UAMS | Winthrop P. Rockefeller Cancer Institute

NCI Fund Semiannual Legislative Report
June 1, 2022 – November 30, 2022

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 and Cancer Institute leadership, 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 program, pilot funding opportunities, and shared resources.

Background

According to the American Cancer Society, more than 18,500 Arkansans will be diagnosed with cancer in 2022, and an estimated 6,250 people will die of the disease[1]. Arkansas has a high rate of cancer diagnoses in four types of cancers: lung and bronchus (2,820), breast (2,440), prostate (2,510), and colon and rectal (1,530). For more than three decades, 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%). Cancer is the second-leading cause of death in Arkansas and could 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.

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

[1] American Cancer Society. *Cancer Facts & Figures 2022*. American Cancer Society, 2022, www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2022/2022-cancer-facts-and-figures.pdf.

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 71 NCI-designated cancer centers in 36 states and the District of Columbia, including 53 Comprehensive Cancer Centers, 11 Cancer Centers, and seven Basic Laboratory Cancer Centers (**Figure 1**). Sixty NCI-designated cancer centers are affiliated with university medical centers.

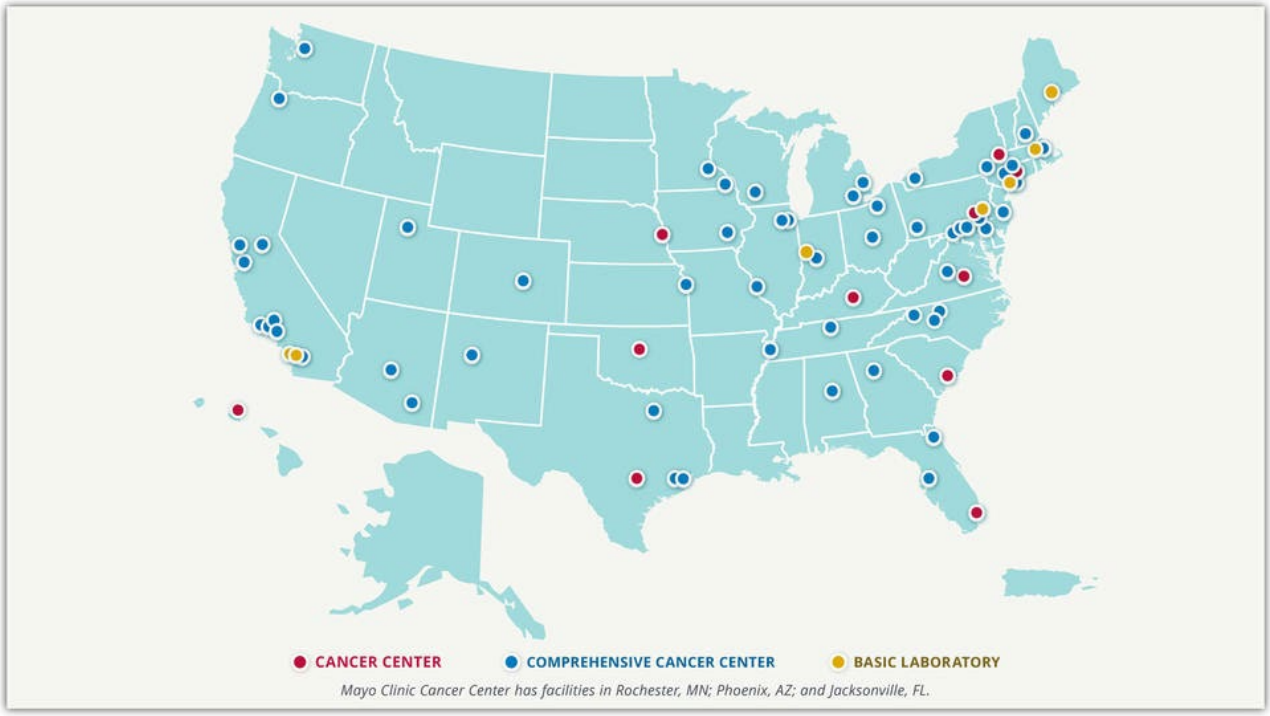


Figure 1. NCI Designated Cancer Centers. There are currently 71 NCI-designated cancer centers across 36 states and the District of Columbia.

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**).

