L.1

UAMS | Winthrop P. Rockefeller Cancer Institute

NCI Fund Semiannual Legislative Report
December 1, 2024 – May 31, 2025

TABLE OF CONTENTS

Executive Summary

In 2019, the Arkansas General Assembly passed Senate Bill 151, creating the University of Arkansas for Medical Sciences (UAMS) National Cancer Institute Designation Trust Fund. A semiannual report of the use of funds from the trust fund is required pursuant to Act 181 of 2019. To date, this report provides information regarding the balance of the fund, administrative costs paid for from the fund, and total revenue received by the fund. A detailed description of the steps taken and the progress made toward achieving status as a National Cancer Institute-designated cancer center are covered in this report as well, including faculty recruitment efforts, research funding and grant activity, philanthropic fundraising, infrastructure expansion, clinical trials, and community outreach programs. This period's report also includes information regarding the Cancer Research Training and Education Coordination program, pilot funding opportunities, research program internal funding opportunities, and shared resources.

Background

According to the American Cancer Society, approximately 19,700 Arkansans will be diagnosed with cancer in 2025, and an estimated 6,360 people will die of the disease.[1] Arkansas has a high rate of cancer diagnoses in four types of cancers: prostate (2,930), breast (2,690), lung and bronchus (2,660), and colon and rectal (1,560). Although cancer mortality rates in Arkansas have decreased between 2010 and 2022, the state currently ranks 5th highest in the nation with regards to cancer-related deaths per 100,000 people.[2] Cancer is the second-leading cause of death in Arkansas and could become the leading cause of death within the next decade, surpassing cardiovascular disease, based on the diagnosis trends in the state.

Earning National Cancer Institute (NCI) designation for our cancer center will allow UAMS to provide cancer patients throughout the state of Arkansas with specialty cancer care close to home as well as providing access to cutting-edge clinical trials while expanding our work on cancer prevention, early detection, and cancer research.

[1] American Cancer Society. *Cancer Facts & Figures 2025*. American Cancer Society, 2025, https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2025/2025-cancer-facts-and-figures-acs.pdf.

[2] Centers for Disease Control and Prevention. *Cancer Mortality by State*. CDC/National Center for Health Statistics, 28 Feb 2022, https://www.cdc.gov/nchs/pressroom/sosmap/cancer_mortality/cancer.htm.

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. Today, the NCI supports a network of 73 NCI-Designated Cancer Centers in 37 states and the District of Columbia, including 57 Comprehensive Cancer Centers, nine Clinical Cancer Centers, and seven Basic Laboratory Cancer Centers (**Figure 1**). More than 60 NCI-Designated Cancer Centers are affiliated with university medical centers.

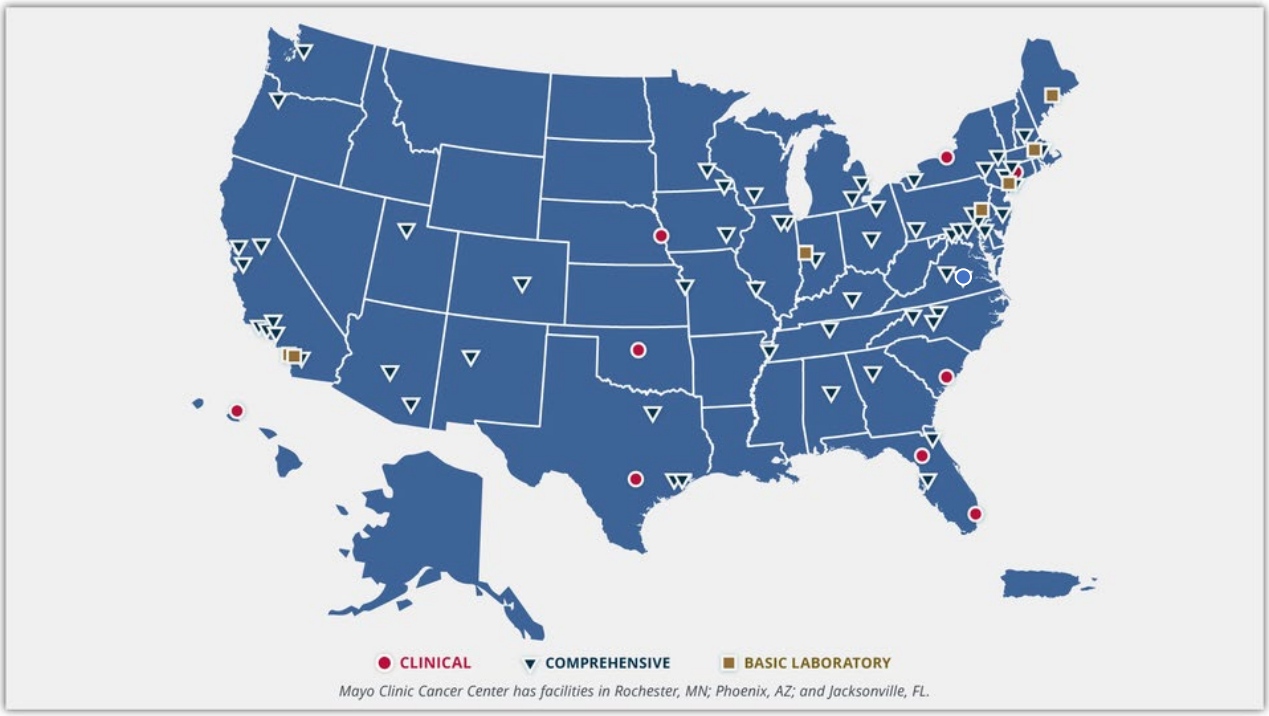


Figure 1. NCI Designated Cancer Centers. There are currently 73 NCI-designated cancer centers across 37 states and the District of Columbia.

NCI-Designated Cancer Centers are recognized for their scientific leadership in laboratory and clinical research, in addition to serving their communities and the broader public by integrating training and education for biomedical researchers and health care professionals. NCI-Designated Cancer Centers dedicate significant resources toward developing research programs, faculty, and facilities that will lead to better and innovative approaches to cancer prevention, diagnosis, and treatment. NCI supports the research infrastructure for cancer centers to advance scientific goals and foster cancer programs that draw together investigators from different disciplines.

Impact of Cancer Centers on Cancer Care

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. Cancer centers serve their local communities with programs and services tailored to their unique needs and populations. As a result, these centers disseminate evidence-based findings to their own communities, and these programs and services can be translated to benefit similar populations around the country.

There are no NCI-designated centers in Arkansas, Louisiana, or Mississippi. 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 (**Figure 2**).

Sylvester Comprehensive Cancer Center in Miami, Florida; the University of Florida Health Cancer Center in Gainesville, Florida; and Wilmot Cancer Institute at the University of Rochester in Rochester, New York; earned NCI designation for the first time in 2019, 2023, and 2025, respectively. Additionally, Massey Cancer Center in Richmond, Virginia; Markey Cancer Center in Lexington, Kentucky; and Sidney Kimmel Cancer Center at Jefferson Health in Philadelphia, Pennsylvania; most recently received "Comprehensive" status in 2023 and 2024.

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 designation.

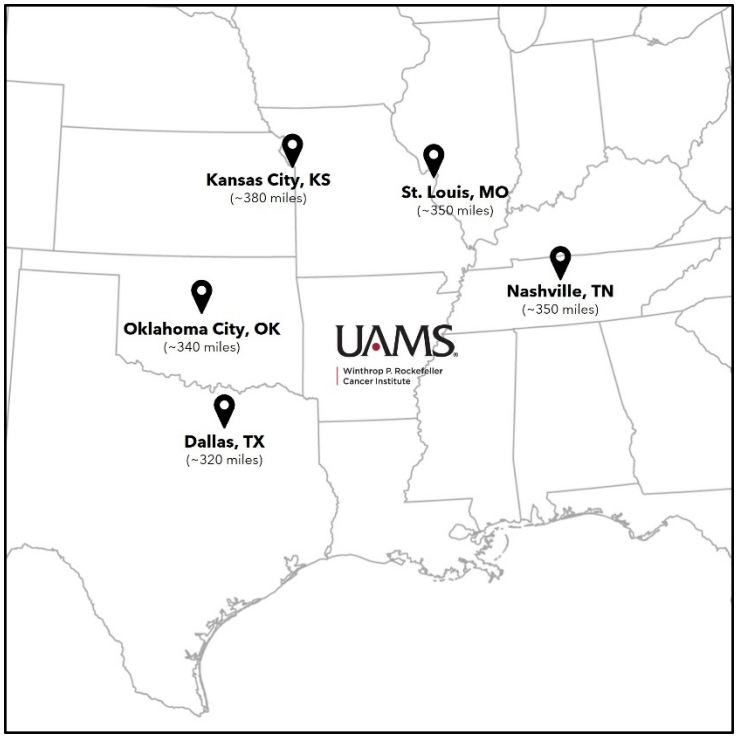


Figure 2. Closest NCI-Designated Cancer Centers to Arkansas.

Value of NCI Designation

NCI designation is an enormous asset for any state and 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 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%.

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

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 $250 million. This cost is in line with recent successful NCI designation efforts. The Sylvester Comprehensive Cancer Center in Miami, Florida, reported 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 achieve NCI designation.[3] On June 20, the University of Florida Health Cancer Center announced receiving designation from NCI after spending approximately $330 million over an eight-year period from 2014 to 2022. According to Jonathan Licht, MD, director of the UF Health Cancer Center, the state of Florida contributed approximately $12 million per year after the Florida National Cancer Institute Cancer Centers Act was signed into law in 2014.[4] The Wilmot Cancer Institute at the University of Rochester in Rochester, New York, became the 73rd NCI-Designated Cancer Center on March 18, 2025, after more than $100 million was invested through capital and personal investments.[5]

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.

[3] *The Cancer Letter*. 29 July 2019, Vol. 45, No. 31, https://cancerletter.com/the-cancer-letter/20190729_1/
[4] *The Cancer Letter*. 23 June 2023, Vol. 49, No. 25, https://cancerletter.com/the-cancer-letter/20230623_1/
[5] The Cancer Letter. 28 March 2025, Vol. 51, No. 12, https://cancerletter.com/the-cancer-letter/20250328_1/

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 (**Figure 3**). Several critical factors influence this timeline: 1) how quickly strategic cancer research recruitments can be made, 2) achieving approximately 250 patient accruals on clinical trial (NCI requirement), 3) establishing a statewide 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.

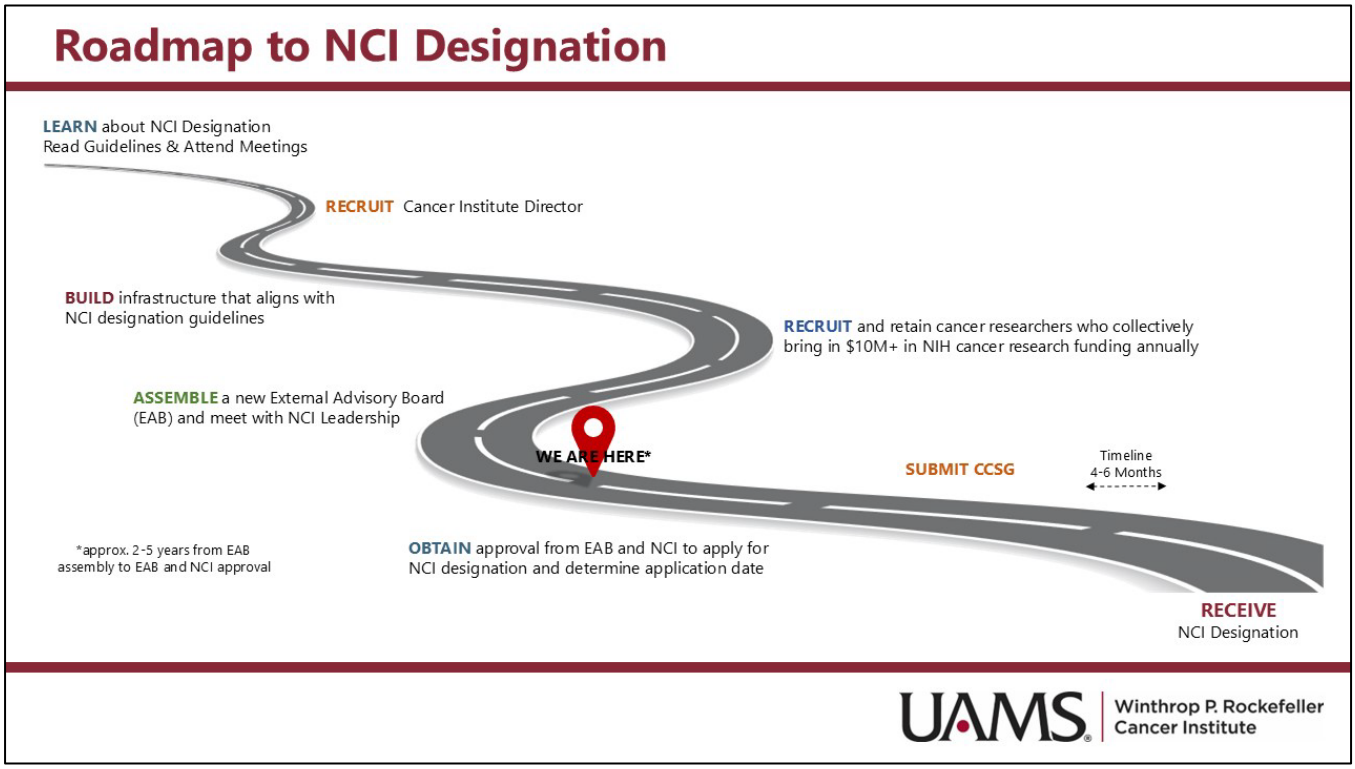


Figure 3. Roadmap to NCI Designation.

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, 2024 – May 31, 2025. 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	Year 10	Total
FY20 (Actual Expense)	FY21 (Actual Expense)	FY22 (Actual Expense)	FY23 (Actual Expense)	FY24 (Actual Expense)	FY25	FY26	FY27	FY28	FY29	Total
$1,929,339	$4,822,055	$15,821,985	$21,771,702	$16,859,427						$61,204,508
Encumbered Expense (Current Confirmed Commitments)					$41,239,673	$28,995,961	$23,661,007	$20,615,836	$22,063,302	$136,775,779
Total Actual Expense Plus Encumbered Expenses										$197,980,287
Total Revenue Received to Trust Fund to Date										$197,980,287

Table 2. Trust Fund Reporting Period: December 1, 2024 to May 31, 2025.

Beginning Balance (December 1, 2024)	$137,964,646.39
Total Transfers In	$0.00
Special Revenue: Cigarette Paper Tax	$824,512.28
**Processing Charges by DF&A on Special Revenue	($24,735.37)
Investment Revenue	$3,830,613.36
Net Revenue Received	$142,595,036.66

Expense:

**Workers Comp Charged direct by DF&A	($8,882.70)
Expense Draws Posted for Period (12/01/2024 – 5/31/2025)	($6,712,813.71)
Ending Balance (May 31, 2025)	$135,873,340.25
Expense Draws for November Not Yet Posted to AASIS	($1,182,975.91)
Adjusted Ending Balance	$134,690,364.34

**Department of Finance and Administration adjustments

Progress Toward Achieving NCI Designation Dec. 1, 2024 – May 31, 2025

Large-Scale Recruitment of Cancer Researchers

The Winthrop P. Rockefeller Cancer Institute continues to see recruitment activities from the global ads that were placed in high-impact journals during previous reporting periods. In addition, we have worked with departments across campus on recruitment for a couple of years, and departments will now approach us with cancer-relevant faculty candidates that would benefit our research portfolio. Our collaborative, campus-wide recruitment program has matured over the last two years, and we believe we will continue to see a steady influx of referrals from departments across campus as well as colleagues outside of UAMS. During the current reporting period, Ren Xu, PhD, a translational breast cancer researcher, signed an offer letter on March 20, 2025, and Deukwoo Kwon, PhD, a biostatistician, has agreed to join the Cancer Institute in September 2025. (**Table 3**). Dr. Xu will also assume a leadership position as Division Director, Translational Cancer Research, within the Department of Radiation Biology, and Dr. Kwon will assume a leadership position as Director of the Biostatistics Shared Resource. Their CVs are provided in **Appendix B**. To date, our large-scale effort has yielded 29 candidates across 11 academic departments, four colleges, and the graduate school.

Table 3. Cancer Research Recruitments December 1, 2024 – May 31, 2025.

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*
Ren Xu, PhD	University of Kentucky, Markey Cancer Center	Professor	Expected to start in September 2025	Radiation Oncology	Breast cancer, translational research	Four NCI R01s anticipated at start date	$3.5 million in start-up funds for five years; additional $2 million for recruitment of two faculty members
Deukwoo Kwon, PhD	University of Texas Health Science Center at Houston	Professor	Expected to start in September 2025	Biostatistics	Biostatistics	N/A	N/A

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

External Advisory Board

The Winthrop P. Rockefeller Cancer Institute External Advisory Board (EAB) provides external oversight, critical feedback, and guidance as it relates to aligning infrastructure and programmatic development with NCI's expectations for an NCI-Designated Cancer Center. The EAB is currently chaired by Adekunle "Kunle" Odunsi, MD, PhD, director of the University of Chicago Medicine Comprehensive Cancer Center, and is composed of ten additional members who are nationally recognized for their expertise in cancer research, prevention, control, and treatment (**Table 4**). Specifically selected for their demographic, geographic, and professional backgrounds, the EAB includes current directors, advisors, and research investigators from NCI-Designated Cancer Centers as well as national experts in cancer research training and education; community outreach and engagement; health equity and workforce development; cancer research; and administration who guide and inform the WPRCI's strategic vision. EAB member bios are provided in **Appendix C**.

Our third EAB meeting was held December 11-12, 2024, at the Cancer Institute. Five members of the EAB attended, including EAB Chair Dr. Kunle Odunsi (Director, University of Chicago Medicine Comprehensive Cancer Center), Dr. Chad Ellis (Huron Consulting Group), Dr. John Farley (Dignity Health Cancer Institute), Dr. Andrew K. Godwin (Deputy Director, University of Kansas Comprehensive Cancer Center), and Dr. Sora Park Tanjasiri (Chao Family Comprehensive Cancer Center). Dr. Edward Chu (Director, Montefiore Einstein Comprehensive Cancer Center) attended virtually via Zoom. The Winthrop P. Rockefeller Cancer Institute received positive feedback from the EAB in early 2025, and our next EAB meeting is scheduled for July 16-17, 2025.

Table 4. Winthrop P. Rockefeller Cancer Institute External Advisory Board

EAB Member Name	Title/Rank	Institution
Adekunle "Kunle" Odunsi, MD, PhD (Chair)	Director Dean for Oncology, Biological Sciences Division	University of Chicago Medicine Comprehensive Cancer Center
Edward Chu, MD, MMS	Director Professor, Department of Medicine (Oncology) Professor, Department of Molecular Pharmacology	Montefiore Einstein Comprehensive Cancer Center
E. Claire Dees, MD, ScM	Professor of Medicine, Division of Oncology Director, Early Phase Clinical Trials Group Co-Lead, Clinical Research Program	UNC Lineberger Comprehensive Cancer Center
Chad A. Ellis, PhD	Senior Director of Higher Education Consulting (former Deputy Director, Research Administration at Hillman Cancer Center, University of Pittsburg Medical Center)	Huron Consulting Group
John Farley, MD, COL (ret), FACOG, FACS	Division of Gynecologic Oncology	Dignity Health Cancer Institute
Andrew K. Godwin, PhD	Deputy Director, University of Kansas Comprehensive Cancer Center Professor, Department of Pathology & Laboratory Medicine Director, Molecular Oncology	Kansas University Medical Center
Samir N. Khleif, MD	Professor of Oncology	Lombardi Cancer Center, Georgetown University
Kathleen Moore, MD, MS	Deputy Director Director, Oklahoma TSET Phase I Program Professor, Section of Gynecologic Oncology	Stephenson Cancer Center, University of Oklahoma Health Sciences Center
Lalita Shevde-Semant, PhD	Associate Director, Cancer Research Training and Education Coordination Professor, Department of Pathology	O'Neal Comprehensive Cancer Center, University of Alabama Birmingham
Sora Park Tanjasiri, DrPH, MPH	Associate Director, Cancer Health Equity & Community Engagement Professor, Department of Epidemiology & Biostatistics	Chao Family Comprehensive Cancer Center, University of California, Irvine

Increased Research Funding

Our recruitment of active researchers has continued to bring in additional cancer research funding. Our 29 signed recruits have brought in $17 million of active external peer-reviewed funding (total); this number does not include any of the recruits' planned grant submissions once arriving on campus. Since arriving at UAMS, our new recruits have brought in an additional $14.6 million in external peer-reviewed funding through FY25. In addition, our current researchers continue to submit multiple grants to cancer-related funding sources such as NCI, other NIH institutes, American Cancer Society (ACS), and Department of Defense (DOD). Our researchers

were awarded $1.5 million in new peer-reviewed, cancer-related funding (total) during the current reporting period of December 1, 2024 – May 31, 2025. As of May 31, 2025, our cancer researchers held $24.2 million in active peer-reviewed, cancer-related annual project direct cost grant funding.

Cancer Research Grant Activity

A total of six external peer-reviewed grants were awarded during the latest reporting period, resulting in more than $1.5 million in grant funding for cancer-related research (**Table 5**) from four different external funding agencies (**Table 6**).

Table 5. Cancer Research Grant Activity.

External Peer-Reviewed New Grants Awarded (#)	Awarded External Peer-Reviewed New Grant Funding (Project Period Total Costs)
6	**$1,514,529**

Table 6. Detailed List of Cancer Research Grant Activity.

Grant Number	Title	Funding Agency	PI	Total Amount Awarded
CAT-24-1374686-01-CAT	Impact of DNA topology on facilitating mutational events in lymphoma	American Cancer Society, Inc.	Samantha Kendrick, PhD	$150,000.00
1U24ES037082-01	Promoting scientific and workforce diversity by enriching the Arkansas Rural Community Health Study (ARCH) among Mother-Daughter Pairs	NIH/Nat. Inst. of Environmental Health Sciences	Ping-Ching Hsu, PhD	$257,718.00
PF-24-1321972-01-DMC	Exploiting DNA Damage Response Machinery to Combat T Cell Exhaustion	American Cancer Society, Inc.	Jessica Kelliher, PhD	$70,000.00
1R35GM156702-01	Helicase Mechanism and G-Quadruplex Signaling	NIH/Nat. Inst. of General Medical Sciences	Kevin Raney, PhD	$395,785.00
1R01ES036931-01	Understanding the origins of the mutational landscape in cancer	NIH/Nat. Inst. of Environmental Health Sciences	Gunnar Boysen, PhD	$639,551.00
AWD00056331	AACR-John Kincade Scholarship Fund Scholar-in-Training Award - Sabol	American Association for Cancer Research	Jesus Delgado-Calle, PhD	$1,475.00
Total				**$1,514,529**

Philanthropic Fundraising

The Winthrop P. Rockefeller Cancer Institute's Day at the Races was held in March 2025 with record breaking attendance of 275 where two races were named in our honor, The Winthrop P. Rockefeller Cancer Institute Classic and The Be a Part of the Cure Classic. This is an event hosted by Louis Cella, owner of Oaklawn Racing Casino Resort and past chairman of the Winthrop P. Rockefeller Cancer Institute Board of Advisors. Events like this one set us apart from others in the community. On May 3, 2025, the Winthrop P. Rockefeller Cancer Institute hosted its fifth annual "Be a Part of the Cure Walk," and we continue to raise our annual goals with hopes of succeeding them in registration as well as sponsorships. This year, we raised over $475K and had 1,700 participants. The Envoys continue to engage constituents outside UAMS to attend the Ambassador Program with the class graduating in March with 35 enrollees. On Saturday, September 20, 2025, we will host our annual Gala for Life event, which will be the first ever on a Saturday. We will be giving the Pat and Willard Walker Tribute Award to Nancy "Jo" Smith. We continue to collaborate with the Vice Chancellor of Institutional

Advancement, John Erck, and to date, have gifts and pledges totaling $35.4 million, more than $5 million above our $30 million goal.

