Comprehensive Cancer Center
University of California, Irvine
Orange, CA



Sora Park Tanjasiri, DrPH, MPH, is a Professor in the department of Epidemiology at the University of California, Irvine Department and The Associate Director of Cancer Health Disparities and Community Engagement at the Chao Family Comprehensive Cancer Center. Her research focuses on community health promotion to reduce cancer health disparities among diverse populations, particularly Asian Americans and Pacific Islanders. She has served as PI or Co-PI on over two dozen extramurally funded cancer-related studies, including multiple Principal Investigator of the Bristol-Myers Squibb Foundation-funded Optimizing Access to Cancer Care for Asian Americans, and the NCI-funded U54 Community Network Program Center WINCART: Weaving an Islander Network for Cancer Awareness, Research and Training. Her research has been published in such peer-reviewed journals as *American Journal of Public Health*, *Journal of the American Medical Association*, *Health Education & Behavior*, and *Health Promotion Practice*. Dr. Tanjasiri also serves as an advisor to numerous non-profit organizations, including the Orange County Asian Pacific Islander Community Alliance, St. Joseph Health System Community Partnership Fund, and the Orange County Women's Health Project.

APPENDIX E

Act 181

Stricken language would be deleted from and underlined language would be added to present law.

Act 181 of the Regular Session

1 State of Arkansas

As Engrossed: S2/4/19

2 92nd General Assembly

A Bill

3 Regular Session, 2019

SENATE BILL 151

4

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

6 By: Representatives M. Gray, Barker, Bentley, Brown, Capp, Cavanaugh, Crawford, Dalby, C.Fite,

7 Lundstrum, J. Mayberry, Petty, Rushing, Speaks, Vaught, Gazaway

8

9

For An Act To Be Entitled

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

17

18

Subtitle

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

25

26

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

28

29 SECTION 1. DO NOT CODIFY. Legislative findings.

30 The General Assembly finds that:

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

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

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

1 diagnosis rates in Arkansas are:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

23 (b) The fund shall consist of:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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23
24 /s/ Irvin

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27 **APPROVED: 2/19/19**
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