Radiation Oncology Center and Proton Center of Arkansas

In summer 2023, the Winthrop P. Rockefeller Cancer Institute opened a new, 58,000 sq. ft. Radiation Oncology Center, which includes the Proton Center of Arkansas, a partnership between UAMS, Arkansas Children's Hospital, Baptist Health, and Proton International. The Radiation Oncology Center and Proton Center of Arkansas provides advanced radiation treatments for children and adults with cancer as well as alternative treatment to traditional radiation therapy using a precisely focused high-energy beam that targets tumors without affecting the surrounding tissue and organs. As part of the Winthrop P. Rockefeller Cancer Institute, the Proton Center of Arkansas is the only proton center in the state, giving residents the opportunity to receive cutting-edge treatment without having to leave the state. In July 2023, the first patients began receiving photon therapy at the new Radiation Oncology Center, and the Proton Center began treating patients in September 2023. During the current reporting period, a monthly average of 80 patients have been seen since December 2024, and the total number of photon and proton treatments reached 6,007 and 4,098, respectively (**Table 7**).

Table 7. Radiation Oncology Center and Proton Center of Arkansas.

Month	AVG # of Treatments/Day	Total # of Photon Treatments	Total # of Proton Treatments
December 2024	65	738	552
January 2025	81	1054	721
February 2025	84	983	691
March 2025	90	1180	707
April 2025	80	1098	671
May 2025	81	954	756
Totals/Average	**80 (AVG)**	**6007**	**4098**

Clinical Trials

To provide the best cancer treatment options for Arkansans, the Winthrop P. Rockefeller Cancer Institute continues to expand its clinical trials program. A staff of 88 research nurses, research coordinators, and regulatory and financial specialists currently support over 320 clinical research studies in brain, breast, cutaneous, gastrointestinal, genitourinary, gynecological, head and neck, lung, radiation oncology, sarcoma, phase I, and hematological cancers. Clinical trials staff have enrolled 118 participants in therapeutic trials and over 600 total participants during this reporting period. Our expanded staff presence with clinical trial access to Northwest Arkansas and the Central Arkansas Veterans Healthcare System have resulted in an additional 12 therapeutic enrollments during the current reporting period. We plan to continue to expand our portfolio across the network and continue to see an increase in therapeutic clinical trial enrollment, benefiting all Arkansans.

Critical to building a statewide clinical trial program is acquiring a first-rate data management system. To build the electronic infrastructure needed to manage and share data across the state, the Cancer Institute has purchased and is working towards implementation of a robust commercial Clinical Trials Management System, OnCore, to support the clinical trials growth in July 2025. OnCore will allow us to effectively manage the steep increase in the clinical trial activity. The use of such a system will boost research operations management, simplify information flow between systems, improve study timelines, provide comprehensive reporting for ongoing analysis, and integrate throughout the entire state. OnCore is used by 80% of NCI-Designated Cancer Centers. In addition to enabling clinical trials throughout the state, this software will facilitate efficient communication and collaboration between the Cancer Institute and other cancer centers throughout the country.

Community Outreach and Engagement

Dan Dixon, PhD, Associate Director of Community Outreach and Engagement, established a 17-member community Advisory Board (CAB), which held its first meeting in late March 2025. The Community Cancer Needs Assessment was reviewed by the CAB who identified strategic priorities that will lead the Office of Community Outreach and Engagement's approach to research, patient care, community engagement, healthcare infrastructure, capacity building, professional development, and outreach and education efforts.

The patient navigation team continues to promote the Office of Community Outreach and Engagement and the navigation services, resulting in a 20% increase in patients navigated to one or more resources from 700 to nearly 840 patients during the current reporting period. Due to their deep community connections, navigators have been identified as strategic partners by researchers to participate in, or facilitate, several community-based research studies. One such example is the U-Quit Study led by Dina Jones, PhD, MPH. This research study was designed to help learn more about the experience of quitting smoking among adults who smoke menthol cigarettes. Dr. Jones is an assistant professor in the UAMS Fay W. Boozman College of Public Health and serves as the principal investigator on the study. The study will have support from the navigation team through the fall of 2025 or until the enrollment target is reached (whichever occurs first).

Partnerships, both internal and external, provide a strong path to progress, and the Office of Community Outreach and Engagement is partnering with the Clinical Trials Office, UAMS Regional Clinics, and local community partners to host town hall meetings this summer. These town hall meetings will focus on clinical trials awareness and education, provide information on active trials, and answer questions from the community about clinical trials. Meetings have been scheduled in Texarkana, Augusta, El Dorado, and Jonesboro. Thematic analysis and other results from the meetings are forthcoming.

Additionally, a statewide partnership with a federally qualified health center (FQHC) is underway that will utilize navigators to increase access to colorectal cancer screenings. More details will be available as the partnership and workflows are further defined.

Cancer Research Training and Education Core

A critical component needed for gaining designation as an NCI-Designated Cancer Center is a means for our scientists to directly interact with the greater national and international cancer research community. Such interactions can introduce our scientists to cutting-edge ideas and raise the profile of our scientists nationally and internationally. Cancer Research Training and Education Coordination (CRTEC) at the Winthrop P. Rockefeller Cancer Institute uses travel grants and two seminar series – Forum Seminar Series and Cancer Institute Grand Rounds – to foster direct interaction with scientific leaders and to raise awareness of our investigators and the advanced research they are doing in Arkansas. CRTEC arranges travel, speaker honoraria, and speaker itineraries for both Forum and Grand Rounds. This is a large undertaking that we have successfully executed for the past three years.

Travel grants allow Cancer Institute members, their fellows, and students to present their research at national and international meetings. This gives our scientists exposure to the international scientific community and provides a path for exchanging ideas with other leading scientists. These discussions, often around a poster, foster collaborations and refinement of scientific concepts. CRTEC has awarded one travel grants between June December 1, 2024, to May 31, 2025

The Forum Seminar Series targets internationally recognized basic and translational scientists who are doing transformative cancer research with the goal of promoting interactions and collaborations among scientists. The

Forum Seminar Series is bi-weekly, and a total of six speakers gave presentations from December 1, 2024 to May 31, 2025 (three internal and three external). Members interested in the speaker's work have the opportunity to attend a dinner with the host and speaker the evening before their scheduled presentation. The following day, the speaker meets with small groups of investigators to discuss ongoing cancer research, allowing our scientists to showcase their cancer research and to potentially establish long-term relationships with the speakers. Similarly, Grand Rounds attracts internationally known clinical scientists who are applying the latest treatments and conducting clinical trials. From December 1, 2024 to May 31, 2025, this CME-accredited series featured interactions between our clinical teams with three external and two internal leaders in cancer treatment.

In the fall, CRTEC cohosted UAMS Student Research Day (SRD) alongside the Vice Chancellors Reach Office and the UAMS Graduate School. SRD is a campus-wide event that brings graduate students, postdoc and professional students from all colleges to present research. More than 220 attendants presented posters, and 62 posters were cancer relevant. The 2025 Cancer Institute Research Retreat was attended by over 200 participants, including cancer researchers, trainees, and administrators. Thirty-three Students presented posters.

Pilot Funding

To achieve NCI designation, cancer centers are expected to have a robust research portfolio with funding and publications in thematic areas aligned with catchment area needs. To grow our research portfolio in pursuit of NCI designation, the Winthrop P. Rockefeller Cancer Institute offers pilot opportunities for members who conduct research across the translational spectrum. These pilot opportunities are meant to fund new avenues of cancer research that will accelerate the collection of data for NCI grant submissions and cancer-relevant publications. Pilot funding opportunities include the following:

Seeds of Science Award Program – Since 2009, the Winthrop P. Rockefeller Cancer Institute has invested in outstanding cancer researchers through the Seeds of Science award mechanism. While this program is overseen by the Cancer Institute, it relies on two community partnerships to fund: 1) The Envoys, a group of community and business leaders that advocate on behalf of the Cancer Institute, and 2) The Hot Springs Village Walk for Cancer Research, an annual event hosted by the residents of Hot Springs Village that raises funds to support cancer research at multiple institutions. The Seeds of Science program funds promising new research from skilled researchers focused on solving relevant cancer care problems, with the goal of allowing these researchers to gather data needed to submit for NCI grant awards and disseminate their findings with others in the field. Projects are funded for one year with budgets up to $50,000. During FY25, four cancer investigators received Seeds of Science Awards (**Table 8**). Since the program's start in 2009, the Cancer Institute has maintained a summary of productivity metrics related to total number of awards and related publications, grants, and extramural funding (**Table 9**).

Table 8. Seeds of Science Awards – FY25.

Project Title	Principal Investigators	Total Budget Amount
Identification of Inhibitors of HELB helicase	Alicia Byrd, PhD, Assistant Professor of Biochemistry	$50,000
Neutrophils in castration-resistant prostate cancer microenvironment	Yuet-kin Leung, PhD, Associate Professor of Pharmacology & Toxicology	$50,000
Targeting the BRK-ALK axis to halt breast cancer metastasis	Sayem Miah. PhD, Assistant Professor of Biochemistry	$50,000

Pro-metastatic Roles of Extracellular Glucose in Triple-Negative Breast Cancer Cell Mechanic and Function	Donghoon Yoon, PhD, Associate Professor of Internal Medicine, Hematology Oncology Division	$50,000

Table 9. Seeds of Science Awards Productivity Metrics – Summary.

Number of Pilots Awarded	Number of Publications	Grants Obtained	Total Extramural Grant Funding
37	**39**	**20**	**$12,211,243**

Team Science Award – First established in 2020, the Team Science mechanism supports new cancer-focused research between Winthrop P. Rockefeller Cancer Institute members. Funding supports multi-PI teams pursuing collaborative, transdisciplinary research, with the ultimate goal being submission of program project level NCI grants. These program project level grants involve teams of researchers combining their expertise with maximal impact to address pressing needs in cancer care and are a critical step in the journey toward NCI designation. Projects are funded for one year with budgets up to $100,000. During FY25, four investigative teams received Team Science Awards (**Table 10**). While this mechanism has only been active since 2020, the Cancer Institute maintains a summary of productivity metrics related to total number of awards and related publications, grants, and extramural funding (**Table 11**).

Table 10. Team Science Awards – FY25.

Project Title	Principal Investigator	Total Budget Amount
Exploiting PCK2 to enhance T Cell effector function in solid tumors	Brian Koss, PhD, Assistant Professor of Biochemistry; Analiz Rodriguez, MD, PhD, Assistant Professor of Neurosurgery; Marie Burdine, PhD, Assistant Professor of Surgery	$100,000
Targeting the pro-survival MCL-1:BAK complex in cancer	Tudor Moldoveanu, PhD, Associate Professor of Biochemistry; Darin Jones, PhD, Associate Professor of Pharmaceutical Science	$100,000
Identifying Biomarkers for Hepatocellular Carcinoma (HCC) in Sub-Saharan Africa to Improve Outcomes in Immigrant and Low-Income U.S. Populations	Bolni Marius Nagalo, PhD, Assistant Professor of Pathology; Isabelle Racine Miousse, PhD, Assistant Professor of Biochemistry	$100,000
Development of Human-Derived Pancreatic Cancer Organoids for Translational Research	Adam Wolfe, MD, PhD, Assistant Professor of Radiation of Oncology; Sonia Orcutt, MD, Assistant Professor of Surgery	$100,000

Table 11. Team Science Award Program Productivity Metrics – Summary.

Total Number of Pilots Awarded	Number of Publications	Grants Obtained	Total Extramural Grant Funding
29	**12**	**6**	**$8,956,702**

Research Program Internal Funding

As one of the “six essential characteristics” of an NCI-Designated Cancer Center, research programs are defined by a common research focus and comprise the research activities, common scientific interests, and goals of basic research scientists. Each member of the Winthrop P. Rockefeller Cancer Institute participates in one of three research programs, Cancer Biology, Cancer Prevention & Population Sciences, and Cancer Therapeutics. Members play a vital role in defining the goals of the research programs and identifying collaborative opportunities, and the Cancer Institute is committed to supporting those initiatives and fostering collaboration within and across the three research programs.

In response to the EAB's recommendation to provide funds to help support research program initiatives, Dr. Birrer has provided $250,000 in funding to each research program. It is up to each program leader to decide how to spend the funds to enhance the program. Internal funding for each research program is described below.

Cancer Biology – The Cancer Biology Research Program has implemented three funding programs designed to increase extramural funding of program members from NCI-recognized funding sources and the number of collaborative, high-impact, cancer-relevant publications. Internal funding programs include (1) a program to improve grant resubmissions, which provides funds to address the concerns and needed revisions of applications that were not funded but received a score and comments from an NCI-recognized funding source; (2) a program to improve high-impact publication resubmissions, which provides funds to address the concerns and requested revisions of cancer-relevant manuscripts reporting primary research; and (3) a program to reward high-impact, collaborative publications, which recognize faculty members who have cancer-relevant publications that are high-impact, collaborative, and acknowledged using Cancer Institute resources. During the current reporting period, two funding opportunities have been awarded, providing $31,000 in support to Cancer Biology members (**Table 12**).

Table 12. Internal Funding Programs for Cancer Biology

PI/Lead Author	Grant/Manuscript Title	Total Amount Awarded
Brian Koss, PhD	Exploring host GSK3β-53BP1 axis in immune control of solid tumor progression (R01 resubmission)	$25,000
William Lu, PhD	5-FU and cisplatin imprint mitochondrial DNA mutations in T cells (High-impact factor resubmission	$6,000
Total		**$31,000**

Cancer Prevention & Population Sciences – The Cancer Prevention & Population Sciences Research Program has made funding available so that members may acquire preliminary data necessary for the submission of NIH NCI R01 or R01-equivalent grant applications. Members applying to the program may request up to $50,000 in funding to support their research. During the current reporting period, one funding opportunity has been awarded, providing $40,000 in support to Cancer Prevention & Population Sciences members (**Table 13**).

Table 13. Internal Funding Programs for Cancer Prevention & Population Sciences

PI/Lead Author	Grant/Manuscript Title	Total Amount Awarded
Gunnar Boysen, PhD	Understanding the origins of the mutational landscape in cancer	$40,000
Total		**$40,000**

Cancer Therapeutics – The Cancer Therapeutics Research Program has implemented four funding programs to increase federal funding of program members, especially from NCI-recognized funding sources, and to increase the number of cancer-relevant publications in high-impact journals. Internal funding programs include (1) travel grants that allow members to present their research at cancer-focused, national and international meetings; (2) research support funds for graduate students, postdoctoral fellows, and collaborative projects; (3) an award to support resubmission of R01 or R21 grant applications; (4) a publication award to support resubmission of high-impact factor manuscripts. During the current reporting period, six funding opportunities have been awarded, providing $45,000 in support to Cancer Therapeutics members (**Table 14**).

Table 14. Internal Funding Programs for Cancer Therapeutics

PI/Lead Author	Initiative	Total Amount Awarded
Fred Prior, PhD	Travel to Conference	$2,500
Marius Nagalo, PhD	Travel to Conference	$2,500
Mulu Tesfay, PhD	Travel to Conference	$2,500
Amanda Stolarz, PhD	Travel to Conference	$2,500
Tudor Moldoveanu, PhD	Paper resubmission	$15,000
Pathak and Samanta	Pilot faculty collaboration	$20,000
Total		**$45,000**

Shared Resources

Shared resources play an essential role in advancing our research mission. The Winthrop P. Rockefeller Cancer Institute provides access to state-of-the-art equipment, technologies, services, and scientific consultation that enhance scientific interaction and productivity among members and other researchers at UAMS. The Cancer Institute supports five shared resources: Biostatistics, Genomics, Proteomics, Radiation Biology, and Translational Pathology. We continue to grow, develop, and enhance available shared resources to support its effort to obtain NCI designation. Shared resources accomplishments during the current reporting period include the following:

- **Expansion of Services and Equipment** – The Genomics Shared Resource acquired an Illumina NovaSeq X-Plus obtained via an NIH S10 Shared Instrument Grant written and submitted by Dr. Johann. This equipment became operational in March 2025 and reduces the cost of sequencing by 40 to 80% depending on the specific application. The Genomics Shared Resource also now provides single cell RNA Sequencing (scRNA-seq) utilizing FFPE tissue samples. The Proteomics Shared Resource purchased a Thermo Stellar Mass Spectrometer for targeted proteomics. This instrument will bring targeted proteomics services to members starting in FY26. The shared resource also purchased a CellenONE instrument for single cell proteomics. This instrument separates individual cells and prepares samples for mass spectrometric analysis in a single well – minimizing loss and maximizing input for single cell proteomics. Single cell proteomics will be available to members in FY26. Renovations to the Biomed I animal facility (Radiation Biology Shared Resource) are going well and are scheduled to be completed by February 2026. Equipment belonging to the Radiation Biology Shared Resource and Dr. Delgado-Calle's Bone Imaging Core will move into a dedicated imaging suite in the new facility.

- **Extramural Funding Applications** – The Radiation Biology Shared Resource plans to submit an NIH High-End Instrumentation grant application for a cryogen-free small animal MRI machine to replace the existing small animal MRI, which continues to grow a strong user base in the Cancer Institute. Alan Tackett, PhD, submitted a renewal application for the R24 National Resource in June. During the initial five-year phase of funding, the National Resource handled approximately 35,000 individual samples from almost 900 individual labs across the country.

- **Education** – The Genomics Shared Resource provided a lecture on NGS and a tour of the facility for an educational session involving UAMS AR-INBRE leadership and 25 students from the University of Central Arkansas. The Proteomics Shared Resource hosted a novel proteomics internship program was implemented by hands-on training related to operating mass spectrometers and the business of managing core facilities. The goal of this internship program is to provide technical training to Arkansas students to

encourage them to pursue alternative careers in science within the state of Arkansas. In addition, the Shared Resource Directors continue to present at Research Program meetings to increase awareness of services offered by their respective laboratories.

- **Shared Resources Annual Survey** – The Winthrop P. Rockefeller Cancer Institute Shared Resources has completed its annual survey of members to gather data on membership demographics, usage, knowledge of offered programs and services, and member satisfaction with services and technology provided including timeliness, quality, cost-effectiveness, and accessibility. Additionally, members were surveyed on their predicted future use of Shared Resources to ascertain the best ways to support the future needs of members and their research. The annual survey is a strategic tool used to perform comparative analytics to help identify growth and areas in need of improvement as a part of the Shared Resource annual review process.

APPENDIX A

Expense Breakdown

Expense Breakdown – Senate Bill 151 – Trust Fund for NCI Designation

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Imig, John	CC004122	73,406.93	19,049.68	32,362.91	124,819.52	Recruitment package support
Owsley, Kelsey	CC004123	13,982.00	3,220.83	0.00	17,202.83	Recruitment package support
Van Der Plas, Ellen	CC004124	0.00	0.00	27,711.76	27,711.76	Support of head & neck clinical trial
Griffin, Robert	CC004127	3,179.10	779.28	690.57	4,648.95	Support of head & neck clinical trial
Atiq, Omar, MD (COM Internal Medicine-Medical Oncology)	CC100244	37,697.52	8,652.48	24,808.34	71,158.34	Support of head & neck clinical trial
Cancer Service Line Support	CC100246	-4,000.00	-8,670.95	0.00	-12,670.95	Clinical research effort for Jibran Ahmed, MD
Cancer Institute Administration	CC100248	205,318.12	47,511.04	-120,337.13	132,492.03	Staff salaries, equipment, supplies, etc.
Cancer Institute Basic Research	CC100249	10,644.56	1,691.40	75,175.21	87,511.17	For WPRCI Research Retreat
Cancer Clinical Trials Research Administration (CCTRA)	CC100250	1,234,499.81	314,025.51	16,475.94	1,565,001.26	Cancer Clinical Trials
Leung, Ricky, PhD (COM Pharmacology Toxicology)	CC100253	0.00	0.00	21,538.54	21,538.54	Recruitment package support
Birrer, Michael, MD, (Cancer Institute)	CC100332	0.00	0.00	-7,294.22	-7,294.22	Recruitment package support
Manzano, Mark, PhD (COM Microbiology & Immunology)	CC100335	-12,220.90	-3,103.11	2,071.54	-13,252.47	Recruitment package support
Zhan, Frank MD, PhD (COM Internal Medicine - Medical Oncology)	CC100336	25,331.37	7,337.81	26,825.93	59,495.11	Recruitment package support
Belido, Teresita, PhD (COM Physiology and Biophysics)	CC100360	83,332.37	20,336.24	23,870.38	127,538.99	Recruitment package support
Stephens, Kimberly, MD (COM Peds Care)	CC100361	12,648.85	3,140.98	421.45	16,211.28	Recruitment package support
Cancer Institute Cancer Therapeutics	CC100365	22,634.64	7,362.27	1,652.20	31,649.11	Cancer Institute Program Support
Cancer Institute Health Disparities - Ronda Henry-Tillman, MD	CC100366	23,140.03	5,487.34	0.00	28,627.37	Retention package support
Core Voucher Program	CC100372	0.00	0.00	65,132.00	65,132.00	Cancer core use vouchers for CI members
Ryan, Katie, PhD (COM Biochemistry)	CC100416	8,902.95	2,116.67	0.00	11,019.62	Recruitment package support
Jones, Dina (CPH HBHE Center for Tobacco Study)	CC100418	35,422.63	7,066.37	3,686.60	46,175.60	Recruitment package support
Cancer Institute Community Outreach	CC100422	610,088.89	134,286.69	14,444.49	758,820.07	Support for Associate Director for Community Outreach and Engagement
Cancer Institute CCSG Administration	CC100423	67,819.67	13,462.40	0.00	81,282.07	Recruit ads
Wolfe, Adam	CC100428	136,472.59	25,123.50	0.00	161,596.09	Recruitment package support
Delgado-Calle, Jesus, MD, (COM Physiology & Biophysics)	CC100457	0.00	0.00	19,242.73	19,242.73	Recruitment package support

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Radiation Core	CC100471	5,217.91	956.55	13,132.67	19,307.13	Purchase of x-ray cabinet
Recruitment Costs	CC100488	0.00	0.00	5,918.42	5,918.42	Advertising costs, travel, interview meals, etc.
Dr. Karbassi Breast Vaccine Support	CC100509	10,710.00	2,742.28	18,704.96	32,157.24	Support of clinical trial for a breast cancer vaccine
Yeh, Ed (COM Internal Medicine)	CC100779	0.00	0.00	66,474.09	66,474.09	Recruitment package support
Nagalo, Marius (COM Pathology)	CC100783	75,680.62	14,551.84	118,333.40	208,565.86	Recruitment package support
Miah, Syem (COM Biochemistry)	CC100924	59,654.50	12,755.89	9,222.29	81,632.68	Recruitment package support
Park, Mark (COPH Epidemiology)	CC100794	1,409.85	346.73	25,142.43	26,899.01	Recruitment package support
Enemark, Eric (COM-Biochemistry)	CC100826	37,648.68	12,589.92	0.00	50,238.60	Recruitment package support
Chang, Ming (COM Pharmacology and Toxicology)	CC100827	14,832.01	2,678.05	4,183.65	21,693.71	Recruitment package support
Tackett, Alan (COM Biochemistry)	CC100988	67,099.86	16,199.46	21,869.42	105,168.74	Research support
Qin, Z (COM Pathology)	CC100991	602.09	107.31	13,046.53	13,755.93	Recruitment package support
Byrd, Alicia (COM Biochemistry)	CC100992	18,725.02	29.98	27,973.07	46,728.07	Recruitment package support
Xia, Fen (COM Radiation Oncology)	CC100993	0.00	0.00	10,673.50	10,673.50	Recruitment package support
Proteomics Core (COM Biochemistry)	CC100994	16,387.55	2,591.82	0.00	18,979.37	Proteomics Core support
Lu, Williams (COM Pathology)	CC101002	44,673.71	8,508.59	85,825.44	139,007.74	Recruitment package support
Hsu, Ping-Ching (COPH EOH)	CC101004	20,852.82	4,933.68	2,747.98	28,534.48	Recruitment package support
WPRCI Diversity	CC101028	20,672.12	2,353.10	0.00	23,025.22	Support for Associate Director for Diversity, Equity, and Inclusion
Johann, Don (DBMI)	CC101114	134,175.53	32,998.86	1,427.72	168,602.11	Research support
WPRCI Admin Mammo Van	CC101120	75,287.51	19,431.61	2,835.84	97,554.96	Program support
Rahman, Mohammad (COM Biochemistry)	CC101130	32,307.45	8,004.26	34,958.61	75,270.32	Recruitment package support
Racine-Miousse, Isabella (COM Biochemistry)	CC101152	7,725.00	3,108.94	1,901.66	12,735.60	Recruitment package support
Travel Grant Program	CC102679	0.00	0.00	1,251.24	1,251.24	Support for cancer related research travel
Koss, Brian (COM Biochemistry)	CC102685	66,861.08	15,260.55	77,905.04	160,026.67	Recruitment package support
Tobacco Cessation	CC102719	46,351.23	7,815.57	0.00	54,166.80	Tobacco cessation program support
Hallgren, Emily	CC102779	7,995.96	1,476.34	0.00	9,472.30	Recruitment package support

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Clawson, Emily	CC102782	44,321.24	11,819.39	33,083.10	89,223.73	Recruitment package support
Veeraputhiran, Muthu	CC102809	0.00	0.00	743.00	743.00	Recruitment package support
Van Rhee, Fritz	CC102810	19,220.19	2,332.10	0.00	21,552.29	Translational Research support
Schootman, Mario	CC102817	63,981.08	14,234.73	0.00	78,215.81	Recruitment package support
Rodriguez, Analiz	CC102823	129,439.98	17,771.85	0.00	147,211.83	Research support
Cancer Prevention and Population Sciences	CC102830	10,504.74	2,010.28	0.00	12,515.02	Program support
Jaemsen, Joonas	CC102851	88,783.98	22,633.70	49,377.37	160,795.05	Recruitment package support
Moldoveanu, Tudor	CC102852	33,381.18	10,872.49	40,829.81	85,083.48	Recruitment package support
Biostatistics	CC102853	56,214.87	14,203.59	0.00	70,418.46	Support to Biostatistics Core
DelNero, Peter	CC103030	47,900.29	10,829.93	3,260.90	61,991.12	Recruitment package support
Hematology/Oncology Fellowship	CC103123	0.00	0.00	72,634.85	72,634.85	Program support
Kim, KyoungHyun	CC103331	49,646.24	15,798.33	16,210.34	81,654.91	Recruitment package support
Cancer Prevention and Control	CC103351	60,352.91	9,451.40	0.00	69,804.31	Program support
Allen, Antino	CC103374	27,400.65	1,086.61	101,113.86	129,601.12	Recruitment package support
WPRCI Administration	CC103375	0.00	10.05	0.00	10.05	Program support
Griffin, Robert Support	CC103387	0.00	0.00	49.32	49.32	Recruitment package support
Tu, Shi-Ming	CC103429	2,168.51	505.20	7,116.12	9,789.83	Support to cancer research
Cancer Biology	CC103477	0.00	0.00	737.84	737.84	Program support
Tiwari, Amit	CC103501	53,389.61	6,727.88	46,453.64	106,571.13	Recruitment package support
Shared Resources Support	CC103506	21,275.29	4,398.11	0.00	25,673.40	Program support
Research Education Support	CC103507	7,828.51	1,381.68	250.00	9,460.19	Program support
Eoff, Robert Support	CC103707	0.00	0.00	19,266.63	19,266.63	Program support
Zhu, Yong Support	CC103769	70,000.02	13,623.71	21,125.03	104,748.76	Recruitment package support
Taverna, Sean Support	CC103793	2,391.19	416.58	0.00	2,807.77	Recruitment package support
Rathod, Aniruddha Support	CC103947	56,500.02	13,497.58	2,774.68	72,772.28	Recruitment package support
Rathod, Rutu Support	CC103948	56,500.02	11,851.85	1,869.68	70,221.55	Recruitment package support

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Dixon, Dan Support	CC103969	182,222.16	39,180.33	43,233.40	264,635.89	Recruitment package support
Allen, Jaimi Support	CC104017	0.00	0.00	2,613.36	2,613.36	Recruitment package support
West, Kirk Support	CC104034	8,163.40	1,506.18	28,844.57	38,514.15	Recruitment package support
Total Expense		**$4,444,758**	**$1,004,461**	**$1,263,595**	**$6,712,814**	

APPENDIX B

Curricula Vitae of Cancer Research Recruits

CURRICULUM VITAE ~ Ren Xu

CONTENT ORGANIZATION

Date Prepared: July 15th, 2023

CURRICULUM VITAE

Ren Xu, Ph.D.
Full Professor (with tenure)
Department of Pharmacology and Nutritional Sciences
Markey Cancer Center
University of Kentucky, College of Medicine

I. GENERAL INFORMATION

Office Address HKRB 438, 760 Press Ave
Lexington, KY 40508

Email ren.xu2010@uky.edu
Telephone 859-323-7889
Fax 859-257-6030

II. EDUCATION

Undergraduate

Department of Biological Science & Technology, Nanjing University, Nanjing, China,
09/1993-07/1997 B.S. Biology, Graduated with honors.

Graduate

Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences
Shanghai, China,
09/1997---07/2002 Ph.D. Biochemistry and Molecular Biology

Post-Graduate

Life Science Division, Lawrence Berkeley National laboratory, Berkeley, California,
09/2002 --- 09/2008 Postdoctoral fellow

III. PROFESSIONAL EXPERIENCES

Chinese Academy of Sciences
Shanghai, China,
09/1997---07/2002 Research Assistant, Shanghai Institute of Biochemistry and Cell Biology

part time

IV. ACADEMIC APPOINTMENTS

Faculty

	Lawrence Berkeley National laboratory
	Berkeley, California
09/2008-03/2010	Project Scientist in the Life Science Division, Non-tenure-track, full time
	University of Kentucky, College of Medicine
	Lexington, Kentucky
04/2010- 06/2016	Assistant Professor, Department of Pharmacology and Nutritional Sciences, tenure-track, full-time
04/2010- current	Principal Investigator, Markey Cancer Center
07/2016- 06/2020	Associate Professor, Department of Pharmacology and Nutritional Sciences, with tenure, full-time
07/2020-current	Professor, Department of Pharmacology and Nutritional Sciences, with tenure
05/2021-current	Director of the Breast Cancer Translational Group, Markey Cancer Center

V. HONORS & AWARDS

01/1997	People's Scholarship, Nanjing University
06/1997	Honor graduate, Nanjing University
12/2002	DOD, Postdoctoral Fellowship
11/2011	American Cancer Society, Institutional Young Investigator Award
01/2012	American Heart Association, Scientist Development Award
04/2015	DOD, BCRP, Breakthrough Award (with Dr. Dan Shu)
2013-2015	Wethington Award for Research Excellence, University of Kentucky
2017-2023	Wethington Award for Research Excellence, University of Kentucky

VI. RESEARCH & INTELLECTUAL CONTRIBUTIONS

A. PUBLICATIONS

Peer-Reviewed Original Research in Professional, Scientific or Educational Journals

Articles published after being independent (* corresponding author)

1. Xu R*, Spencer VA, Levy D, Bissell MJ. Laminin regulates PI3K basal localization and activation to sustain STAT5 activation. *Cell Cycle*. 2010 Nov; 9(21):4315-22. PMID: 20980837.

i. *Editorial commentary. Cell Cycle, 2011.*

2. Spencer VA, Costes S, Inman JL, **Xu R**, Chen J, Hendzel MJ, Bissell MJ. Depletion of nuclear actin is a key mediator of quiescence in epithelial cells. *J Cell Sci.* 2011 Jan; 124(Pt 1):123. PMID: 21172822.

i. *Editorial Commentary. Integr Biol, volume 4.*

3. Xu R*. Mao J-H. Gene transcriptional networks integrate microenvironmental signals in human breast cancer. *Integr Biol*. 2011 Apr; 3(4):368-74. PMID: 21165486.
4. Pontiggia O, Sampayo R, Raffo D, Motter A, **Xu R**, Bissell, MJ, Joffé EB, Simian M. The tumor microenvironment modulates tamoxifen resistance in breast cancer: a role for soluble stromal factors and fibronectin through β1 integrin. *Breast cancer Res Treat.* 2011 Sep; 133(2):459-71. PMID: 21935603.
5. Yu T, Chen X, Zhang W, Li J, **Xu R**, Wang TC, Ai W, Liu C. Krüppel-like Factor 4 Regulates Intestinal Epithelial Cell Morphology and Polarity. *PLoS One* 2012; 7(2):e32492. PMID: 22384261.
6. Xiong G, Wang C, Evers BM, Zhou BP, **Xu R*.** RORα suppresses breast tumor invasion through inducing SEMA3F expression. *Cancer Research.* 2012 Apr; 72(7):1728-39. PMID: 22350413.
i. *News and Views: This week in therapeutics. SciBX 5(11).*
7. Liu H, Radisky DC, Yang D, **Xu R**, Radisky ES, Bissell MJ, Bishop JM. Myc suppresses cancer metastasis by direct transcriptional silencing of αv and β3 integrin subunits. *Nature Cell Biology* 2012 May; 14(6): 567-74. PMID: 22581054.
i. *Faculty of1000. Prime Recommended Article.*
ii. *Editorial comments: Oncogene. 2014; Nat Rev Cancer. 2012.*
8. Lee SE, Sasaki DY, Park Y, **Xu R**, Brennan JS, Bissell MJ, Lee LP. Photonic Gene Circuits by Optically Addressable siRNA-Au Nanoantennas. *ACS Nano.* 2012 Jul; 6(9):7770-80. PMID: 22827439.
9. Du J, **Xu R***. RORα, a Potential Tumor Suppressor and Therapeutic Target of Breast Cancer. (Review) *Int. J. Mol. Sci.* 2012, 13(12), 15755-15766. PMID: 23443091.
10. Lee S, Meier R, Furuta S, Lenburg ME, Kenny PA, **Xu R**, Bissell MJ. FAM83A confers EGFR-TKI resistance in breast cancer cells and in mice. *J Clinical Investigation*. 2012 Sep; 122(9):3211-20. PMID: 22886303.
i. *Research Watch. Cancer Discovery, 2012.*
11. Becker-Weimann S, Xiong G, Furuta S, Han J, Kuhn I, Akavia U, Pe'er D, Bissell MJ, **Xu R***. NFkB disrupts cellular polarity by preventing integration of microenvironmental signals. *Oncotarget* 2013, (11), 2010-20.
12. Xiong G, Deng L, Rychahou PG, Zhu J, **Xu R***. Prolyl-4-hydroxylase alpha subunit 2 promotes breast cancer progression and metastasis by regulating collagen deposition. *BMC Cancer* 2014, 14(1), 1. PMID: 24383403.
13. Xiong G, **Xu R***. RORα binds to E2F1 to Induce Cell Quiescence and Regulate Mammary Gland Branching Morphogenesis. *Molecular and Cellular Biology*. 2014, 34(16), 3066-75. PMID: 24891616.
14. Zhu J, Xiong G, Trinkle C, **Xu R***. Integrated extracellular matrix signaling in mammary gland development and breast cancer progression. *Histol Histopathol*. 2014 Sep;29(9):1083-92. PMID: 24682974.
15. Zhu J, Xiong G, Fu H, Evers BM, Zhou BP, **Xu R***. Chaperone hsp47 drives malignant growth and invasion by modulating an ECM gene network. *Cancer Research*. 2015, 75(8):1580. PMID: 25744716.
i. *Editorial Comments. Oncoscience, 2015.*
16. Xu R*. MiR-29/Hsp47 in ECM network. *Oncoscience*. Invited editorial. 2015 Sep; 2(10): 843. PMID: 26682273.

Ren Xu, 07/15/2023

17. Shu D, Li H, Shu Y, Xiong X, Haque F, **Xu R** and Guo P. Systemic Delivery of Anti-miRNA for Suppression of Triple Negative Breast Cancer Utilizing RNA Nanotechnology. *ACS Nano*. 2015, 9(10):9731. PMID: 26387848.

18. Xiong G, Flynn TJ, Trinkle C, and **Xu R***. Development of an *ex vivo* breast cancer lung colonization model utilizing decellularized lung matrix. *Integrative Biology*. 2015, 7(12):1518. PMID: 26563425.

i. *Featured on cover.*

ii. *UK news: 3-D Models of Spreading Tumors May Help Fight Cancer.*

19. Xiong G, **Xu R***, Function of cancer cell-derived ECM in tumor progression. *JCMT*. 2016. 2: 357-64.

20. Li L, Chen J, Xiong G, St Clair DK, Xu W and **Xu R***. Increased ROS production in non-polarized mammary epithelial cells induces monocyte infiltration in 3D culture. *J Cell Sci*. 2017. Jan 1;130(1):190-202. PMID: 27656113.

i. *Research highlight. Macrophages, 2017.*

ii. *UKnow: UK Study Unveils Novel Link Between Cell Polarity and Cancer-Associated Inflammation*

21. **Xu R***. Mammary epithelial polarity and macrophage infiltration. *Macrophages*, 2017; 4:e1521. PMID: 28664188.

22. Wang S, Li Z, **Xu R***, Cancer and platelet interaction, a potential therapeutic target. *Int. J. Mol. Sci.* Invited review, 2018 Apr;19(4):1246. PMID: 29677116.

23. Qi Y, **Xu R***, Roles of PLODs in Collagen Synthesis and Cancer Progression. *Frontiers in Cell and Developmental Biology*. Invited review, 2018 Jun 28;6:66. PMID: 30003082.

24. Zhang H, Fredericks T, Xiong G, Qi Y, Li J, Pihlajaniemi T, Xu W, and **Xu R***, Membrane associated collagen XIII promotes cancer metastasis and enhances anoikis resistance. *Breast Cancer Research*. 2018 Oct 1;20(1):116. PMID: 30367042.

i. *UKnow: New Markey study shows promise for targeting breast cancer metastasis.*

ii. *ecancer news: New study shows promise for targeting breast cancer metastasis*

iii. *News Medical: Targeting a protein could be key for suppressing breast cancer metastasis.*

iv. *Editorial on Oncotarget:* A novel function of membrane-associated collagen in cancer metastasis.

v.*EurekAlert:* www.eurekalert.org/pub_releases/2018-10/uok-nss100818.php

25. Xiong G, Stewart RL, Chen J, Gao T, Scott TM, Samayo LM, O'Connor K, Lane AN, **Xu R***, Collagen prolyl 4-hydroxylase 1 is essential for HIF-1α stabilization and chemoresistance in TNBC. *Nature Communications*. 2018 Oct 26;9(1):4456.

i. *UKnow: UK Study Finds Promising Therapeutic Target for Aggressive Type of Breast Cancer.*

ii. Mini review: *Cell Stress. Collagen P4H1 is a new regulator of the HIF-1 pathway in breast cancer*

iii. *Medicalxpress: Study finds promising therapeutic target for aggressive type of breast cancer*

26. **Xu R***, Collagen P4H1 is a new regulator of the HIF-1 pathway in breast cancer. *Cell Stress*. Invited review. 2019 Jan; 3(1):27. PMID: 31225497.

27. Zhang H, **Xu R***, A novel function of membrane-associated collagen in cancer metastasis. *Oncotarget*. Editorial. 2019. Apr 5;10(27):2577-2578. PMID: 31080548.

Ren Xu, 07/15/2023

28. Yin H, Xiong G, Guo S, **Xu R**, Guo P, Shu D. Delivery of Anti-miRNA for Triple Negative Breast Cancer Therapy Using RNA Nanoparticles Targeting to Stem Cell Marker CD133. *Molecular Therapy*, 2019. Jul; 27(7):1252-1261. PMID: 31085078.
29. Torabia S, Li L, Grabaua J, Berrond JV, **Xu R**, and Trinkle CA. Towards a Vascularized 3D Tissue Culture Model: Utilizing Cassie-Baxter Surfaces to Integrate Microfluidics and 3D Cell Culture. *Langmuir*. 2019 Aug; 35(32):10299. PMID: 31291112.
30. Jin J, Qiu S, Wang P, Liang X, Huang F, Wu H, Zhang B, Zhang W, Tian X, **Xu R***, Shi H*, Wu X. Cardamonin inhibits breast cancer growth by repressing HIF-1α-dependent metabolic reprogramming. *Journal of Experimental & Clinical Cancer Research*. 2019. Aug 27;38(1): 377. PMID: 31455352.
31. Chen J, Wang S, Zhang Z, and Richards CI, **Xu R***. Hsp47 binds to DDR2 and regulates its protein stability. *J Biol Chem.* 2019 Nov 8; 294(45):16846. PMID: 31570520.
32. Xiong G, Chen J, Zhang G, Wang S, Kawasaki K, Zhu J, Zhang Y, Nagata K, Li Z, Zhou BP, **Xu R***, Hsp47-dependent collagen deposition promotes cancer metastasis by inducing cancer cell-platelet interaction. *Proc Natl Acad Sci U S A*. 2020 Feb 18; 117(7):3748. PMID: 32015106.
i. News and Views: UKnow: Protein Could Offer Therapeutic Target for Breast Cancer Metastasis.
ii. News and Views: EurekAlert: https://www.eurekalert.org/pub_releases/2020-02/uok-pco020520.php.
33. Ning G, **Xu R**, Trinkle C, Grayscale Surface Patterning Using Electrophoretic Motion Through a Heterogeneous Hydrogel Material. *Electrophoresis*, 2020 Jul; 41(13-14):1160. PMID: 32386331.
34. Wang S, Lee K-H, Araujo N, Zhan C-G, Rangnekar VM, **Xu R*** Develop a High-Throughput Screening Method to Identify C-P4H1 (Collagen Prolyl 4-Hydroxylase 1) Inhibitors from FDA-Approved Chemicals. *Int. J. Mol. Sci.* 2020, *21*(18), 6613.
35. Xu R*, Zhou X, Wang S, Trinkle C. Tumor organoid models in precision medicine and investigating cancer-stromal interaction. *Pharmacology and Therapeutics*, 2021 Feb; 218: 107668. Invited review.
36. Mao W, Xiong G, Wu Y, Wang C, St Clair D, Li JD, **Xu R***. RORα Suppresses Cancer-Associated Inflammation by Repressing Respiratory Complex I-Dependent ROS Generation *Int. J. Mol. Sci.* 22 (19), 10665; 2021.
37. Wang P, Jin J, Liang X, Yang C, Huang F, Wu H, Zhang B, Fei X, Wang Z, **Xu R**, Shi H, Wu X. Helichrysetin inhibits gastric cancer growth through targeting c-Myc/PDHK1 axis-mediated cell metabolism reprogramming. *Acta Pharmacol Sin.* 2022 Jun;43(6):1581. PMID: 34462561.
38. Xiong G, **Xu R***. Retinoid orphan nuclear receptor alpha (RORa) suppresses the epithelial-mesenchymal transition (EMT) by directly repressing Snail transcription. *J Biol Chem.* 2022 May 20:102059. PMID: 35605663.
39. Li J, **Xu R***. Obesity-Associated ECM Remodeling in Cancer Progression. *Cancers.* 2022, Nov 19;14(22):5684. PMID: 36428776. Invited review.
40. Tong Y, Qi Y, Xiong G, Li J, Scott TL, Chen J, Li L, He D, Wang C, Lane AN. **Xu R***. The PLOD2/Succinate axis regulates the epithelial-mesenchymal plasticity and cancer cell stemness. *Proc Natl Acad Sci U S A.,* May 8, 2023, 120 (20). PMID: 37155842.
i. News and Views: UKnow: Markey study identifies new treatment target for metastatic cancer.

Ren Xu, 07/15/2023

ii. News and Views: MedicalXpress: Study identifies new treatment target for metastatic cancer.
*iii.*News and Views: TechnologyNetworks: Promising Treatment Target for Metastatic Breast Cancer Identified.
*iv.*News and Views: Front Line Genomics: Succinate and PLOD2: new players in breast cancer metastasis.

Articles published during postdoctoral training.

41. Xu R (co-first author), Le Beyec L, Lee SY, Nelson CM, Rizki A, Alcaraz J and Bissell MJ. Cell shape regulates global histone acetylation in human mammary epithelial cells. *Exp Cell Res.* 2007 Aug; 313(14): 3066-75.
i. Highlighted by the editor

42. Xu R, Spencer VA, Bissell MJ. Extracellular matrix-regulated gene expression requires cooperation of SWI/SNF and transcription factors. *J Biol Chem.* 2007 May; 282(20): 14992-9.

43. Faddy HE, Smart CE, **Xu R**, et al; Localization of plasma membrane and secretory calcium pumps in the mammary gland. *Biochem Biophys Res Commun.* 2008 May; 369(3):9 77-81.

44. Alcaraz J, **Xu R**, Mori H, Nelson CM, Mroue R, Spencer VA, Brownfield D, Radisky DC, Bustamante C and Bissell MJ. Laminin and biomimetic extracellular elasticity enhance functional differentiation in mammary epithelia. *EMBO J.* 2008. Nov; 27(21): 2829-38.
i. Faculty of 1000 evaluations

45. Xu R*, Nelson CM, Muschler JL, Veiseh M, Vonderhaar BK and Bissell MJ*. Sustained activation of STAT5 is essential for chromatin remodeling and maintenance of mammary-specific function. *J Cell Biol.* 2009 Jan; 184(1): 57-66.
i. Editor Highlight. *It takes two to party with chromatin. J Cell Biol*
ii. Faculty of 1000 evaluations
iii. Commentary on NCI website

46. Xu R*, Boudreau A, Bissell MJ. Tissue architecture and function: Dynamic reciprocity via extra- and intra-cellular matrices (review). *Cancer Metastasis Rev. 2009 Jun; 28(1-2): 167-76.*

47. Spencer VA, **Xu R**, Bissell MJ. Gene expression in the third dimension: The ECM-nucleus connection. *J Mammary Gland Biol Neoplasia*. 2010 Mar;15(1):65-71.

48. Zhang F, **Xu R**, Zhao MJ. QSG-7701 human hepatocytes form polarized acini in three-dimensional culture. *J Cell Biochem. 2010 Aug 1;110(5):1175-86.*

Articles published during Ph.D.

49. Xu R, Xin L, Gan RB. Two novel anti-tumor molecules (review). *Chemistry of life.* 1999 19(1), 21-25.

50. Xin L, **Xu R**, Zhang Q, Li YP and Gan RB. Kringle 1 of human hepatocyte growth factor inhibits bovine aortic endothelial cell proliferation stimulated by basic fibroblast growth factor and causes cell apoptosis. *Biochem Biophys Res Commun.* 2000 Oct; 277(1): 186-90.

51. Xin L, Zhang L, **Xu R**, Zhang Q, Ye Q, Li TP, Gan RB. Expression of Human Angiostatin in Pichia pastoris and the Detection of Its Anti-angiogenic Activity. *Acta Biochemica et Biophysica Sinica.* 2001; 33(3): 291-295.

52. Fan Y, Wu D, Gong Y, **Xu R**, Hu Z. Metabolic responses induced by thrombin in human umbilical vein endothelial cells. *Biochem Biophys Res Commun.* 2002 May; 293(3): 979-85.

53. Xu R, Xin L, Zhang JM, Li TP and Gan RB. Restin expressed in vivo suppresses the growth of tumors in nude mice. *Acta Biochemica et Biophysica Sinica.* 2002 Sep; 34(5): 571-5.

Ren Xu, 07/15/2023

54. Xu R, Xin L, Fan Y, Meng HR, Li TP and Gan RB. Mouse restin inhibits bovine aortic endothelial cell proliferation and causes cell apoptosis. *Acta Biochemica et Biophysica Sinica*. 2002 Mar; 34(2): 138-42.
55. Xu R, Du P, Fan JJ, Zhang Q, Li TP and Gan RB. High-level expression and secretion of recombinant mouse endostatin by Escherichia coli. *Protein Expression Purif.* 2002 Apr; 24(3): 453-9.
56. Xu R, Yao ZY, Xin L, Zhang Q, Li TP and Gan RB. NC1 domain of human type VIII collagen (alpha 1) inhibits bovine aortic endothelial cell proliferation and causes cell apoptosis. *Biochem Biophys Res Commun.* 2001 Nov; 289(1): 264-8.
57. Zhou QW, Xie JL, Xin L, **Xu R**, Ye Q, Li ZP and Gan RB. Expression and characterization of Kringle 1-4.5 domains of human plasminogen. *Acta Biochemica et Biophysica Sinica.* 2003 Feb; 35(2): 138-42.
58. Ren MS, Lu CZ, Qiao J, Ren HM, **Xu R**, Gan RB. Expression and subcellular localization of P9-ZFD protein in patients with myasthenia gravis. Chin Med Sci J. 2004 Sep; 19(3): 221-4.

Books, Book Chapters, Monographs

1. Spencer VA., **Xu R.**, Bissell MJ. Extracellular Matrix, Nuclear and Chromatin Structure and Gene Expression in Normal Tissues and Malignant Tumors: A Work in Progress (Review). *Advances in Cancer research*, 2007; 97: 275-94.
2. **Xu R**, Gan RB., Restin, A Potent Angiogenesis Inhibitor Derived from Type XV Collagen. *Trends in Angiogenesis Research* (Chapter V) *NOVA publisher* 2005.

Complete List of Published Work in MyBibliography:
http://www.ncbi.nlm.nih.gov/sites/myncbi/14qxfnvh-p7kj/collections/47181190/public/

Patents

1. Application number: ZL01112962.X (P.R. China); Application date: May 23rd, 2001.Recombinant Human Vastatin with inhibitory activity to endothelial cell proliferation. Issued.
2. Application number: 10/267,137 (U.S. Patent); Publication number: US 2003/0148950 A1. Kringle domain 1 of human hepatocyte growth factor and uses therefore.
3. Application number: 15/968,262 (U.S. Patent); Cell culture device and methods and use thereof. Filed in 2018. Issued in 2022.
4. Application number: PCT/US20/48582 (International); Collagen P4H1 inhibitor and its use. Filed in 2020.
5. Application number: 63058161 (U.S. Patent); Methods of inhibiting procollagen-lysine, 2-oxoglutarate 5-dioxygenase. Filed in 2021
6. Application number: 63/483,928 (U.S. Patent); Method of Identifying and Method of Using Compounds as Major Histocompatibility Complex Class I (MHC-1) Activators. Filed in 2023.

B. ABSTRACT PRESENTATIONS

National/International Meetings

1. Dec 2003. **Xu R**, Myers C, Bissell MJ. Title: SAHA treatment phenotypically reverts the malignant HMT3522 T4-2 human breast cell line in three dimensional cultures. ASCB Annual Conference. Poster.

Ren Xu, 07/15/2023

2. Nov, 2004. **Xu R**, Bissell MJ. Title: From extracellular signaling to chromatin remodeling: how do extracellular matrix and prolactin regulate β-casein transcription. AACR chromatin, chromosomes, and cancer epigenetics meeting. Poster.
3. Dec, 2005. **Xu R**, Bissell MJ. Title: SWI/SNF complex and histone acetylation cooperate with Stat5 and C/EBPβ to regulate β-casein transcription. ASCB Annual Conference. Poster.
4. May, 2005. **Xu R**, Bissell MJ. Title: Chromatin Remodeling Cooperates with Transcription Factors to Regulate Functional Differentiation of Mammary Epithelial Cells. Era of Hope - Department of Defense Breast Cancer Research Program Meeting. Poster.
5. Dec, 2006. **Xu R**, Bissell MJ. Title: Cell rounding induced global histone deacetylation in mammary epithelial cells. ASCB Annual Conference. Poster.
6. July, 2007. **Xu R**, Spencer V, Bissell MJ. Title: Cell shape regulates global histone acetylation in human mammary epithelial cells. FASEB Summer Research Conference. Poster.
7. Dec, 2008. **Xu R**, Levy D, Bissell MJ. Title: Laminin-dependent PI3K Signaling Regulates Sustained Activation of STAT5. ASCB Annual Conference. Poster.
8. Dec, 2008. Y. Onodera, **Xu R**, Bissell MJ. Title: Integration of Form and Function in Normal Mammary Gland and Breast Cancer Includes Glucose Transport and Its Metabolic Patterns. ASCB Annual Conference. Poster.
9. Dec, 2008. Spencer VS, Inman J, Chen J, **Xu R** *et al*. Title: Nuclear Actin Is a Key and Early Player for Laminin-induced Transcriptional Repression and Growth Inhibition in the Mammary Gland. ASCB Annual Conference. Poster.
10. July, 2009. **Xu R**, Nelson CM, Muschler JL *et al*. Mammary gland biology, Title: ECM sustains STAT5 activation required for functional differentiation of mammary epithelial cells. Gordon Research Conference. Poster.
11. April, 2012. Xiong G, **Xu R**. RORα suppresses mammary tumor progression by inducing SEMA3F expression. AACR Annual Meeting. Poster
12. Dec, 2013. Xiong G, **Xu R**. RORα binds to E2F1 to inhibit cell proliferation and cell cycle progression. ASCB Annual Conference. Poster.
13. April, 2015. Zhu J, Xiong G, **Xu R**. MiR-29/Hsp47 axis drives tumor growth and invasion by modulating the ECM network. AACR Annual Meeting. Poster.
14. April, 2017. Xiong G, **Xu R**. P4HA1 is a potential therapeutic target for TNBC. AACR Annual Meeting. Poster.
15. April, 2018. Zhang H, **Xu R**. Membrane associated Collagen XIII promotes breast cancer metastasis by enhancing cancer cell invasion and anoikis resistance. AACR Annual Meeting. Poster.
16. Aug, 2018. Xiong G, **Xu R**. Develop a novel *ex vivo* model for breast cancer lung colonization. Gordon Research Conference on Signal Transduction by Engineered Extracellular Matrices. Poster.
17. April, 2019. Xiong G, **Xu R**. Novel function of P4HA1 in regulating HIF-1 pathway and TNBC chemoresistance. AACR Annual Meeting. Poster.
18. July, 2019. Xiong G, **Xu R**. Novel function of P4HA1 in regulating HIF-1 pathway and TNBC chemoresistance. Gordon Research Conference on Collagen. Poster.

Local/State/Regional Meetings

Ren Xu, 07/15/2023

1. April, 2011. Gaofeng Xiong, Debopriya Das, Mina J Bissell, **Ren Xu**. Transcription factors integrate microenvironmental signals to regulate 3D tissue organization in breast cancer cells. Markey Cancer Research Day. Poster.
2. April, 2012. Gaofeng Xiong, **Ren Xu**. RORα suppresses breast tumor progression by inducing SEMA3F expression. Markey Cancer Research Day. Poster.
3. May, 2013. Gaofeng Xiong, **Ren Xu**. Nuclear Receptor ROR alpha Suppresses Cancer Cells Proliferation and cell cycle progression by directly binding to E2F1. Markey Cancer Research Day. Poster.
4. May, 2014. Gaofeng Xiong, Lei Deng, Jieqing Zhu, Piotr G. Rychahou, **Ren Xu**. Prolyl-4-hydroxylase α subunit 2 promotes breast cancer progression and metastasis by regulating collagen deposition. Markey Cancer Research Day. Poster.
5. Nov, 2014. Gaofeng Xiong, **Ren Xu**. RORα Binds to E2F1 to Induce Cell Quiescence and Regulate Mammary Gland Branching Morphogenesis. CCTS Regional meeting. Poster.
6. May, 2015. Gaofeng Xiong, **Ren Xu**. RORα suppresses breast cancer cell metastasis by repressing Snail transcription. Markey Cancer Research Day. Poster.
7. May 2015. Jie Chen, Jieqing Zhu, Gaofeng Xiong, **Ren Xu**. Hsp47 expression is activated during EMT and promotes cancer development and progression. Markey Cancer Research Day. Poster. **Best poster award**.
8. May, 2016. Gaofeng Xiong, **Ren Xu**. An *ex vivo* lung colonization model. Markey Cancer Research Day. Poster. **Selected for oral presentation**.
9. May 2016. Linzhang Li, **Ren Xu**. Disruption of mammary epithelial polarity induces macrophage infiltration in 3D culture. Markey Cancer Research Day. Poster.
10. May, 2017. Xiong G, **Xu R**. P4HA1 is a potential therapeutic target for TNBC. Markey Cancer Research Day. Poster.
11. May, 2018. Xiong G, **Xu R**. P4HA1 promote TNBC chemoresistance the through HIF-1 pathway. Markey Cancer Research Day. Poster.
12. April, 2018. Zhang H, **Xu R**. Membrane associated Collagen XIII promotes breast cancer metastasis by enhancing cancer cell invasion and anoikis resistance. Markey Cancer Research Day. Poster.

VII. SPEAKING ENGAGEMENTS

National/International

	Asilomar Chromatin and Chromosomes Conference Asilomar, CA
12/2005	Asilomar Chromatin and Chromosomes Conference: "SWI/SNF cooperates with Stat5 and C/EBPβ to regulate functional differentiation in MECs"
	The American Society for Cell Biology Washington D.C.
12/2007	The American Society for Cell Biology 47th Annual Meeting: "A Novel Link Between Exposure of Prolactin Receptor, Sustained Activation of STAT5, and Histone Acetylation in Regulation of Differentiated Function in Mammary Epithelial Cells in Three Dimensional Cultures"

Ren Xu, 07/15/2023

	Shanghai Apeloa Pharmaceutical Research Institute Shanghai, China
10/2007	Invited lecture: "Three-dimensional Culture in Drug Screening"
	The Endocrine Society San Francisco, CA
04/2008	The Endocrine Society's 90th Annual Meeting: "ECM Signaling: Sustained STAT5 Activation, Histone Acetylation & Milk Production"
	Shanghai Institute of Biochemistry and Cell Biology Shanghai, China
03/2009	Invited lecture: ECM Integrates Tissue Architecture and Function in Three Dimensional Culture Model.
	The 6'th International Forum On Post-Genome Technologies Beijing, China
09/2009	Invited presentation: "Put genome in context, transcriptional regulation in three-dimensional ECM microenvironment"
	University of Kentucky Lexington, KY
11/2009	Invited Seminar, University of Kentucky: "Integrated microenvironmental signals in tissue organization and function"
	Shanghai University of Traditional Chinese Medicine Shanghai, China
11/2012	Invited lecture: "Identify RORα as a potential tumor suppressor using 3D culture model"
	Johns Hopkins University, School of Medicine, Baltimore
04/2014	Invited lecture: "Identify Key regulators of Tumor Progression Using 3D Culture Model"
	Forefront of Life Science Forum Shanghai, China
08/2015	Invited presentation: "ECM in Breast Cancer development and progression"
	Nanjing University, Model Animal Research Center Nanjing, China
08/2015	Invited lecture: "Extracellular matrix, a network in and out of cells"
	Breast Cancer Evidence Update, Manipal University Manipal, India

Ren Xu, 07/15/2023

02/2017	Invited lecture: "ECM network in breast cancer progression"
	International Breast Cancer Symposium, NCCS.
	Pune, India
02/2017	Invited presentation: "ECM network in breast cancer progression"
	Gordon Research Conference
	Colby-Sawyer College, New London, NH
07/2017	Invited presentation: "Hsp47, a Hub of the ECM Network, in Breast Cancer Progression"
	University of Colorado Medical School, Pharmacology Department
	Denver, Colorado
08/2017	Invited seminar: "ECM network in breast cancer progression"
	University of New Mexico, Comprehensive Cancer Center
	Albuquerque, New Mexico
03/2018	Invited seminar: "ECM network in breast cancer progression"
	Central South University
	Changsha, China
07/2018	Invited seminar: "RORα, a novel link between tissue polarity and inflammation"
	University of Alabama at Birmingham, Department of Pathology
	Birmingham, Alabama
08/2018	Invited seminar: "ECM network in breast cancer progression"
	Tissue Engineering and Regenerative Medicine, 2018 (TERM-2018)
	Baltimore, MD
10/2018	Featured Speaker: "Develop novel 3D culture models for cancer research"
	University of Minnesota, Department of Laboratory medicine and Pathology.
	Minneapolis, MN
11/2018	Invited seminar: "ECM network in breast cancer progression"
	Roswell Park Cancer Center, Department of Molecular and Cell Biology.
	Buffalo, New York
01/2019	Invited seminar: "ECM network in breast cancer progression"
	Indiana University School of Medicine, Department of Medical and Molecular Genetics
	Indianapolis, Indiana
02/2019	Invited seminar: "ECM network in breast cancer progression"

Ren Xu, 07/15/2023

	University of Louisville, James Graham Brown Cancer Center Louisville, Kentucky
05/2019	Invited seminar: "ECM network in breast cancer progression"
	University of Cincinnati, Department of Cancer Biology Cincinnati, Ohio
09/2019	Invited seminar: "Targeting the ECM network blocks breast cancer progression."
	Michigan State University, Department of Physiology East Lansing, MI
10/2019	Invited seminar: "Targeting the ECM network blocks breast cancer progression."
	Cancer Stem Cells: Impact on Treatment International Virtual Conference
12/2020	Symposium Seminar: A novel function of collagen hydroxylation in regulating the HIF-1 pathway
	Indo-American Cancer Consortium Mini-Symposium International Virtual Conference
01/2021	Targeting CP4H1 sensitizes TNBC to chemotherapy
	Cancer Research and Drug Development National Virtual Conference Section Chair: Role of Metabolism and Tumor Microenvironment
10/2021	Symposium Seminar: Targeting platelet/cancer cell interaction to halt cancer metastasis
	University of Alabama at Birmingham, O'Neal CCC Birmingham, Alabama
11/2021	Invited seminar: "A novel function of collagen Hydroxylation in TNBC chemoresistance"
	2nd International Conference "Cancer Metastasis", Austria International Virtual Conference;
12/2021	Section chair Symposium Seminar: Roles of cancer cell-platelet interaction in breast cancer metastasis
	University of Pennsylvania, Department of Radiology Philadelphia, Pennsylvania
03/2022	Invited seminar: "ECM network in breast cancer progression"
	Weill Cornell Medicine, MJB Symposium

Ren Xu, 07/15/2023

	New York City, New York
05/2022	Moderator of Section 3-Metabolism
	Webinar: Impact of Obesity and Diabetes on Breast Cancer - JCMT
	Online
09/2022	Invited presentation: Obesity-associated poor prognosis in Appalachian breast cancer patients.
	Case Western Res University, Department of Pathology
	Cleveland, OH
09/2023	Invited Seminar: Novel insights into function of ECM in breast cancer progression.
	7th Intl Conference of Drug Discovery and Lead Optimization
	San Francisco, CA
11/2023	Invited presentation: Drug repurposing to target P4HA1 in TNBC treatment.

Regional and Local

	Lawrence Berkeley National Laboratory
	Berkeley, CA
06/2006	Life Science Division Retreat: "ECM regulates β-casein expression by modulating chromatin remodeling."
	University of Kentucky/School of Medicine
	Lexington, KY
04/2011	Markey Cancer Research Seminar: "Roles of RORα in suppressing breast cancer progression."
03/2013	Breast Cancer Symposium: "Identify RORα as a potential tumor suppressor in 3D culture."
03/2014	Breast Cancer Symposium: "Silencing P4HA2 suppresses breast cancer progression by inhibiting collagen deposition."
04/2015	Breast Cancer Symposium: "Hsp47 promotes breast progression by modulating the ECM network."
10/2015	Markey Cancer Research Seminar: "Roles of Hsp47 in breast cancer progression and metastasis"
04/2016	Keynote Speaker. Breast Cancer Symposium: "Targeting ECM microenvironment for TNBC treatment."
04/2016	Markey seminar for high school student: "Cancer, a disease above and beyond gene mutation."
03/2017	Breast Cancer Symposium: "Roles of Hsp47 in TNBC progression"
04/2017	Middle/high school Meet the researcher program: "Utilizing microscopic techniques to study cancer cells."
11/2017	Department of Pathology and Laboratory Medicine Grand Rounds Seminar: "ECM network in breast cancer progression"

Ren Xu, 07/15/2023

05/2018	Breast Cancer Symposium: "RORα, a novel link between tissue polarity and inflammation"
09/2018	Markey Seminar Series: "Novel function of collagen hydroxylation in breast cancer progression"
05/2019	Breast Cancer Symposium: "Novel function of membrane associate collagen in breast cancer metastasis"
07/2019	2019 Cancer and Metabolism Symposium, University of Kentucky: "Novel function of collagen hydroxylation in breast cancer progression"
05/2022	Selected faculty presentation at the Markey Research Day: "ECM network in breast cancer progression"
06/2023	Chair of Breast Cancer Symposium: "Hsp47, a novel link between obesity and breast cancer progression"
10/2023	Department of Toxicology and Cancer Biology. Invited Seminar: Novel insights into function of ECM in breast cancer progression.

VIII. TEACHING ACTIVITIES

University of Kentucky/School of Medicine
Lexington, KY

01/2013-2021	The Biology and Therapy of Cancer (MI/MED/PHA 616) course/Tumor microenvironment section; MD, Ph.D, and master student
01/2013-current	Molecular Drug Targets and Therapeutics (PHA622-003)/Cancer Drug Resistance section; Ph.D. and master student
01/2012-2013	IBS 602/Discussion Leader. Ph.D. and master student
01/2013-01/2016	Pharmacology module (IBS608)/Anti-cancer drugs section; Ph.D. and master student
08/2015-05/2016	BIO199/Authentic Research Experience for STEMCats
08/2017-2019	BIO 395; the independent mentored research program
04/2017-2020	Middle/high school Meet the researcher program: "Utilizing microscopic techniques to study cancer cells"
06/2019	Career development seminar for Summer Undergraduate Research Fellows in Pharmacology (SURF) program
06/2019-2021	Mentor of the Appalachian Career Training in Oncology (ACTION) Program
09/2019-current	Course co-director; PHA 630/Special Topics in Pharmacology----Cancer/Pharmacology Reading Course

Course Development

03/2019	Co-director; Collaborate with Drs. Yadi Wu and Qing-Bei She to develop PHA 630/Special Topics in Pharmacology----Cancer/Pharmacology Reading Course.

IX. ADVISING ACTIVITIES

Student and Postdoctoral Fellow Advising

Lawrence Berkeley National Laboratory
Berkeley, CA

05/2006-09/2006	Master student summer intern mentor/Jelani Zarif/Life Science Division
09/2008-07/2009	Honor thesis mentor/Sonia Lin/2009/Life Science Division

University of Kentucky/School of medicine
Lexington, KY

Student

10/2010-06/2011	Volunteer student mentor/ Lei Deng/Markey Cancer Center (completed)
07/2014-06/2015	Master student mentor/ Shuiping Qiu, Master student/ Department of Pharmacology and Nutritional Sciences
11/2016-05/2017	Master student thesis dissertation committee/ Bingwei Xu, Master student/ Department of Pharmacology and Nutritional Sciences
09/2016-10/2017	Ph.D. student thesis dissertation committee/ Zhenyi Zhao/Ph.D.
03/2018-04/2018	Master student thesis dissertation committee/ Madison Sands, Department of Pharmacology and Nutritional Sciences
09/2014-09/2016	Ph.D. student mentor/LinZhang Li, Ph.D. student/ Department of Pharmacology and Nutritional Sciences
12/2016-07/2018	Ph.D. student mentor/Hui Zhang, Ph.D. student/ Department of Pharmacology and Nutritional Sciences
02/2018-02/2022	Ph.D. student mentor/Wei Mao, Ph.D. student/ Department of Pharmacology and Nutritional Sciences
09/2014-06/2020	Ph.D. student advisory committee/ Soroosh Torabi/Ph.D. student/Department of Mechanical Engineering
09/2016-06/2020	Ph.D. student advisory committee/ Ning Ge/Ph.D. student/Department of Mechanical Engineering student/UK College of Pharmacy
09/2014-06/2020	Ph.D. student advisory committee/ Nathalia Vitoria Araujo, Ph.D. student/Department of Toxicology
07/2018-06/2022	Ph.D. student advisory committee/ Ashley Stevens, Ph.D. student/Department of Molecular and Cellular Biochemistry
07/2018-current	Ph.D. student advisory committee/ Anastasia Lyon, Ph.D. student/ Department of Pharmacology and Nutritional Sciences
08/2019-07/2023	Ph.D. student advisory committee/ Sumati R. Hasani, Ph.D. student/Department of Molecular and Cellular Biochemistry.
06/2019-08/2019	Mentor of Markey's Appalachian Career Training in Oncology Program /Rachel Collins, High school student.
08/2020-current	Ph.D. student advisory committee/ Na Ding, Ph.D. student/Department of Toxicology and Cancer Biology.
02/2021-current	Ph.D. student advisory committee/ Zhongchao Yi, Ph.D. student/Department of Biomedical Engineering.
08/2022-current	Ph.D. student advisory committee/Marisa Gilliam, Ph.D. student/ Department of Molecular and Cellular Biochemistry
06/2022-current	Ph.D. student advisory committee/ Maria Nur, Ph.D. student/Department of Toxicology and Cancer Biology.

Ren Xu, 07/15/2023

09/2023-current	Ph.D. student advisory committee/Haley Stanczyk, Ph.D. student/ Department of Molecular and Cellular Biochemistry

Postdoctoral fellow

08/2023-current	Postdoctoral fellow mentor/Ahmed Gamal, Ph.D./ Markey Cancer Center
09/2023-current	Postdoctoral fellow mentor/Haizhu Shi, Ph.D./ Markey Cancer Center
06/2020-05/2023	Postdoctoral fellow mentor/Junyan Li, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed)
08/2017-06/2021	Postdoctoral fellow mentor/Shike Wang, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed)
08/2018-12/2020	Postdoctoral fellow mentor/Yuxin Tong, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed). Current Associate Professor at Chinese Medical University
01/2017-07/2018	Postdoctoral fellow mentor/Yifei Qi, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed). Current Associate Professor at Sun Yat-sen University Current: Faculty at Guangzhou Women and Children's Medical Center.
09/2010-12/2014	Postdoctoral fellow mentor/Gaofeng Xiong, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed). Current Assistant Professor at Ohio State University.
07/2012-05/2013	Postdoctoral fellow mentor/Jun Du, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed). Current Associate Professor in the Department of Physiology, Nanjing Medical University
09/2012-03/2014	Postdoctoral fellow mentor/Jieqing Zhu, Ph.D./ Department of Pharmacology and Nutritional Sciences (completed). Current Senior Scientist in Biotech company.
07/2014-05/2016	Visiting scholar mentor/Jie Chen, M.S./ Department of Pharmacology and Nutritional Sciences.
08/2018-04/2019	Visiting scholar mentor/Amit Rahi, Ph.D./ Department of Pharmacology and Nutritional Sciences
07/2019-09/2020	Visiting scholar mentor/Xiaotao Zhou, Ph.D./ Department of Pharmacology and Nutritional Sciences

Junior Faculty Advising

12/2016-06/2018	Dr. Xiaoqin Jennifer Wang, Assistant professor of radiology, School of medicine.
10/2018-12/2019	Dr. Kyle Flack, Assistant Professor, Department of Dietetics and Human Nutrition.
06/2019-03/2023	Dr. Caigang Zhu, Assistant Professor, College of Engineering.
09/2019-current	Dr. Gaofeng Xiong, Research Assistant Professor, Department of Pharmacology and Nutritional Sciences.
05/2021-current	Dr. Xia Liu, Assistant Professor, Department of Toxicology and Cancer Biology.
01/2022-current	Dr. Houfu Guo, Assistant Professor, Department of Molecular and Celluar Biochemistry.

Ren Xu, 07/15/2023

Clinician Fellow Advising

University of Kentucky/School of medicine
Lexington, KY

06/2016-09/2018 Clinician fellow mentor/Tricia Fredericks/Markey Cancer Center
Current Assistant Professor at University of Nebraska Medical Center.

X. ADMINISTRATIVE ACTIVITIES & UNIVERSITY SERVICE

University of Kentucky
Lexington, KY

Administration

09/2012-12/2017 Committee member, Internal advisor for MCC's Biostatistics core
01/2013-06/2013 Committee member, Breast Cancer Symposium Organization Committee
08/2017-05/2019 Committee member, Department Chair Search Committee
08/2020- Leadership team member, Markey Cancer Center Basic Science Program
08/2020-12/2020 Committee member, Department Research Evaluation Committee
06/2021-current Director, Breast Cancer Translational Research Group

Education & Research

07/2013-current Member, Markey Research Seminar Advisory Committee
06/2019-current Director, Markey Research Seminar Advisory Committee
09/2013-07/2015 Chair, Cancer Center Journal Club
02/2020-07/2022 Cancer Biology T32 Evaluation Committee
10/2022-current Member of IBS admission committee, School of Medicine

Out reaching

04/2016 Markey seminar for high school students: "Cancer, a disease above and beyond gene mutation"
04/2017 Middle/high school Meet the researcher program: "Utilizing microscopic techniques to study cancer cells"
04/2018 Middle/high school Meet the researcher program: "Utilizing microscopic techniques to study cancer cells"
06/2018 Markey Cancer Center Fundraising Event, meet with community and introduce breast cancer research at cancer center
04/2019 Middle/high school Meet the researcher program: "Utilizing microscopic techniques to study breast cancer development and progression"
10/2021-current Community Impact Ambassador, Markey Cancer Center
09/2023 Invited presentation at Community Ambassador Board Meeting
10/2023 Markey Cancer Center Fundraising Event, Frankfort Country Club Rally For a Cure

XI. PROFESSIONAL ACTIVITIES, PUBLIC SERVICE & PROFESSIONAL DEVELOPMENT

Ren Xu, 07/15/2023

Memberships

12/2002-current	American Society of Cell Biology
05/2010-current	American Association of Cancer Research

Review Panels

	Molecular Diagnostics in Cancer Therapeutic Development: Challenges and New Horizons
05/2010-09/2010	member of the review committee
	CUNY Collaborative Incentive Research Grant
01/2011-06/2011	member of the review panel
	APHA Cancer Forum
06/2012-12/2012	member of the review committee
	Chinese Government Fellowship for Outstanding Self-Financed Student Abroad
09/2014-12/2012	member of the review panel
	Austrian Science Fund (FWF)
07/2014-11/2014	member of the review panel
	Medial Research Council (United Kingdom), CRTF
09/2014-1/2015	member of the review panel
	AIBS, New York State Breast Cancer Program
04/2015-09/2015	member of the review panel
	Avon Breast Cancer Research Program
04/2016-05/2016	member of the review panel
	American Cancer Society, Institutional Research Program
09/2015-10/2016	member of the review committee
	Biomedical Research Fellowship Program for India
07/2016-08/2016	member of the review panel
	CCSG Pilot Grant
10/2016-11/2016	member of the review panel
	Avon Breast Cancer Research Program
02/2017-04/2017	member of the review panel
	CCTS Pilot Grant

Ren Xu, 07/15/2023

03/2017-04/2017	member of the review panel
	Biotechnology and Biological Sciences Research Council (BBSRC), United Kingdom
03/2017-04/2017	member of the review panel
	METAvivor
08/2017-09/2017	member of the review panel
	NCI TME study section
09/2017-10/2017	Ad hoc reviewer
	New York State Peter T. Rowley Breast Cancer Research
12/2017-01/2018	member of the review panel
	American Cancer Society, Institutional Research Program
02/2018-03/2018	member of the review panel
	Kansas University, COBRE Research Program
03/2018-04/2018	external reviewer
	India Alliance Fund
08/2018-09/2018	External reviewer
	Icelandic Research Fund
09/2018-10/2018	External reviewer
	NCI TME study section
09/2018-10/2018	Ad hoc reviewer
	CCTS Pilot Grant
10/2018-01/2019	member of the review panel
	NIH ZRG1 F09C-Q Study section
02/2019-03/2019	Ad hoc reviewer
	Department of Defense, Breast Cancer Research Program
05/2019-06/2019	member of the review panel
	NIH ZRG1-OBT-D Cancer Biology SEP study section
05/2019-07/2019	Ad hoc reviewer
	Medial Research Council (United Kingdom)
06/2019-06/2019	member of the review panel

Ren Xu, 07/15/2023

	Research Funding Department, University of Sharjah (United Arab Emirates)
07/2019-07/2019	Ad hoc reviewer
	Barts Charity, the Royal London Hospital, Whipps Cross Hospital & Newham General Hospital (United Kingdom)
08/2019-09/2019	Ad hoc reviewer
	CCSG Pilot Grant
08/2019-10/2019	member of the review panel
	ACS Institutional Grant
10/2019-11/2019	member of the review panel
	Florida Department of Health Biomedical Research Programs
10/2019-01/2020	member of the review panel
	NIH ZRG1 OBT-C M Member Conflict: Cancer Biology
09/2019-11/2019	Ad hoc reviewer
	CCSG Pilot Grant
04/2020-05/2020	member of the review panel
	UIUC faculty promotion
04/2020-05/2020	External Evaluator
	Cancer Inserm – PCSI, France
06/2020-07/2020	External reviewer
	Florida Department of Health Biomedical Research Programs
10/2020-12/2020	member of the review panel
	Icelandic Research Fund
09/2020-11/2020	External reviewer
	Breast Cancer Now (United Kingdom)
10-2021-11/2021	External reviewer
	The Grant from Chief Scientist Office of the Scottish Government
04/2022-05/2022	External reviewer
	New York State Peter T. Rowley Breast Cancer Research
12/2019-current	member of the review panel
	Department of Defense, Breast Cancer Research Program
06/2015-current	member of the review panel

Ren Xu, 07/15/2023

NCI TME/THI study section

07/2019-06/2023 Regular member of the review panel

Editorial Boards

01/2014-current Journal of Cancer Metastasis and Therapy
01/2015-current Turkish Journal of Biology
10/2019-current Frontiers in Cell and Developmental Biology
01/2023-current Genes & Diseases

Journal Peer-Reviewing

Nature Communications, Cancer research, Blood, Advanced Science, Oncogene, J Advanced Research. Breast Cancer Research, Breast Cancer, Theronostics, Journal of Hematology & Oncology, Blood Advances, Clinical and Translational Medicine, Cell Communication and Adhesion, iScience, British Journal of Cancer, Development Biology, PLOS Computational Biology, PLOS One, Clinical Cancer Research, International Journal of Molecular Science, Molecular Cancer Research, Histol Histopathol, Integrative Biology, Cell Adhesion & Migration, Journal of Investigative Dermatology, Scientific Reports, Tumor Biology, Molecular Cancer, Molecular Carcinogenesis, Journal of Hematology & Oncology, Cell & Bioscience, Cellular Physiology and Biochemistry, Journal of Visualized Experiments, Life Science Alliance.

XII. FUNDING AND GRANT APPLICATION

Active funding

Title: Roles of Hsp47 in breast cancer progression
Project Number: 2R01CA207772
Principal Investigator(s): Ren Xu
Role in Project: PI
Source of Funding: NCI
Duration of Project 03/2017-06/2027, scored at 1%
Effort: 25%

Title: Roles of RORα in breast cancer development and progression
Project Number: 1R01CA215095-01
Principal Investigator(s): Ren Xu
Role in Project: PI
Source of Funding: NCI
Duration of Project 07/2017-06/2024
Effort: 15%

Project Title: Roles of mRNA transfer in cancer cell-platelet communication.

Ren Xu, 07/15/2023

Project Number:	1R01 CA277946-A1
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NIH
Duration of Project	07/2023-06/2028, scored at 1%
Effort:	27%

Project Title:	The PLOD2/succinate axis in regulating cancer cell plasticity and stemness
Project Number:	R01CA274981-01A1
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NIH
Duration of Project	09/2023-08/2028.
Effort:	27%

Title:	Triple Negative Breast Cancer Specific Ligand displaying Exosomes by RNA Nanotechnology for Targeted Delivery of MiRNA and SiRNA to Cytosol without Endosome Entrapment
Project Number:	R01CA257961
Principal Investigator(s):	Dr. Dan Shu
Role in Project:	Co-I
Source of Funding:	NCI
Duration of Project	07/2021-06/2026
Effort:	5%

Title:	Role of Succinate in regulating cancer cell plasticity and stemness
Project Number:	P20 GM121327
Role in Project:	PI of the pilot project
Source of Funding:	NIGMS
Duration of Project	01/2023-12/2023
Effort:	5%

Title:	The association of obesity and ECM deposition with breast cancer Prognosis in Appalachian region.
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	Markey Cancer Center
Duration of Project	11/2022-11/2023
Effort:	5%

Pending

Project Title:	Roles of adipocyte Hsp47 in regulating skin inflammation
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NIH

Ren Xu, 07/15/2023

Project Number:	R21
Status:	Impact score 31, will be resubmitted.

In preparation

Title:	The regulation of MHC-I in breast cancer progression and immunotherapy resistance
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NCI R01 proposal

Inactive

Project Title:	Chromatin Regulation of EGFR Locus in Human Mammary Epithelial Cells
Project Number:	DAMD 17-02-1-0441
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	DOD
Duration of Project:	01/2003-12/2005
Total Budget:	$150,000

Project Title:	Determine the Function of RORα in Breast Tissue Polarization and Malignancy
Project Number:	IRG 85-001-22
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	American Cancer Society
Duration of Project:	07/11-06/12
Total Budget:	$50,000

Project Title:	Supporting New Faculty Recruitment Through Biomedical Research Core Center
Project Number:	P30 CA147886
Principal Investigator(s):	B. Mark Evers
Role in Project:	Co-Investigator
Source of Funding:	NIH
Duration of Project:	09/09-08/13
Total Budget:	$520,000

Project Title:	Identify RORα as a druggable EMT suppressor
Project Number:	1215389720
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NIH, CCTS pilot project
Duration of Project:	09/2013-02/2015
Total Budget:	$75,000

Ren Xu, 07/15/2023

Project Title:	Activation of RORα-SEMA3F pathway in epithelial cells inhibits angiogenesis
Project Number:	12SDG8600000
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	American Heart Association
Duration of Project:	01/01/12-12/31/15
Total Budget:	$312,000

Project Title:	Centers of Biomedical Research Excellence (COBRE) (P20). Pilot project: Roles of Hsp47 in regulating breast cancer progression
Project Number:	3049025787
Principal Investigator(s):	Louis Hersh
Role in Project:	Pilot project PI
Source of Funding:	NIGMS
Duration of Project:	05/2014-04/2016
Total Budget:	$150,000

Project Title:	P4HA1/2 as novel therapeutic targets and prognosis markers for TNBC
Project Number:	3048110760/ 1012133950
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	CCSG pilot project
Duration of Project:	1/2015-1/2016
Total Budget:	$75,000

Project Title:	Chaperoning the ECM Network during EMT and Breast Cancer Metastasis (Scored outstanding)
Project Number:	RSG CSM - 125820
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	American Cancer Society
Duration of Project:	'Pay if' category. The similar proposal has been submitted to NCI and was funded in 2017.
Total Budget:	$720,000

Title:	Centers of Biomedical Research Excellence (COBRE) (P20) Project 3: Roles of RORalpha in breast cancer metastasis
Project Number:	1 P20 GM121327-01
Principal Investigator(s):	Dr. St Clair Daret
Role in Project:	PI for project 3
Source of Funding:	NIGMS
Duration of Project 3	01/2017-12/2017
Total Budget:	$1,610,000

Title:	Centers of Biomedical Research Excellence (COBRE) (P20)

Ren Xu, 07/15/2023

	Pilot Project: "High-throughput ex vivo model for clinical assessment of patient-specific tumor therapies"
Project Number:	1 P20 GM121327
Principal Investigator(s):	Dr. St Clair Daret
Role in Project:	Co-I for the pilot project
Source of Funding:	NIGMS
Duration of Project 3	01/2018-12/2018
Total Budget:	$75,000

Title:	Ultra-stable Non-Toxic RNA Nanoparticles for Targeting Triple Negative Breast Cancer Stem Cells.
Project Number:	BC140428P1
Principal Investigator(s):	Dan Shu, Ren Xu
Role in Project:	Partner PI
Source of Funding:	DOD-BCRP Breakthrough Award, Level one
Duration of Project:	03/15-9/19
Total Budget:	$143,711

Project Title:	Systematic delivery of miR-29 for basal-like breast cancer treatment.
Project Number:	1R21CA209045-01
Principal Investigator(s):	Ren Xu
Role in Project:	PI
Source of Funding:	NCI
Duration of Project:	09/2016-08/2019
Total Budget:	$375,000

Ren Xu, 07/15/2023

CURRICULUM VITAE

March 1, 2025

Deukwoo Kwon, PhD

PRESENT TITLE: Associate Professor
Division of Clinical and Translation Sciences
Department of Internal Medicine
McGovern Medical School
The University of Texas Health Science Center at Houston

WORK ADDRESS: UT Professional Building, Office 1100.08
6410 Fannin Street Houston, TX 77030

CITIZENSHIP: USA

UNDERGRADUATE EDUCATION:

B.A. Economics, 1994
Yonsei University
Seoul, Republic of Korea

GRADUATE EDUCATION:

M.B.A. Financial Engineering, 2000
Korea Advanced Institute of Science & Technology
Seoul, Republic of Korea

M.S. Statistics, 2002
Texas A&M University
College Station, TX

PhD. Statistics, 2005
Texas A&M University
College Station, TX

POSTGRADUATE TRAINING:

Postdoctoral Fellow, Division of Cancer Epidemiology and Genetics, 2005-2007
National Cancer Institute
Rockville MD

Research Fellow, Division of Cancer Epidemiology and Genetics, 2007-2011
National Cancer Institute
Rockville MD

ACADEMIC APPOINTMENTS:

Associate Scientist, 2011-2018
Biostatistics and Bioinformatics Shared Resource,
Sylvester Comprehensive Cancer Center, University of Miami
Miami, FL

Scientist, 2018-2019
Biostatistics and Bioinformatics Shared Resource,
Sylvester Comprehensive Cancer Center, University of Miami
Miami, FL

Research Assistant Professor, 2019-2022
Department of Public Health Sciences, University of Miami
Miami, FL

Administrative Director, 2021-2022
Biostatistics and Bioinformatics Shared Resource,
Sylvester Comprehensive Cancer Center, University of Miami
Miami, FL

Associate Professor, 2022-2022
Department of Population Health Science and Policy
Icahn School of Medicine at Mount Sinai
New York, NY

Associate Professor, 2022-Present
Division of Clinical and Translation Sciences
Department of Internal Medicine
McGovern Medical School
The University of Texas Health Science Center at Houston

LICENSURE:

N/A

CERTIFICATION:

N/A

HOSPITAL APPOINTMENTS:

N/A

OTHER PROFESSIONAL EXPERIENCE:

N/A

PROFESSIONAL ORGANIZATIONS:

National
American Statistical Association (ASA), 2003-Present
Society of International Biometrics (ENAR), 2005-Present

Honors and Awards:

- Outstanding Thesis Award. (Graduate School of Management, Korea Advanced Institute of Science & Technology). 2000
- Scholar-in-Training Award. American Association for Cancer Research. 2007
- New Investigator Award. American Statistical Association Radiation and Health. 2010

EDITORIAL POSITION:

N/A

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

Clinical Trial Development Award Review Committee, Department of Veterans Affairs

SERVICE ON THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON COMMITTEES:

N/A

SERVICE ON THE MCGOVERN MEDICAL SCHOOL AT UTHEALTH COMMITTEES:

N/A

SERVICE ON UT GRADUATE SCHOOL COMMITTEES:

N/A

SERVICE ON MCGOVERN MEDICAL SCHOOL AFFILIATED HOSPITAL COMMITTEES:

N/A

SERVICE TO THE COMMUNITY:

N/A

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:

N/A

SPONSORSHIP OF POSTDOCTORAL FELLOWS:

N/A

CURRENT TEACHING RESPONSIBILITIES:

Co-instructor: PH2860: Advanced Design and Analysis Methods in Epidemiology (Spring semester in 2023)

CURRENT CLINICAL AND SERVICE RESPONSIBILITIES:

N/A

CURRENT GRANT SUPPORT:

P.I.: David D McPherson, M.D.
NCATs UM1TR004907-1
"1/7 Center for Clinical and Translational Sciences"
$39,569,651 2024-2030
Role: Biostatistician

P.I.: Joseph Sparano, M.D.
NIH/NCI UM1CA121947
"The AIDS Malignancy Consortium (AMC)"
$22,174,221 2020-2025
Role: Biostatistician

P.I.: Jennifer Bailey, M.D.
NIH/NCI R01CA277161
"A single-arm phase II study to evaluate the safety and efficacy of combination systematic chemotherapy and multiple rounds of endoscopic ultrasound-guided radiofrequency ablation in pancreatic cancer"
$3,950,715 2024-2028
Role: Biostatistician

P.I.: Ali Azhdarnia, M.D./Jennifer Bailey, M.D.
DoD PA230191
"Targeting Extracellular Nucleoside Metabolism as a Strategy to Potentiate the Effects of Immunotherapy in Pancreatic Ductal Adenocarcinoma"
$194,607 2024-2026
Role: Co-I

P.I.: Ali Azhdarnia, M.D./Jennifer Bailey, M.D.
NIH/NCI R01CA 298343-01A1
"Targeted Suppression of Microtubule Dynamics for Treatment of Metastatic Castration-Resistant Prostate Cancer"
$359,660 2025-2029
Role: Co-I

PAST GRANT SUPPORT:

P.I.: James L.M. Ferrara, M.D.
NIH/NCI 5P01CA039542-32
"Cellular and Molecular Studies of Bone Marrow Transplant"
$2,257,066 2020-2025
Role: Biostatistician

P.I.: Daniel O. Stram, PhD.
Department of Energy 8007715940000
"Epidemiological and Biostatistical Assistance for Project 1.2b: Techa River Population Cancer Morbidity and Mortality and Project 2.2: Mayak Worker Cancer Mortality"
$75,000 2023-2024
Role: Co-I

P.I.: Ramon Parsons, M.D.
NIH/NCI 1P30 CA 196521
"The Tisch Cancer Institute - Cancer Center Support Grant"
$2,638,439 2020-2025
Role: Biostatistician

P.I.: Alan Pollack, M.D.
NIH/NCI 1-U01-CA-239141
"MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer"
$592,644 2019-2024
Role: Biostatistician

P.I.: Stephen Nimer, M.D.
NIH/NCI 1P30 CA 240139
"The Tisch Cancer Institute - Cancer Center Support Grant"
$2,147,554 2021-2026
Role: Biostatistician

P.I.: Brian Marples, PhD.
NIH/NCI 1-R01-CA-227493-01
"Targeting SMPDL3B to Prevent Radiation-induced Nephrotoxicity"
$400,346 2018-2023
Role: Biostatistician

P.I.: William Harbour, M.D.
NIH/NCI 5R01CA0125970-13
"Molecular Predictive Testing in Ocular Melanoma"
$626,898 2021-2022
Role: Biostatistician

P.I.: Paulo Pinheiro, PhD.

Bankhead Coley 20B16
"Risk, Etiology, and Mortality for Highly Fatal Cancers in Diverse Florida; Unique Impact on African Americans, Afro-Caribbean's, Cubans, Puerto Ricans and other Hispanics"
$750,000 2020-2023
Role: Co-I

P.I.: Emmanuel Thomas, M.D.
Bankhead Coley 7BC03
"Identifying Infection and Molecular Determinants of Health Disparities in HCV Infected Minority Populations for the Prevention and Early Detection of HCC"
$1,866,436 2017-2022
Role: Co-I

P.I.: Alan Pollack, M.D.
NIH/NCI 1-R01-CA-189295-01
"MRI Imaging and Genetic Signatures to Manage Prostate Cancer Overdiagnosis"
$667,475 2014-2019
Role: Biostatistician

P.I.: Alan Pollack, M.D. & Robert J Gillies, PhD.
NIH/NCI 1-R01-CA-1901051-01
"(PQC4) Habitats in Prostate Cancer"
$730,977 2014-2018
Role: Biostatistician

P.I.: Priyamvada Rai, PhD.
DOD W81XWH-16-1-0673
"Redox Stress-Mediated Inappropriate Androgen Receptor Elevation as a Novel Treatment Paradigm for Castration-Resistant Prostate Cancer"
$554,424 2016-2019
Role: Biostatistician

P.I.: Kerry Burnstein, PhD.
VA 1I01BX002773-01A1
"A Novel Drug Target for Aggressive Prostate Cancer"
$1,046,213 2018-2021
Role: Biostatistician

P.I.: Deukwoo Kwon, PhD.
NIH/NCI PHR-SSS-S-16-004942 (Subcontract)
"Technical Support for Statistical Methods of Cancer Risk Estimation for Complex Dosimetry Uncertainty and Enhancement of the Two Dimensional Monte Carlo (2DMC) Method"
$32,909 2016-2016

Publications:

A. Refereed Original Articles in Journals

1. **Kwon D**, Ko K, Vannucci M, Reddy ALN., Kim S. Wavelet methods for the detection of anomalies and their application to network traffic analysis. *Quality and Reliability Engineering International*. 2006; 22:1-17.

2. **Kwon D**, Tadesse MG, Sha N, Pfeiffer RM, Vannucci M. Identifying biomarkers from mass spectrometry data with ordinal outcomes. *Cancer Inform*. 2007;3:19-28.

3. Kim K.P., Miller D.L., Balter S., Kleinerman R.A., Linet M.S., **Kwon D**, Simon S.L. Occupational radiation doses to operators performing cardiac catheterization procedures. *Health Phys*. 2008;94:211-227.

4. **Kwon D**, Vannucci M., Song J., Jeong J., Pfeiffer R.M. A novel wavelet approach for preprocessing mass spectrometry data. *Proteomics*. 2008;15:3019-3029.

5. Song J, Deng W., Lee H-J., **Kwon D**. Optimal classification for time-course gene expression data using functional data analysis. *Comput Biol Chem*. 2008;32: 426-432.

6. Jayaraman A., Maguire T., Vemula M., **Kwon D**, Vannucci M., Berthiaume F., Yarmush M. Gene expression profiling of long-term changes in rat liver following burn-injury. *J Surg Res*, 2009;152:3-17.

7. Jung J., Sun B., **Kwon D**., Koller D.L., Foroud, T.M. Allelic based gene-gene interaction associated with quantitative traits. *Genet Epidemiol*. 2009;33:332-43.

8. Nam J. and **Kwon D**. Non-inferiority test for clustered matched pair data. *Statis Med*, 2009;28:1668-79.

9. Rajaraman P., Brenner A.V., Butler M.A., Wang S.S., Pfeiffer R., Ruder A.M., Linet M.S., Yeager M., Orr N., Fine H., **Kwon D**., Thomas G., Rothman N., Inskip P.D., Chanock S.J. Common variation in genes related to innate immunity and risk of adult glioma. *Cancer Epidemiol Biomarkers Prev*. 2009;18:1651-8

10. Jang M.K., **Kwon D**., McBride A.A. Papillomavirus E2 Proteins and the Host Brd4 Protein associated with Transcriptionally Active Cellular Chromatin. *J Virol*. 2009;83:2592-600.

11. Jung J., Song JJ, **Kwon D**. Allelic based gene-gene Interactions in rheumatoid arthritis. *BMC Genetics: Proceedings*. 2009;3(suppl 7):S76.

12. Miller DL, **Kwon D**, Bonavia GH. Reference levels for interventional radiology procedures: Proposed initial values for U.S. practice. *Radiology*. 2009;53: 753-764.

13. Nam J., **Kwon D**. Authors' reply. *Statis Med*. 2010;29:1859-1860.

14. **Kwon D**, Little MP, Miller ML. Reference air kerma and kerma-area product as estimators of peak skin dose for fluoroscopically guided interventions. *Med Phys*. 2011: 38(7):4196-4204.

15. **Kwon D**, Landi MT, Vannucci M, Issaq HJ, Preto D, Pfeiffer RM. An Efficient stochastic search for Bayesian variable selection with high-dimensional correlated predictors. *Comput Stat Data Anal*. 2011:55(10):2807-2818.

16. Thierry-Chef I, Simon SL, Weinstock RM, **Kwon D**, and Linet MS. Reconstruction of absorbed doses to fibroglandular tissue of the breast of women undergoing mammography (1960 to the present). *Radiat Res*. 2012:177(1):92-108.

17. Kitahara CM, Neta G, Pfeiffer RM, **Kwon D**, Xu L, Freedman ND, Hutchinson AA, Chanock SJ, Sturgis EM, Sigurdson AJ, Brenner AV. Common obesity-related genetic variants and papillary thyroid cancer risk. *Cancer Epidemiol Biomarkers Prev*. 2012;21:2268-71.

18. Lamart S, Stovall M, Simon SL, Smith SA, Weathers RE, Howell RM, Curtis RE, Aleman BMP, Travis L, **Kwon D**, Morton LM. Radiation dose to the esophagus from breast cancer radiotherapy, 1943-1996: An international population-based study of 414 patients. *Int J Radiat Oncol Biol Phys*, 2013:86(4):694-701.

19. Little MP, **Kwon D**, Doi K, Simon SL, Preston DL, Doody MM, Lee T, Miller JS, Kampa DM, Bhatti P, Tucker JD, Linet MS, Sigurdson AJ. Association of chromosome translocation rate with low dose occupational radiation exposures in US radiologic technologists. *Radiat Res*, 2014:182:1-17.

20. Saigal K, Santos E, Tolba K, **Kwon D**, Elsayyad N, Abramowitz M, Mandalia A, Samuels MA. Concurrent Radiotherapy with Carboplatin and Cetuximab for the Treatment of Medically Compromised Patients with Locoregionally Advanced Head and Neck Squamous Cell Carcinoma. *Frontiers in Oncology*. 2014 June 30;4:165. Doi: 10.3389/fonc2014.00165.

21. Little MP, Kukush AG, Masiuk SV, Shklyar S, Carroll RJ, Lubin JH, **Kwon D**, Brenner AV, Tronko MD, Mabuchi K, Bogdanova TI, Hatch M, Zablotska LB, Tereshchenko VP, Ostroumova E, Bouville AC, Drozdovitch V, Chepurny MI, Kovan LN, Simon SL, Shpak VM, Likhtarev IA. Impact of uncertainties in exposure assessment on estimates of thyroid cancer risk among Ukrainian children and adolescents exposed from the Chernobyl accident. *PLoS One*, 2014: 9(1): e85723. doi:10.1371/journal.pone.0085723.

22. Simon SL, Preston DL, Linet MS, Miller JS, Sigurdson AJ, Alexander BH, **Kwon D**, Yoder RC, Bhatti P, Little MP, Rajaraman P, Melo D, Drozdovitch V, Weinstock RM, Doody. Radiation Organ Doses Received by U.S. Radiologic Technologists: Estimation Methods and Findings. *Radiat Res*. 2014: 182: 507-528.

23. Melo DR, Brill AB, Zanzonico P, Vicini P, Moroz B, **Kwon D**, Lamart S, Brenner A, Bouville A, Simon SL. Organ Dose Estimates for Hyperthyroid Patients

Treated with (131)I: An Update of the Thyrotoxicosis Follow-Up Study. *Radiat Res*. 2015 Dec;184(6):595-610. doi: 10.1667/RR14160.1.

24. Little MP, **Kwon D**, Zablotska LB, Brenner AV, Cahoon EK, Rozhko AV, Polyanskaya ON, Minenko VF, Golovanov I, Bouville A, Drozdovitch V. Impact of Uncertainties in Exposure Assessment on Thyroid Cancer Risk among Persons in Belarus Exposed as Children or Adolescents Due to the Chernobyl Accident. *PLoS One*. 2015 Oct 14;10(10):e0139826. doi: 10.1371/journal.pone.0139826. eCollection.

25. Sun Z, Inskip PD, Wang J, **Kwon D**, Zhao Y, Zhang L, Qin W, Fan S. Solid cancer incidence among Chinese medical diagnostic X-ray workers, 1950-1995: estimation of radiation-related risks. *Int J Cancer*. 2015 138(12):2875-83.

26. **Kwon D** and Reis IM. Simulation-based Estimation of Mean and Standard Deviation for Meta-analysis via Approximate Bayesian Computation (ABC). *BMC Medical Res Methodol*. 2015, 15:61.

27. Land CE*, **Kwon D***, Hoffman FO, Moroz B, Drozdovitch V, Bouville A, Beck H, Luckyanov N, Weistock RM, Simon SL. Accounting for Shared and Unshared Dosimetric Uncertainties in the Dose-Response for Ultrasound-Detected Thyroid Nodules Following Exposure to Radioactive Fallout. *Radiat Res*, 2015:183:159-173. (note: * denotes equally contributing authors.)

28. Lobo L, Yakoub D, Picado O, Ripat C, Pendola F, Sharma R, ElTawil R, **Kwon D**, Venkat S, Portelance L, Yechieli R. Unresectable hepatocellular carcinoma: Radioembolization versus chemoembolization: a systematic review and meta-analysis, *Cardivasc Intervent Radiol*. 2016:39(1):1580-1588.

29. Obeid JP, Stoyanova R, **Kwon D**, Patel M, Padgett K, Slingerland J, Takita C, Alperin N, Yepes M, Zeidan YH. Multiparametric evaluation of preoperative MRI in early stage breast cancer: prognostic impact of peri-tumoral fat. *Clin Transl Oncol*. 2016 Jun 30. PMID: 27364695.

30. Mahmoud O, **Kwon D**, Greenfield B, Wright JL, Samuels MA. Intrathoracic extensive-stage small cell lung cancer: assessment of the benefit of thoracic and brain radiotherapy using the SEER database. *Int J Clin Oncol*. 2016 Jul 5. PMID: 27380168.

31. **Kwon D**, Hoffman FO, Moroz B, Simon SL. Bayesian Dose-response Analysis for Epidemiological Studies with Complex Uncertainty in Dose Estimation. *Statis Med*. 2016; 35(3):399-423. PMID: 26365692.

32. Wu ES, Park JY, Zeitouni JA, Gomez CR, Reis IM, Zhao W, **Kwon D**, Lee E, Nelson OL, Lin HY, Franzmann EJ, Savell J, McCaffrey TV, Goodwin WJ, Hu JJ. Effect of actionable somatic mutations on racial/ethnic disparities in head and neck cancer prognosis. *Head Neck*. 2016; 38(8):1234-41.

33. Montero AJ, **Kwon D**, Flores A, Kovacs K, Trent JC, Benedetto P, Rocha-Lima C, Merchan JR. A Phase I Clinical, Pharmacokinetic, and Pharmacodynamic

Study of Weekly or Every Three Week Ixabepilone and Daily Sunitinib in Patients with Advanced Solid Tumors. *Clin Cancer Res*. 2016; 22(13):3209-17.

34. Campuzano-Zuluaga G, Deutsch Y, Salzberg M, Gomez A, Vargas F, Elias R, **Kwon D**, Goodman M, Ikpatt OF, Chapman JR, Watts J, Vega F, Swords R. Routine interim disease assessment in patients undergoing induction chemotherapy for acute myeloid leukemia: Can we do better? *Am J Hematol*. 2016; 91(3):277-82. doi: 10.1002/ajh.24271.

35. Ho JJ, Wang M, Audas TE, **Kwon D**, Carlsson SK, Timpano S, Evagelou SL, Brothers S, Gonzalgo ML, Krieger JR, Chen S, Uniacke J, Lee S. Systemic Reprogramming of Translation Efficiencies on Oxygen Stimulus. *Cell Rep*. 2016 Feb 16;14(6):1293-300.

36. Agarwal NK, Kim CH, Kunkalla K, Konno H, Tjendra Y, **Kwon D**, Blonska M, Kozloski GA, Moy VT, Verdun RE, Barber GN, Lossos IS, Vega F. Active IKKβ promotes the stability of GLI1 oncogene in diffuse large B-cell lymphoma. *Blood*. 2016 Feb 4;127(5):605-15.

37. Mahmoud O, Dosch A, **Kwon D**, Pitcher D, Conway S, Benedetto P, Fernandez G, Trent J, Temple HT, Wolfson AH. The impact of perioperative chemotherapy timing in conjunction with postoperative external beam radiation therapy on extremity soft tissue sarcomas outcome. *Am J Clin Oncol*. 2016:39(5):528-34.

38. Feun LG, Wangpaichitr M, Li YY, **Kwon D**, Richman SP, Hosein PJ, Savaraj N. Phase II trial of SOM203 (Pasireotide LAR) in patients with unresectable hepatocellular carcinoma (HCC). *J Hepatocellular Carcinoma*. 2017. 12;5:9-15. doi: 10.2147/JHC.S153672. eCollection 2018.

39. Chinea FM, Patel VN, **Kwon D**, Lamichhane N, Lopez C, Punnen S, Kobetz EN, Abramowitz MC, Pollack A. Ethnic heterogeneity and prostate cancer mortality in Hispanic/Latino men: a population-based study. *Oncotarget*. 2017:8(41):69709-69721. PMID:29050235.

40. Samaranayake GJ, Troccoli CI, Huynh M, Lyles RDZ, Kage K. Win A, Lakshmanan V, **Kwon D**, Ban Y, Chen SX, Zarco ER, Jorda M, Burnstein KL, Rai P. Thioredoxin-1 protects against androgen receptor-induced redox vulnerability in castration-resistant prostate cancer. *Nat Commun*. 2017:8(1):1204. doi: 10.1038/s41467-017-01269-x. PMID:29089489

41. Nam J, **Kwon D**. Inference on the ratio of two coefficients of variation of two lognormal distributions. *Communications in Statistics-Theory and Methods*. 2017:46(17): 8575-8587.

42. Chinea FM, Lyapichev K, Epstein JI, **Kwon D**, Smith PT, Pollack A, Cote RJ, Kryvenko ON. Understanding PSA and its derivatives in prediction of tumor volume: Addressing health disparities in prostate cancer risk stratification. *Oncotarget*. 2017:8(13):20802-20812. doi: 10.18632/oncotarget.14903. PMID:28160549

43. Pollack A, **Kwon D**, Walker G, Khor LY, Horwitz EM, Buyyounouski MK, Stoyanova R. Prospective Validation Of Diagnostic Tumor Tissue Biomarkers In Men Treated With Radiotherapy For Prostate Cancer, *J Natl Cancer Inst*. 2017:109(2):1-8. PMID:28376214.

44. Lopez CJ, Nagornaya N, Parra NA, **Kwon D**, Ishkanian F, Markoe AM, Maudsley A, Stoyanova R. Association of Radiomics and Metabolic Tumor Volumes in Radiation Treatment of Glioblastoma Multiforme. *Int J Radiat Oncol Biol Phys*. 2017:97(3):586-595.

45. Perlow HK, Ramey SJ, Cassidy V, **Kwon D**, Farnia B, Nicolli E, Samuels MA, Freedman L, Elsayyad N, Yechieli R, Samuels SE. Disparities in Adherence to Head and Neck Cancer Follow-up Guidelines. *Laryngoscope*. 2019 Oct;129(10):2303-2308. doi: 10.1002/lary.27676. Epub 2018 Dec 24

46. Camargo JF, Wieder E, Kimble E, Benjamin C, Kolonias D, **Kwon D**, Chen SX, and Komanduri KV. Deep functional immunophenotyping predicts risk of cytomegalovirus reactivation after hematopoietic cell transplantation. *Blood*. 2019 Feb 21;133(8):867-877. doi: 10.1182/blood-2018-10-878918. Epub 2018 Dec 20.

47. El-Bared N, Portelance L, Spieler BO, **Kwon D**, Padgett KR, Brown KM, Mellon EA. Dosimetric Benefits and Practical Pitfalls of Daily Online Adaptive MRI-Guided Stereotactic Radiotherapy for Pancreatic Cancer. *Pract Radiat Oncol*. 2018 Aug 24. pii: S1879-8500(18)30262-5. doi: 10.1016/j.prro.2018.08.010.

48. Tschudi Y, Pollack A, Punnen S, Ford JC, Chang YCC, Soodana-Prakash N, Breto AL, **Kwon D**, Munera F, Abramowitz MC, Kryvenko ON, Stoyanova R. Automatic Detection of Prostate Tumor Habitats using Diffusion MR, *Sci Rep* 2018. Nov 14;8(1):16801. doi: 10.1038/s41598-018-34916-4.

49. **Kwon D**, Reis IM, Breto AL, Tschudi Y, Gautney N, Zavala-Romero O, Lopez C, Ford JC, Punnen, S, Pollack A, Stoyanova R. Classification of Suspicious Lesions on Prostate multiparametric MRI using Machine Learning, *J Medical Imaging* 2018.

50. Ramey SJ, Rich BJ, **Kwon D**, Mellon EA, Wolfson A, Portelance L, Yechieli R. Demographic Disparities in Delay of Definitive Chemoradiation for Anal Squamous Cell Carcinoma: A Nationwide Analysis. *J Gastrointestinal Onc*. 2018. 9(6):1109-1126. doi: 10.21037/jgo.2018.08.07.

51. DeBose-Scarlett A, Balise R, **Kwon D**, Vadaparampil S, Chen SX, Schiff ER, Ayala GP, Thomas E. Obstacles to successful treatment of hepatitis C in uninsured patients from a minority population. *J Transl Med*. 2018 Jun 28;16(1):178. doi: 10.1186/s12967-018-1555-y.

52. Stoyanova R, Chinea F, **Kwon D**, Reis IM, Tschudi Y, Parra NA, Breto AL, Padgett KR, Pra AD, Abramowitz MC, Kryvenko ON, Punnen S, Pollack A. An Automated Multiparametric MRI Quantitative Imaging Prostate Habitat Risk Scoring System for Defining External Beam Radiotherapy Boost Volumes. *Int J*

Radiat Oncol Biol Phys. 2018 Jun 13. pii: S0360-3016(18)30937-4. doi: 10.1016/j.ijrobp.2018.06.003.

53. Breto AL, Padgett KR, Ford JC, **Kwon D**, Chang C, Fuss M, Stoyanova R, Mellon EA. Analysis of Magnetic Resonance Image Signal Fluctuations Acquired During MR-Guided Radiotherapy. *Cureus*. 2018 Mar 28;10(3):e2385. doi: 10.7759/cureus.2385.

54. Ramey SJ, Padgett KR, Lamichhane N, Neboori HJ, **Kwon D**, Mellon EA, Brown K, Duffy M, Victoria J, Dogan N, Portelance L. Dosimetric analysis of stereotactic body radiation therapy for pancreatic cancer using MR-guided Tri-60Co unit, MR-guided LINAC, and conventional LINAC-based plans. *Pract Radiat Oncol*. 2018 Mar 1. pii: S1879-8500(18)30070-5. doi: 10.1016/j.prro.2018.02.010.

55. Perlow HK, Ramey SJ, Silver B, **Kwon D**, Chinea FM, Samuels SE, Samuels MA, Elsayyad N, Yechieli R. Assessment of Oropharyngeal and Laryngeal Cancer Treatment Delay in a Private and Safety-Net Hospital System. *Otolaryngol Head Neck Surg*. 2018. 159(3):484-493.

56. Velasques MC, Chinea FM, **Kwon D**, Prakash NS, Barboza MP, Gonzalgo M, Ritch C, Pollack A, Parekh D, Punnen S. The Influence of Ethnic Heterogeneity on Prostate Cancer Mortality after Radical Prostatectomy in Hispanic/Latino Men: a Population-based Analysis. *Urology*. 2018. 17:108-114. doi: 10.1016/j.urology.2018.03.036. Epub 2018 Apr 6.

57. Park W, **Kwon D**, Saravia D, Desai A, Vargas F, Dinali ME, Warsch J, Elias R, Chae YK, Kim DW, Warsch S, Ishkanian A, Ikpeazu C, Mudad R, Lopes G, Jahnzeb M. Developing an Algorithmic Model to Predict Clinical Outcomes of Advanced Non-Small Cell Lung Cancer Patients Treated with Nivolumab. *Clinical Lung Cancer*. 2017. pii: S1525-7304(17)30346-7. doi: 10.1016/j.cllc.2017.12.007.

58. Ramey SJ, Asher D, **Kwon D**, Ahmed AA, Wolfson AH, Yechieli R, Portelance L. Delays in Definitive Cervical Cancer Treatment: An Analysis of Disparities and Overall Survival Impact. *Gynecol Oncol*. 2018 Apr;149(1):53-62. doi: 10.1016/j.ygyno.2017.12.010.

59. Byrnes DM, Vargas F, Dermarkarian C, Kahn R, **Kwon D**, Hurley J, Schatz JH. Complications of Intrathecal Chemotherapy in Adults: Single-Institution Experience in 109 Consecutive Patients. *J Oncol*. 2019 May 2;2019:4047617. doi: 10.1155/2019/4047617.

60. Soodana-Prakash N, Castillo RP, Reis IM, Stoyanova R, **Kwon D**, Velasquez MC, Nahar B, Kannabur P, Johnson TA, Swain SK, Ben-Yakar N, Venkatramani V, Ritch C, Satyanarayana R, Gonzalgo ML, Parekh DJ, Bittencourt L, Punnen S. Validation of dominant and secondary sequence utilization in PI-RADS v2 for classifying prostatic lesions. *Can J Urol*. 2019 Jun;26(3):9763-9768.

61. Wilky BA, Trucco MM, Subhawong TK, Florou V, Park W, **Kwon D**, Wieder E, Kolonias D, Rosenberg AE, Ker DA, Sfakianaki E, Foley M, Merchan JR, Komanduri KV, Trent JC. Axitinib plus pembrolizumab in patients with advanced

sarcomas including alveolar soft part sarcoma: a single-arm, open-label, phase 2 trial. *The Lancet Oncol*. 2019. 20(6):837-848.

62. Wu SC, **Kwon D**, Jue JS, Chen FV, Velasquez-Escobar MC, Punnen S, Parekh DJ, Ritch CR, Gonzalgo ML. Androgen suppression therapy is associated with lower recurrence of non-muscle invasive bladder cancer. *European Urology Focus*. 2019 May 15. pii: S2405-4569(19)30141-5. doi: 10.1016/j.euf.2019.04.021. PMID 31103602.

63. Wu Y, Hoffman FO, Apostoaei I, **Kwon D**, Thomas B, Glass R, Zablotska L. Methods to Account for Uncertainties in Exposure Assessment in Studies of Environmental Exposures. *Environmental Health*. 2019 18(1):31. Published 2019 Apr 8. doi:10.1186/s12940-019-0468-4. PMC 6454753, PMID: 30961632.

64. Feun L, Li YY, Wu C, Wangpaichitr M, Jones PD, Richman SP, Madrazo B, **Kwon D**, Garcia-Buitrago M, Martin P, Hosein P, Savaraj N. Phase II Study of Pembrolizumab and Circulating Biomarkers to Predict Anticancer Response in Advanced, Unresectable Hepatocellular Carcinoma. *Cancer*. June 2019. https://doi.org/10.1002/cncr.32339. PMID: 31251403

65. Engel S, Awerbuch A, **Kwon D**, Picado O, Portelance L, Yechieli R, Yakoub D. Optimal Radiation Dosing in Concurrent Neoadjuvant Chemoradiation for Resectable Esophageal Cancer: A Meta-analysis. *J Gastrointest Oncol*. 2019, 10(3), 391-399. PMC 6534709, PMID: 31183187.

66. Dean MK, Studenski MT, Paez-Escamilla MA, Walter SD, **Kwon D**, Markoe AM, Harbour JW, Samuels SE. Dosimetric comparison of circular Eye Physics and Collaborative Ocular Melanoma Study plaques to treat uveal melanoma. *Brachytherapy*. 2019-05-01, Volume 18, Issue 3, Pages 404-410. PMID 30797699.

67. Perlow HK, Ramey SJ, Farnia B, Silver B, **Kwon D**, Chinea FM, Sotnick SC, Klein LB, Elsayyad N, Samuels MA, Freedman L, Yechieli R, Samuels SE. Nutrition and Swallowing Therapy in Head and Neck Cancer: Utilization of Care and Preventative Efficacy. *Nutr Cancer*. 2019. 70(8):1290-1298. PMID 30633586.

68. Fritsch J, Garces L, Quintero MA, Pignac-Kobinger J, Santander AM, Fernández I, Ban YJ, **Kwon D**, Phillips MC, Knight K, Mao Q, Santaolalla R, Chen XS, Maruthamuthu M, Solis N, Damas OM, Kerman DH, Deshpande AR, Lewis JE, Chen C, Abreu MT. Low-Fat, High-Fiber Diet Reduces Markers of Inflammation and Dysbiosis and Improves Quality of Life in Patients with Ulcerative Colitis. *Clin Gastroenterol Hepatol*. 2020. Jun;19(6):1189-1199.e30. doi: 10.1016/j.cgh.2020.05.026. Epub 2020 May 20.

69. Punnen S, Stoyanova R, **Kwon D**, Reis IM, Soodana-Prakash N, Ritch CR, Nahar B, Gonzalgo ML, Kava B, Liu Y, Arora H, Gaston SM, Castillo Acosta RP, Pra AD, Abramowitz M, Kryvenko ON, Davicioni E, Pollack A, Parekh DJ. Heterogeneity in Genomic Risk Assessment From Tissue Based Prognostic

Signatures Used in the Biopsy Setting and the Impact of MRI Targeted Biopsy, *J Urol.* 2021. 205:1344-1351. PMID: 33356482

70. Garrido G, Schrand B, Capote AR, Ferrantella A, Da Silva DM, D'Eramo F, Zhang Z, **Kwon D**, Kortylewski M, Kast WM, Marijt KA, Dudeja V, van Hall M. Vaccination against non-mutated neoantigens induced in recurrent and future tumors. *Cancer Immunol* 2020. 8(7):856-868.

71. Simpson G, Spieler B, Dogan N, Portelance L, Mellon EA, **Kwon D**, Ford JC, Yang F. Magnetic Resonance Imaging Radiomic Features in Stereotactic Ablative Body Radiotherapy of Pancreatic Cancer: A Pilot Study. *Med Phys.*, 2020. 47(8):3682-3690.

72. Pinheiro PS, Medina H, Callahan KE, **Kwon D**, Ragin C, Sherman R, Kobetz EN, Jemal A. Cancer mortality among US blacks: Variability between African Americans, Afro-Caribbeans, and Africans. *Cancer Epidemiol.*, 2020. Jun;66:101709. doi: 10.1016/j.canep.2020.101709. Epub 2020 Mar 30.

73. Dosch AR, Dai X, Reyzer ML, Mehra S, Srinivasan S, Willobee BA, **Kwon D**, Kashikar N, Caprioli R, Merchant NB, Nagathihalli NS. Combined Src/EGFR Inhibition Targets STAT3 Signaling and Induces Stromal Remodeling to Improve Survival in Pancreatic Cancer. *Mol Cancer Res.*, 2020. 18(4):623-631

74. Mehta S, Ramey SJ, **Kwon D**, Rich BJ Ahmed AA, Wolfson A, Yechieli R, Portelance L, Mellon EA. Impact of Radiotherapy Duration on Overall Survival in Squamous Cell Carcinoma of the Anus. *J Gastrointest Oncol.*, 2020. 11(2):277-290.

75. Pollack A, Chinea FM, Bossart E, **Kwon D**, Abramowitz MC, Lynne C, Jorda M, Marples B, Patel VN, Wu X, Reis I, Studenski MT, Casillas J, Stoyanova R, Phase I Trial of MRI-guided prostate cancer lattice extreme ablative dose (LEAD) Boost Radiotherapy, *Int J Radiat Oncol Biol Phys*, 2020. 107:305-315.

76. Rajan SS, Amin AD, Li L, Rolland DC, Li H, **Kwon D**, Kweh MF, Arumov A, Roberts ER, Yan A, Basrur V, Elenitoba-Johnson KSJ, Chen XS, Puvvada SD, Lussier YA, Bilbao D, Lim MS, Schatz JH. The mechanism of cancer drug addiction in ALK-positive T-Cell lymphoma. *Oncogene*. 2020 Dec 5. doi: 10.1038/s41388-019-1136-4.

77. Schumacher LD, Sargi ZB, Masforroll M, **Kwon D**, Zhao W, Rueda-Lara MA, Freedman LM, Elsayyad N, Samuels SE, Abramowitz MC, Samuels MA. Long-term opioid use in curative-intent radiotherapy: One-Year outcomes in head/neck cancer patients. *Head Neck*. 2020 Nov 30. doi: 10.1002/hed.26034.

78. Park W, Mezquita L, Okabe N, Chae YK, **Kwon D**, Saravia D, Auclin E, Planchard D, Caramella C, Ferrara R, Agte S, Oh M, Mudad R, Jahanzeb M, Suzuki H, Besse B, Lopes G. Association of the prognostic model iSEND with PD-1/L1 monotherapy outcome in non-small-cell lung cancer. *Br J Cancer*. 2020 Nov 25. doi: 10.1038/s41416-019-0643-y.

79. Iakymenko OA, Lugo I, **Kwon D**, Zhao W, Hayee A, Punnen S, Parekh DJ, Pollack A, Ritch CR, Gonzalgo ML, Stoyanova R, Jorda M, Kryvenko ON. Prostatic Ductal Adenocarcinoma Controlled for Cancer Grade and Tumor Volume Does Not Have an Independent Effect on Adverse Radical Prostatectomy Outcomes Compared to Usual Acinar Prostatic Adenocarcinoma. *Urology*. 2020. doi: 10.1016/j.urology.2019.10.014.

80. Ritch CR, Velasquez MC, **Kwon D**, Becerra MF, Soodana-Prakash N, Atluri VS, Almengo K, Alameddine M, Kineish O, Kava BR, Punnen S, Parekh DJ, Gonzalgo ML. Utility and Validation of the AUA/SUO Risk Grouping for Nonmuscle Invasive Bladder Cancer in a Contemporary Cohort. *J Urol*. 2020 Oct 14:101097JU0000000000000593. doi: 10.1097/JU.0000000000000593.

81. Noy MA, Rich BJ, Llorente R, **Kwon D**, Abramowitz M, Mahal B, Mellon EA, Zaorsky NG, Dal Pra A. Levels of Evidence for Radiation Therapy Recommendations in the National Comprehensive Cancer Network (NCCN) Clinical Guidelines. Adv Radiat Oncol. 2021 Oct29;7(1):100832.

82. Hayee A, Lugo I, Iakymenko OA, **Kwon D**, Briski LM, Zhao W, Nemov I, Punnen S, Ritch CR, Pollack A, Jorda M, Stoyanova R, Parekh DJ, Gonzalgo ML, Kryvenko ON. Anterior or Posterior Prostate Cancer Tumor Nodule Location Predicts Likelihood of Certain Adverse Outcomes at Radical Prostatectomy. Arch Pathol Lab Med. 2021 Oct 20. doi: 10.5858/arpa.2021-0104-OA.

83. Seldon C, Shrivastava G, Al-Awady A, Asher D, Ramey S, Fernandez M, Dooley S, **Kwon D**, Zhao W, Goel N, Diwanji T, Subhawong T, Trent J, Yechieli R. Variation in Management of Extremity Soft-Tissue Sarcoma inYounger vs Older Adults. JAMA Netw Open. Published online August 02 ;4(8):e2120951. doi: 10.1001/jamanetworkopen.2021.20951, 2021.

84. Alderuccio JP, Kuker RA, Barreto-Coelho P, Martinez BM, Miao F, **Kwon D**, Beitinjaneh A, Wang TP, Reis IM, Lossos IS, Moskowitz CH. Prognostic Value of Presalvage Metabolic Tumor Volume in Patients with Replapsed/refractory Diffuse Large B-cell Lymphoma. Leuk Luymphoma. Published online August 20, 2021. 1-11. doi: 10.1080/10428194.2021.1966786.

85. Williams NM, Rojas KD, Reynolds JM, **Kwon D**, Shum-Tien J, Jaimes N. Assessment of Diagnostic Accuracy of Dermoscopic Structures and Patterns Used in Melanoma Detection: A Systematic Review and Meta-analysis. JAMA Dermatol. Published online August 04, 2021. doi:10.1001/jamadermatol.2021.2845.

86. Subhawong TK, Feister K, Sweet K, Alperin N, **Kwon D**, Rosenberg A, Trent J, Wilky BA. MRI Volumetrics and Image Texture Analysis in Assessing Systemic Treatment Response in Extra-Abdominal Desmoid Fibromatosis. Radiol Imaging Cancer. 2021 Jul;3(4):e210016. doi: 10.1148/rycan.2021210016. PMID: 34213370; PMCID: PMC8344342.

87. Rich BJ, Schumacher LD, Sargi ZB, Masforroll M, **Kwon D**, Zhao W, Rueda-Lara MA, Freedman LM, Elsayyad N, Samuels SE, Abramowitz MC, Samuels MA.

Opioid use patterns in patients with head and neck cancer receiving radiation therapy: A single-institution retrospective analysis characterizing patients who did not require opioid therapy. Head Neck. 2021 Jun 18. doi: 10.1002/hed.26785. Epub ahead of print. PMID: 34143542.

88. Iakymenko OA, Lugo I, Briski LM, Nemov I, Punnen S, **Kwon D**, Pollack A, Stoyanova R, Parekh DJ, Jorda M, Gonzalgo ML, Kryvenko ON. Percentage of Gleason pattern 4 and tumor volume predict adverse pathological stage and margin status at radical prostatectomy in grade Group 2 and grade Group 3 prostate cancers. Prostate. 2021 Jun 29. doi: 10.1002/pros.24183. Epub ahead of print. PMID: 34184782.

89. **Kwon D**, Reddy RRS, Reis IM. ABCMETAapp: R shiny application for simulation-based estimation of mean and standard deviation for meta-analysis via approximate Bayesian computation. *Res Syn Meth*. 2021;1–7. https://doi.org/10.1002/jrsm.1505 .

90. Seldon C, Shrivastava G, Fernandez M, Jarboe J, Conway S, Pretell J, Freedman L, Wolfson A, Zhao W, **Kwon D**, Rosenberg A, Subhawong T, Trent J, Yechieli R. Pathologic Response Rates after Neoadjuvant Therapy for Sarcoma: A Single Institution Study. Cancers (Basel). 2021 Mar 3;13(5):1074. doi: 10.3390/cancers13051074. PMID: 33802383; PMCID: PMC7959282.

91. Bhat A, **Kwon D**, Soodana-Prakash N, Mouzannar A, Punnen S, Gonzalgo ML, Parekh DJ, Ritch CR. Surveillance Intensity in Intermediate Risk, Nonmuscle Invasive Bladder Cancer: Revisiting the Optimal Timing and Frequency of Cystoscopy. *J Urol.* 2021. 206(1):22-28.

92. Delgadillo R, Spieler BO, Ford JC, **Kwon D**, Yang F, Studenski M, Padgett KR, Abramowitz MC, Dal Pra A, Stoyanova R, Pollack A, Dogan N. Repeatability of CBCT Radiomic Features and their Correlation with CT Radiomic Features for Prostate Cancer. Med Phy. 2021. 48(5):2386-2399.

93. Seldon C, Shrivastava G, Fernandez M, Jarboe J, Conway S, Pretell J, Freedman L, Wolfson A, Zhao W, **Kwon D**, Rosenberg A, Subhawong T, Trent J, Yechieli R. Pathologic Response Rates After Neoadjuvant Therapy for Sarcoma: A Single Institution Study. *Cancers*. 2021. 13(5):1074.

94. Totiger TM, Srinivasan S, Jala VR, Lamichhane P, Dosch AR, Gaidarski AA 3rd, Joshi C, Rangappa S, Castellanos J, Vemula PK, Chen X, **Kwon D**, Kashikar N, VanSaun M, Merchant NB, Nagathihalli NS. Urolithin A, a Novel Natural Compound to Target PI3K/AKT/mTOR Pathway in Pancreatic Cancer. *Mol Cancer Ther*. 2019. 18(2):301-311.

95. Tayari M, Gomes Dos Santos H, **Kwon D**, Bradley T, Thomassen A, Chen C, Dinh Y, Perez A, Zelent A, Morey L, Cimmino L, Shiekhattar R, Swords R, Watts J. Clinical responsiveness to All-trans Retinoic Acid is potentiated by LSD1 inhibition and associated with a quiescent transcriptome in myeloid malignancies. *Clin Cancer Res* 2021 27(7):1893-1903.

96. Amirian H, **Kwon D**, Vickers SM, Livingstone A, Jayaweera D, Saluja AK, Pancreas Research Group. Racial Disparity Between Whites and African Americans in Incidence and Outcome of Pancreatic Cancer: Have We Made a Difference?, Gastroenterology (2022), doi: https://doi.org/10.1053/j.gastro.2021.12.256.

97. Picado O, **Kwon D**, Rojas K, Crystal J, Wang L, Mahtani R, Valdes F, Goel N, Kesmodel SB. Breast Cancer Res Treat. 2022 Jul;194(2):433-447. doi: 10.1007/s10549-022-06625-0. Epub 2022 May 30.PMID: 35635580

98. Simpson G, Jin W, Spieler B, Portelance L, Mellon E, **Kwon D**, Ford JC, Dogan N. Predictive Value of Delta-Radiomics Texture Features in 0.35 Tesla Magnetic Resonance Setup Images Acquired During Stereotactic Ablative Radiotherapy of Pancreatic Cancer. Front Oncol. 2022 Apr 19;12:807725. doi: 10.3389/fonc.2022.807725. eCollection 2022.PMID: 35515129

99. Hayee A, Lugo I, Iakymenko OA, **Kwon D**, Briski LM, Zhao W, Nemov I, Punnen S, Ritch CR, Pollack A, Jorda M, Stoyanova R, Parekh DJ, Gonzalgo ML, Kryvenko ON. Anterior or Posterior Prostate Cancer Tumor Nodule Location Predicts Likelihood of Certain Adverse Outcomes at Radical Prostatectomy. Arch Pathol Lab Med. 2022 Jul 1;146(7):833-839. doi: 10.5858/arpa.2021-0104-OA.PMID: 34669939

100. Noy MA, Rich BJ, Llorente R, **Kwon D**, Abramowitz M, Mahal B, Mellon EA, Zaorsky NG, Dal Pra A. Levels of Evidence for Radiation Therapy Recommendations in the National Comprehensive Cancer Network (NCCN) Clinical Guidelines. Adv Radiat Oncol. 2022 Oct 29;7(1):100832. doi: 10.1016/j.adro.2021.100832. eCollection 2022 Jan-Feb.PMID: 34869943

101. Alderuccio JP, Arcaini L, Watkins MP, Beaven AW, Shouse G, Epperla N, Spina M, Stefanovic A, Sandoval-Sus J, Torka P, Alpert AB, Olszewski AJ, Kim SH, Hess B, Gaballa S, Ayyappan S, Castillo JJ, Argnani L, Voorhees TJ, Saba R, Chowdhury SM, Vargas F, Reis IM, **Kwon D**, Alexander JS, Zhao W, Edwards D, Martin P, Cencini E, Kamdar M, Link BK, Logothetis CN, Herrera AF, Friedberg JW, Kahl BS, Luminari S, Zinzani PL, Lossos IS. An international analysis evaluating frontline bendamustine with rituximab in extranodal marginal zone lymphoma. Blood Adv. 2022 Apr 12;6(7):2035-2044. doi: 10.1182/bloodadvances.2021006844.PMID: 35196377

102. Alderuccio JP, Kuker RA, Barreto-Coelho P, Martinez BM, Miao F, **Kwon D**, Beitinjaneh A, Wang TP, Reis IM, Lossos IS, Moskowitz CH. Prognostic value of presalvage metabolic tumor volume in patients with relapsed/refractory diffuse large B-cell lymphoma. Leuk Lymphoma. 2022 Jan;63(1):43-53. doi: 10.1080/10428194.2021.1966786. Epub 2021 Aug 20.PMID: 34414842

103. Goel N, Yadegarynia S, **Kwon D**, Kesmodel SB, Harbour JW, Kobetz E, Merchant N, Rodriguez DA. Dissecting the Interplay Between Genetic Ancestry and Neighborhood Socioeconomic Status on Triple Negative Breast Cancer. Ann Surg. 2022 Jun 27. doi: 10.1097/SLA.0000000000005554. PMID: 35758508

104. Borowsky PA, Choi S, Moore JF, White A, Morin C, Net J, Kesmodel SB, Goel N, **Kwon D**, Griffiths A, Feinberg JA, Zelenko N, Manasseh DM, Borgen P, Rojas KE. The Association of Preoperative Magnetic Resonance Imaging (MRI) With Surgical Management in Patients With Early-Stage Breast Cancer. J Surg Res. 2022 Aug 11;280:114-122. doi: 10.1016/j.jss.2022.06.066. PMID: 35964483.

105. Roy M, Finch L, **Kwon D**, Jordan SE, Yadegarynia S, Wolfson AH, Slomovitz B, Portelance L, Huang M. Factors contributing to delays in initiation of front-line cervical cancer therapy: disparities in a diverse south Florida population. In J. Gynecol Cancer. 2022 Oct 5:ijgc-2022-003475. doi: 10.1136/ijgc-2022-003475. Online ahead of print.PMID: 36198435

106. Algohary A, Alhusseini M, Breto AL, **Kwon D**, Xu IR, Gaston SM, Castillo P, Punnen S, Spieler B, Abramowitz MC, Dal Pra A, Kryvenko ON, Pollack A, Stoyanova R. Longitudinal changes and predictive value of multiparametric MRI features for prostate cancer patients with MRI-guided Lattice Extreme Ablative Dose (LEAD) Boost Radiotherapy. Cancers. 2022 Sep 15; 14(18):4475. doi: 10.3390/cancers14184475.PMID: 36139635

107. Peters V, Gurayah A, Jin W, **Kwon D**, Zhao W, Patel NV, Markoe A, Correa Z, Studenski MT, Harbour JW, Samuels SE. Clinical characteristics and postoperative complications as predictors of radiation toxicity after treatment with I125 eye plaque brachytherapy for uveal melanomas. Brachytherapy. 2022 Sep 19;S1538-4721(22)00148-9. 14(18):4475. doi: 10.1016/j.brachy.2022.08.006. PMID: 36137939

108. de Castro Silva I, Bianchi A, Deshpande NU, Sharma P, Mehra S, Garrido VT, Saigh SJ, England J, Hosein PJ, **Kwon D**, Merchant NB, Datta J. Neutrophil-mediated fibroblast-tumor cell il-6/stat-3 signaling underlies the association between neutrophil-to-lymphocyte ratio dynamics and chemotherapy response in localized pancreatic cancer: A hybrid clinical-preclinical study. Elife. 2022 Sep 15;11:e78921. doi: 10.7554/eLife.78921. PMID: 36107485; PMC9512403.

109. Etra AM, Capellini A, Alousi AM, Al Malki MM, Choe HK, DeFilipp Z, Hogan WJ, Kitko CL, Ayuk FA, Baez J, Gandhi I, Kasikis S, Gleich S, Hexner E, Hoepting M, Kapoor U, Kowalyk S, **Kwon D**, Langston A, Mielcarek M, Morales G, Özbek U, Qayed M, Reshef R, Roesler W, Spyrou N, Young R, Chen YB, Ferrara JL, Levine JE. Effective treatment of low risk acute GVHD with itacitinib monotherapy. Blood. 2022 Sep 12:blood.2022017442. doi: 10.1182/blood.2022017442. PMID: 36095841.

110. Watson AN, Shah SA, Shalhoub SD, Piedra KM, Komanduri KV, **Kwon D**, Pereira DL. Melphalan on day -1 versus day -2 in patients with plasma cell disorders undergoing autologous stem cell transplant. Journal of Oncology Pharmacy Practice. 2022;0(0). doi:10.1177/10781552221125871

111. Delgadillo R, Spieler BO, Deana AM, Ford JC, **Kwon D**, Yang F, Studenski MT, Padgett KR, Abramowitz MC, Dal Pra A, Stoyanova R, Dogan N.

Cone-beam CT delta-radiomics to predict genitourinary toxicities and international prostate symptom of prostate cancer patients: a pilot study. Sci Rep. 2022 Nov 22;12(1):20136. doi: 10.1038/s41598-022-24435-8. PMID: 36418901; PMCID: PMC9684516.

112. Kuker RA, Lehmkuhl D, Kwon D, Zhao W, Lossos IS, Moskowitz CH, Alderuccio JP, Yang F. A Deep Learning-Aided Automated Method for Calculating Metabolic Tumor Volume in Diffuse Large B-Cell Lymphoma. Cancers. 2022; 14(21):5221. https://doi.org/10.3390/cancers14215221

113. Gurayah A, A, Peters V, A, Jin W, Kalahasty K, **Kwon D**, Zhao W, Patel N, V, Markoe A, M, Correa Z, M, Studenski M, T, Harbour J, W, Samuels S, E: Predictors of Local Recurrence and Progression-Free Survival in Iodine-125 Brachytherapy-Treated Uveal Melanomas: A Modern Institutional Study. Ocul Oncol Pathol 2022;8:175-180. doi: 10.1159/000526771

114. Soni YS, Rich BJ, **Kwon D**, Zhao W, John DL, Seldon C, Meshman J, Benveniste R, Komotar RJ, de la Fuente M, Guillermo Prieto MDP, Azzam G, Mellon EA, Benjamin CG, Diwanji T. Factors associated with the use of salvage whole brain radiation therapy versus salvage stereotactic radiosurgery after initial stereotactic radiosurgery for brain metastases. J Radiosurg SBRT. 2022;8(2):85-94. PMID: 36275132; PMCID: PMC9489072.

115. Ogobuiro I, Collier AL, Khan K, de Castro Silva I, **Kwon D**, Wilson GC, Schwartz PB, Parikh AA, Hammill C, Kim HJ, Kooby DA, Abbott D, Maithel SK, Snyder RA, Ahmad SA, Merchant NB, Datta J. Racial Disparity in Pathologic Response following Neoadjuvant Chemotherapy in Resected Pancreatic Cancer: A Multi-Institutional Analysis from the Central Pancreatic Consortium. Ann Surg Oncol. 2022 Oct 31. doi: 10.1245/s10434-022-12741-4. Epub ahead of print. PMID: 36316508.

116. Rich BJ, **Kwon D**, Soni YS, Bell JB, John D, Azzam G, Mellon EA, Yechieli R, Meshman J, Abramowitz MC, Marques J, Benjamin CG, Komotar RJ, Ivan M, Diwanji T. Survival and Yield of Surveillance Imaging in Long-Term Survivors of Brain Metastasis Treated with Stereotactic Radiosurgery. World Neurosurg. 2022 Aug 23:S1878-8750(22)01189-5. doi: 10.1016/j.wneu.2022.08.079. Epub ahead of print. PMID: 36028107.

117. Bradley T, **Kwon D**, Monge J, Sekeres M, Chandhok N, Thomassen A, Swords R, Padron E, Lancet J, Talati C, Watts J. Molecular characteristics and outcomes in Hispanic and non-Hispanic patients with acute myeloid leukemia. EJHaem. 2022 Oct 18;3(4):1231-1240. doi: 10.1002/jha2.589. PMID: 36467830; PMCID: PMC9713060.

118. Patel S, Rich BJ, Schumacher LD, Sargi ZB, Masforroll M, Washington C, **Kwon D**, Rueda-Lara MA, Freedman LM, Samuels SE, Abramowitz MC, Samuels MA, Carmona R, Azzam GA. ED visits, hospital admissions and treatment breaks in head/neck cancer patients undergoing radiotherapy. Front

Oncol. 2023 Mar 1;13:1147474. doi: 10.3389/fonc.2023.1147474. PMID: 36937396; PMCID: PMC10014878.

119. Samuel D, **Kwon D**, Huang M, Zhao W, Roy M, Tabuyo-Martin A, Siemon J, Schlumbrecht MP, Pearson JM, Sinno AK. Disparities in refusal of surgery for gynecologic cancer. Gynecol Oncol. 2023 May 2;174:1-10. doi: 10.1016/j.ygyno.2023.04.017. Epub ahead of print. PMID: 37141816.

120. Fine JR, Ransdell JM, Pinheiro PS, **Kwon D**, Reis IM, Barredo JC, Isrow DM. The Effect of Health Insurance on Pediatric Cancer Survival: An Analysis of Children Evaluated for Radiation Therapy in Diverse Multicenter Health Systems. J Pediatr Hematol Oncol. 2023 May 16. doi: 10.1097/MPH.0000000000002678. Epub ahead of print. PMID: 37278568.

121. Keyzner A, Azzi J, Jakubowski R, Sinitsyn Y, Tindle S, Shpontak S, **Kwon D**, Isola L, Iancu-Rubin C. Cryopreservation of Allogeneic Hematopoietic Cell Products During COVID-19 Pandemic: Graft Characterization and Engraftment Outcomes. Transplant Proc. 2023 Apr 21:S0041-1345(23)00242-7. doi: 10.1016/j.transproceed.2023.03.070. Epub ahead of print. PMID: 37210273; PMCID: PMC10121136.

122. Kareff SA, Gawri K, Khan K, **Kwon D**, Rodriguez E, Lopes GL, Dawar R. Efficacy and outcomes of ramucirumab and docetaxel in patients with metastatic non-small cell lung cancer after disease progression on immune checkpoint inhibitor therapy: Results of a monocentric, retrospective analysis. Front Oncol. 2023 Mar 21;13:1012783. doi: 10.3389/fonc.2023.1012783. PMID: 37025595; PMCID: PMC10072276.

123. Akahoshi Y, Spyrou N, Hogan WJ, Ayuk FA, DeFilipp Z, Weber D, Choe HK, Hexner EO, Rösler W, Etra AM, Sandhu KS, Yanik GA, Chanswangphuwana C, Kitko CL, Reshef R, Kraus S, Wölfl M, Eder M, Bertrand H, Qayed M, Merli P, Grupp SA, Aguayo-Hiraldo P, Schechter T, Ullrich E, Baez J, Beheshti R, Gleich S, Kowalyk S, Morales G, Young R, **Kwon D**, Nakamura R, Levine JE, Ferrara JLM, Chen YB. Incidence, clinical presentation, risk factors, outcomes, and biomarkers in de novo late acute GVHD. Blood Adv. 2023 Jun 14:bloodadvances.2023009885. doi: 10.1182/bloodadvances.2023009885. Epub ahead of print. PMID: 37315175.

124. Goel N, Hernandez A, **Kwon D**, Antoni MH, Cole S. Impact of Neighborhood Disadvantage on High-Risk Oncotype DX Recurrence Scores and Breast Cancer Survival. Ann Surg. 2023 Aug 28. doi: 10.1097/SLA.0000000000006082. Epub ahead of print. PMID: 37638386.

125. de Almeida S R Jr, Thomas J, Mason MM, Becerra MF, Merhe A, Reis IM, **Kwon D**, Soodana-Prakash N, Tewari A, Patel V, Wagaskar V, Konety B, Kasraeian A, Czarniecki S, Thoreson GR, Kim EH, Swain S, Parekh DJ, Punnen S. Optimum threshold of the 4Kscore for biopsy in men with negative or indeterminate multiparametric magnetic resonance imaging. BJUI Compass.

2023 May 1;4(5):591-596. doi: 10.1002/bco2.235. PMID: 37636212; PMCID: PMC10447206.

126. Thomas J, Atluri S, Zucker I, Reis I, **Kwon D**, Kim E, Tewari A, Patel V, Wagaskar V, Konety B, Kasraeian A, Czarniecki S, Thoreson G, Soodana-Prakash N, Ritch C, Nahar B, Gonzalgo M, Kava B, Parekh D, Punnen S. A multi-institutional study of 1,111 men with 4K score, multiparametric magnetic resonance imaging, and prostate biopsy. Urol Oncol. 2023 Oct;41(10):430.e9-430.e16. doi: 10.1016/j.urolonc.2023.07.001. Epub 2023 Aug 4. PMID: 37544833.

127. Aihie NS, Hougen HY, **Kwon D**, Punnen S, Nahar B, Parekh DJ, Gonzalgo ML, Ritch CR. Predictors of discharge to home following major surgery for urologic malignancies: Results from the national surgical quality improvement program. Urol Oncol. 2023 Sep;41(9):392.e19-392.e25. doi: 10.1016/j.urolonc.2023.07.003. Epub 2023 Jul 25. PMID: 37495474.

128. Stoyanova R, Zavala-Romero O, **Kwon D**, Breto AL, Xu IR, Algohary A, Alhusseini M, Gaston SM, Castillo P, Kryvenko ON, Davicioni E, Nahar B, Spieler B, Abramowitz MC, Dal Pra A, Parekh DJ, Punnen S, Pollack A. Clinical-Genomic Risk Group Classification of Suspicious Lesions on Prostate Multiparametric-MRI. Cancers (Basel). 2023 Oct 31;15(21):5240. doi: 10.3390/cancers15215240. PMID: 37958414; PMCID: PMC10647832.

129. Mouzannar A, Delgado J, **Kwon D**, Atluri VS, Mason MM, Prakash NS, Zhao W, Nahar B, Swain S, Punnen S, Gonzalgo ML, Parekh DJ, Deane LA, Ritch CR. Racial disparity in the utilization of immunotherapy for advanced prostate cancer. J Natl Med Assoc. 2023 Dec;115(6):566-576. doi: 10.1016/j.jnma.2023.09.007. Epub 2023 Oct 30. PMID: 37903694.

130. Araya A, Thornton LR, **Kwon D**, Ferguson GM, Highfield LD, Hwang KO, Holmes HM, Bernstam EV. Medication Reconciliation during Transitions of Care Across Institutions: A Quantitative Analysis of Challenges and Opportunities. Appl Clin Inform. 2023 Oct;14(5):923-931. doi: 10.1055/a-2178-0197. Epub 2023 Sep 19. PMID: 37726022; PMCID: PMC10665121.

131. **Kwon D**, Simon SL, Hoffman FO, Pfeiffer RM. Frequentist model averaging for analysis of dose–response in epidemiologic studies with complex exposure uncertainty. PLoS ONE 18(12): e0290498. 2023 Dec 14.

132. Montoya C, Spieler B Welford SM, **Kwon D**, Pra AD, Lopes G, Mihaylov I. Predicting Response to Immunotherapy in Non-small Cell Lung Cancer-from Bench to Bedside. Front. Oncol. 13:1225720. doi: 10.3389/fonc.2023.1225720

133. Spyrou N, Akahoshi Y, Kowalyk S, Morales G, Beheshti R, Aguayo-Hiraldo P, Al Malki MM, Ayuk F, Bader P, Baez J, Capellini A, Choe H, DeFilipp Z, Eder M, Eng G, Etra A, Gleich S, Grupp SA, Hexner E, Hoepting M, Hogan

WJ, Kasikis S, Katsivelos N, Khan A, Kitko CL, Kraus S, **Kwon D**, Merli P, Portelli J, Qayed M, Reshef R, Schechter T, Vasova I, Wölfl M, Wudhikarn K, Young R, Holler E, Chen YB, Nakamura R, Levine JE, Ferrara JLM. A Day 14 Endpoint for Acute GVHD Clinical Trials. Transplant Cell Ther. 2024 Feb 4:S2666-6367(24)00176-3. doi: 10.1016/j.jtct.2024.01.079. Epub ahead of print. PMID: 38320730.

134. Choi S, Borowsky PA, Morgan O, **Kwon D**, Zhao W, Koru-Sengul T, Gilna G, Net J, Kesmodel S, Goel N, Patel Y, Griffiths A, Feinberg JA, Kangas-Dick A, Andaz C, Giuliano C, Zelenko N, Manasseh DM, Borgen P, Rojas KE. A Multi-institutional Analysis of Factors Influencing the Rate of Positive MRI Biopsy Among Women with Early-Stage Breast Cancer. Ann Surg Oncol. 2024 Jan 29. doi: 10.1245/s10434-024-14954-1. Epub ahead of print. PMID: 38286883.

135. Kryvenko ON, Epstein JI, Merhe A, Iakymenko OA, De Almeida E Silva R, Chanamolu DK, Brisk LM, **Kwon D**, Nemov I, Punnen S, Pollack A, Stoyanova R, Parekh DJ, Jorda M, Gonzalgo ML. Radical Prostatectomy Cancer Grade and Percentage of Gleason Pattern 4 Estimated by Global vs Individual Tumor Grading Correlated Differently with the Risk of Biochemical Recurrence in Grade Group 2 and 3 Cancers. Am J Clin Pathol. 2024 Jul 5;162(1):51-61. doi: 10.1093/ajcp/aqae003. PMID: 38412318.

136. Yang C, Berkalieva A, Mazumdar M, **Kwon D**. Power calculation for detecting interaction effect in cross-sectional stepped-wedge cluster randomized trials: an important tool for disparity research. BMC Med Res Methodol. 2024 Mar 2;24(1):57. doi: 10.1186/s12874-024-02162-0. PMID: 38431550; PMCID: PMC11323530.

137. Etra AM, El Jurdi N, Katsivelos N, **Kwon D**, Gergoudis SC, Morales G, Spyrou N, Kowalyk S, Aguayo-Hiraldo P, Akahoshi Y, Ayuk FA, Baez J, Betts BC, Chanswangphuwana C, Chen YB, Choe HK, DeFilipp Z, Gleich S, Hexner EO, Hogan WJ, Holler E Prof Dr med, Kitko CL, Kraus S, Al Malki MM, MacMillan ML, Pawarode A, Quagliarella F, Qayed M, Reshef R, Schechter-Finkelstein T, Vasova I, Weisdorf DJ, Wölfl M, Young R, Nakamura R, Ferrara JLM, Levine JE, Holtan SG. Amphiregulin, ST2,and REG3α Biomarker Risk Algorithms as Predictors of Non-Relapse Mortality in Patients with Acute GVHD. Blood Adv. 2024 Jun 25;8(12):3284-3292. doi: 10.1182/bloodadvances.2023011049. PMID: 38640195.

138. Patel R, **Kwon D**, Hovstadius M, Tiersten A. Patterns in use of palliative care in older patients with metastatic breast cancer: A National Cancer Database analysis. J Geriatr Oncol. 2024 Sep;15(7):101840. doi: 10.1016/j.jgo.2024.101840. Epub 2024 Aug 1. PMID: 39095312.

139. Jin W, Montoya C, Rich BJ, Taswell CS, Noy M, **Kwon D**, Spieler B, Mahal B, Abramowitz M, Yechieli R, Pollack A, Pra AD. A Smart Water Bottle and Companion App (HidrateSpark 3) to Improve Bladder-Filling Compliance in Patients with Prostate Cancer Receiving Radiotherapy: Nonrandomized Trial of Feasibility and Acceptability. JMIR Cancer. 2024 Sep 10;10:e51061. doi: 10.2196/51061. PMID: 39255484; PMCID: PMC11422727.

140. Zhang L, Troccoli C, Mateo-Victoriano B, Lincheta LM, Jackson E, Shu P, Plastini T, Tao W, Kwon D, Chen SX, Sharma J, Jorda M, Kumar S, Lombard D, Gulley J, Bilusic M, Lockhart A, Beuve A, Rai P. Stimulating Soluble Guanylyl Cyclase with the Clinical Agoinist, Riociguat Restrains the Development and Progression of Castration-resistant Prostate Cancer. Cancer Research. 2025;85:134-53

B. Chapters

1. **Kwon D**, Kim S., Dahl D., Swartz M., Tadesse M.G., Vannucci M. (2006). Identification of DNA regulatory motifs and regulators by integrating gene expression and sequence data. In *Bayesian Inference for Gene Expression and Proteomics*, Kim-Anh Do, Peter Mueller and Marina Vannucci (Eds). Cambridge University Press, 333-346.

2. Chalise P, **Kwon D**, Fridley BL, Mo Q. Statistical Methods for Integrative Clustering of Multi-omics Data. Methods Mol Biol. 2023;2629:73-93. doi: 10.1007/978-1-0716-2986-4_5. PMID: 36929074.

C. Other professional communications

INVITED LECTURES/PRESENTATIONS

- Radiation Epidemiology Branch, DCEG, National Cancer Institute, Apr., 13, 2005
- Center for Computational Biology & Bioinformatics Seminar, Dept. of Medical and Molecular Genetics, Indiana University, Indianapolis, Indiana, Jun., 15, 2007
- Biostatistics Seminar, Dept. of Biostatistics, University of Minnesota, Minneapolis, Minnesota, Sept., 25, 2007
- Department Colloquial, Dept. of Mathematical Science, University of Arkansas, Fayetteville, Arkansas, Oct., 25, 2007
- Workshop: Impact of Uncertainty in Dose to the Dose Response, National Cancer Institute, May 8, 2009
- Biostatistics Seminar, Dept. of Biostatistics, Virginia Commonwealth University, Richmond, Virginia, Jan., 21, 2011
- Biostatistics Seminar, Dept. of Biostatistics, University of Kansas Medical Center, Kansas City, Kansas, May, 19, 2011
- Biostatistics Seminar, Sylvester Comprehensive Cancer Center, Miami, Florida, June, 3, 2011
- Biostatistics Seminar, CDER/FDA, Silver Spring, Maryland, August 29, 2011
- Biostatistics Seminar, Department of Biostatistics, University of Medicine and Dentistry of New Jersey, Piscataway, New Jersey, Sept., 23, 2011
- Health risks from exposure to radioactive fallout from nuclear testing in Kazakhstan at the Semipalatinsk nuclear test site (SNTS) workshop, International Agency for Research on Cancer (IARC), Lyon, France, May 8, 2013
- Division of Cancer Epidemiology & Genetics Seminar, National Cancer Institute, Rockville, MD, Nov. 6, 2014
- Invited seminar in Institute of Radiation Medicine, Tianjin China, June 4, 2015

- Invited session in Joint Statistical Meeting, Seattle WA, Aug. 12, 2015
- Low-dose Radiation Statistics: DoReMi Workshop, CREAL, Barcelona Spain, Oct. 27, 2015
- Conference on Radiation and Health, Waikoloa Village, Hawaii, Oct. 15, 2016
- Invited seminar, Department of Preventive Medicine, Northwestern University, Chicago, Illinoi, Sept. 26, 2017
- Invited seminar, Department of Biostatistics and Epidemiology, Medical University of South Carolina, Charleston, South Carolina, January 26, 2018
- Invited seminar, Department of Public Health Sciences, University of Miami, Miami, Florida, Aug. 24, 2018
- Invited seminar, CTSI, Tufts University, Boston, Massachusetts, July 26, 2018
- Invited presentation, Canadian Fluoroscopy Cohort Study (CFCS) Dosimetry Meeting, Department of Epidemiology & Biostatistics, University of California San Francisco, CA, Jan. 14, 2019.
- Invited seminar, Center for Clinical and Translational Sciences, The University of Texas Health Science Center at Houston, Houston, Texas, Nov. 30, 2021
- Invited seminar, Department of Population Health Sciences and Policy, Icahn School of Medicine at Mount Sinai, New York, New York, Jan. 5, 2022
- Invited seminar, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, Quebec, Canada, Sep. 14, 2022
- Invited seminar, AMC Annual Meeting, AIDS Malignancy Consortium, Reston, Virginia, April. 28, 2023
- Invited seminar, AMC Annual Meeting, AIDS Malignancy Consortium (virtual), April. 26, 2024
- Invited seminar, 2024 Applied Statistics Symposium, International Chinese Statistical Association, Nashville, Tennessee, June. 17, 2024

VOLUNTARY PRESENTATIONS

2004 Joint Statistical Meetings, Toronto, Canada.
2005 Texas A&M University, College Station, TX
2005 Joint Statistical Meetings, Minneapolis, MN.
2006 Grant proposal presentation (molecular epidemiology course), NCI, Rockville, MD
2007 ENAR, Atlanta, GA (poster)
2007 AACR, Los Angeles, CA (poster)
2008 ENAR, Crystal City, VA.
2008 Joint Statistical Meetings, Denver, CO.
2009 Joint Statistical Meetings, Washington DC.
2010 American Statistical Association Radiation and Heath Conference, Annapolis MD (poster)
2011 ENAR, Miami, FL
2012 Joint Statistical Meetings, San Diego, CA
2015 ENAR, Miami FL (poster)
2016 ENAR, Austin TX (poster)
2017 ENAR, Washington DC (poster)
2018 ENAR, Atlanta, GA (poster)

2019 ENAR, Philadelphia, PA (poster)
2022 Joint Statistical Meetings, Washington DC. (poster)

APPENDIX C

2023 Winthrop P. Rockefeller Cancer Institute External Advisory Board Bios

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.

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

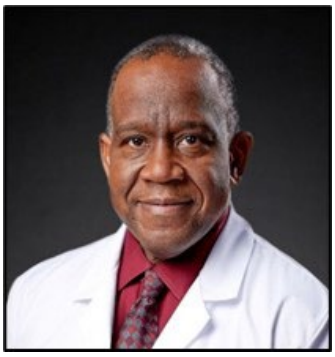
Edward Chu, MD, MMS, received his undergraduate, graduate, and medical degrees from the Brown University Program in Liberal Medical Education and continued at Brown to complete his internal medicine residency. Dr. Chu currently serves as the Deputy Director of the University of Pittsburgh Medical Center's (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 ten currently open early phase trials.

Chad A. Ellis, PhD
Senior Director of Higher Education Consulting
Huron Consulting Group

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 U.S. 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.

Kathleen Moore, MD, MS
Associate Director, Clinical Research
Director, Oklahoma TSET Phase I Program
Virginia Kerley Cade Endowed Chair, Cancer Development
Professor, Section of Gynecologic Oncology
Stephenson Cancer Center
University of Oklahoma Health Sciences Center
Oklahoma City, OK

Kathleen Moore, MD, is the Virginia Kerley Cade Endowed Chair in Cancer Development and a professor in the Department of Obstetrics and Gynecology at the University of Oklahoma Health Sciences Center. She currently serves as the Associate Director of clinical research and the director of the Oklahoma TSET Phase I Program at the Stephenson Cancer Center. She also serves as the program director of the Gynecology Oncology Fellowship Program in the Department of Obstetrics and Gynecology. She completed her gynecology oncology fellowship at the University of Oklahoma Health Sciences Center in 2007 and was recruited to join the faculty. Her primary areas of interest are in new drug development and Phase I clinical trials.

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 U.S. 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.

Lalita Shevde-Semant, PhD
Associate Director, Cancer Research Training and Education Coordination
Professor, Department of Pathology
O'Neal Comprehensive Cancer Center
University of Alabama at Birmingham
Birmingham, AL

Lalita Shevde-Samant, PhD is a professor in the Department of Pathology and the Associate Director of Cancer Research Training and Education Coordination (CRTEC) at the O'Neal Comprehensive Cancer at UAB. Since 2004, her lab has been continuously funded to interrogate dynamics of interactions between breast tumor cells and their microenvironment. Investigations led by her group have uncovered a novel role of Hedgehog signaling in regulating tumor cell resistance to chemotherapeutics and the tumor microclimate; more recently having identified that Hedgehog activity sculpts the immune portfolio of breast tumors. She has a well-documented record of accomplishments, with 108 peer-reviewed research publications and book chapters. These discoveries have been enabled with intramural support and extramural funding from the NCI and the Department of Defense.

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 D

Act 181

State of Arkansas *As Engrossed: S2/4/19*
92nd General Assembly **A Bill**
Regular Session, 2019 SENATE BILL 151

By: Senators Irvin, Bledsoe, B. Davis, J. English
By: Representatives M. Gray, Barker, Bentley, Brown, Capp, Cavenaugh, Crawford, Dalby, C. Fite, Lundstrum, J. Mayberry, Petty, Rushing, Speaks, Vaught, Gazaway

For An Act To Be Entitled

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

Subtitle

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

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

SECTION 1. DO NOT CODIFY. Legislative findings.

The General Assembly finds that:

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

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

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

diagnosis rates in Arkansas are:

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

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

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

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

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

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

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

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

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

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

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

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

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

(13) National Cancer Institute-Designated Cancer Centers have

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

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

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

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

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

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

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

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

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

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

University of Arkansas for Medical Sciences will need to recruit:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

19-5-1149. University of Arkansas for Medical Sciences National Cancer Institute Designation *Trust Fund* — Report.

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

(b) The fund shall consist of:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) The semiannual report required under this subsection shall be submitted by January 1 and July 1 of each year. 22

/s/Irvin

APPROVED: 2/19/19