Markey Cancer Center in Lexington, Kentucky; Stephenson Cancer Center in Oklahoma City, Oklahoma; and Sylvester Comprehensive Cancer Center in Miami, Florida; earned NCI designation for the first time in 2013, 2018, and 2019, respectively. After ten years of NCI "Cancer Center" designation, the University of Kansas Cancer Center in Kansas City, Kansas, was elevated to "Comprehensive" status in 2022.

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.

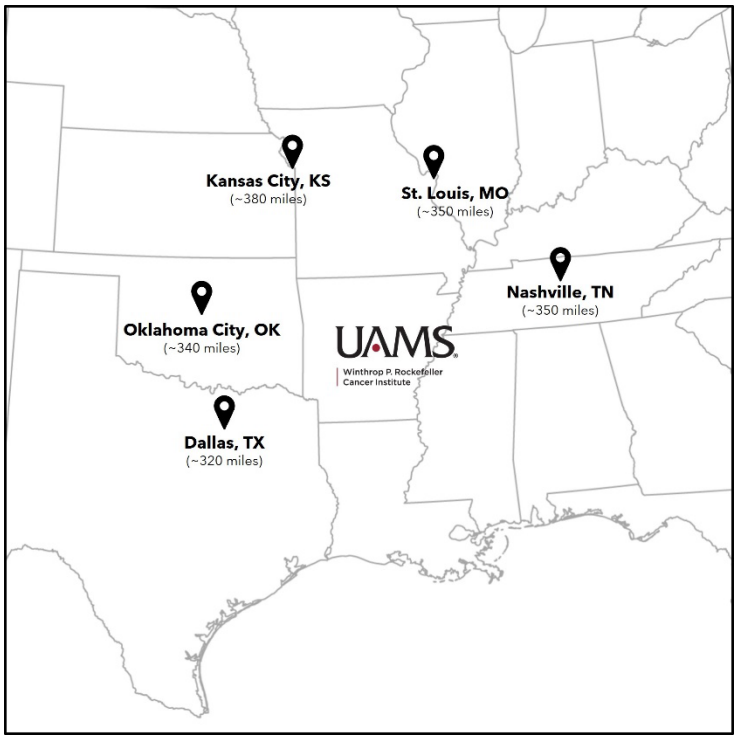


Figure 2. Closest NCI-Designated Centers to Arkansas.

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 the Arkansas focused on improving cancer outcomes. In fact, NCI requires its designated cancer centers to define their research portfolio based on what will make a difference in cancer prevention, awareness, treatment, survival, and quality of life in the population they serve.

2. Indirect monetary gains include a projected $70 million economic impact on the state of Arkansas annually. Further growth following NCI designation is expected to increase that impact value. (Source: Arkansas Center for Health Improvement, 2018)
3. Becoming a member of the NCI Cancer Centers Program will give Arkansas a seat at the table to drive national strategic planning for cancer research toward opportunities that will benefit all Arkansans.
4. Arkansans will have access to clinical trials and new cancer treatments that are only available to NCI-designated cancer centers.
    a. Access to grant funding opportunities that are only available to NCI-designated cancer centers
    b. Access to cutting-edge clinical trials and investigational drugs that are only available to NCI-designated cancer centers
5. Cancer researchers at the Winthrop P. Rockefeller Cancer Institute will have access to cancer research grants that are only available to NCI-designated cancer centers. This provides the opportunity to increase the amount of cancer research designed to benefit Arkansans by ~60%.

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. Oklahoma's Stephenson Cancer Center became the 70th NCI-designated cancer center on May 2, 2018, stating it took 12 years and $400 million to become designated. Twenty-nine percent of the $400 million came from the state, predominantly through a statewide tobacco tax, according to Stephenson Cancer Center Director, Robert Mannel, MD[2]. 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].

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

Once NCI approves a center to apply for NCI designation, the center submits its CCSG to NCI according to the timeline set by NCI. Preparation of a CCSG generally takes two years and is often begun well before NCI approves a center to apply for designation. Following submission of the grant, the cancer center will host a site visit from NCI and leaders from other cancer centers to review the cancer center.

[2] *The Cancer Letter*. 2 May 2018, Vol. 44, No. 18, https://cancerletter.com/conversation-with-the-cancer-letter/20180504_3/
[3] *The Cancer Letter*. 29 July 2019, Vol. 45, No. 31, https://cancerletter.com/the-cancer-letter/20190729_1/

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 300 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.

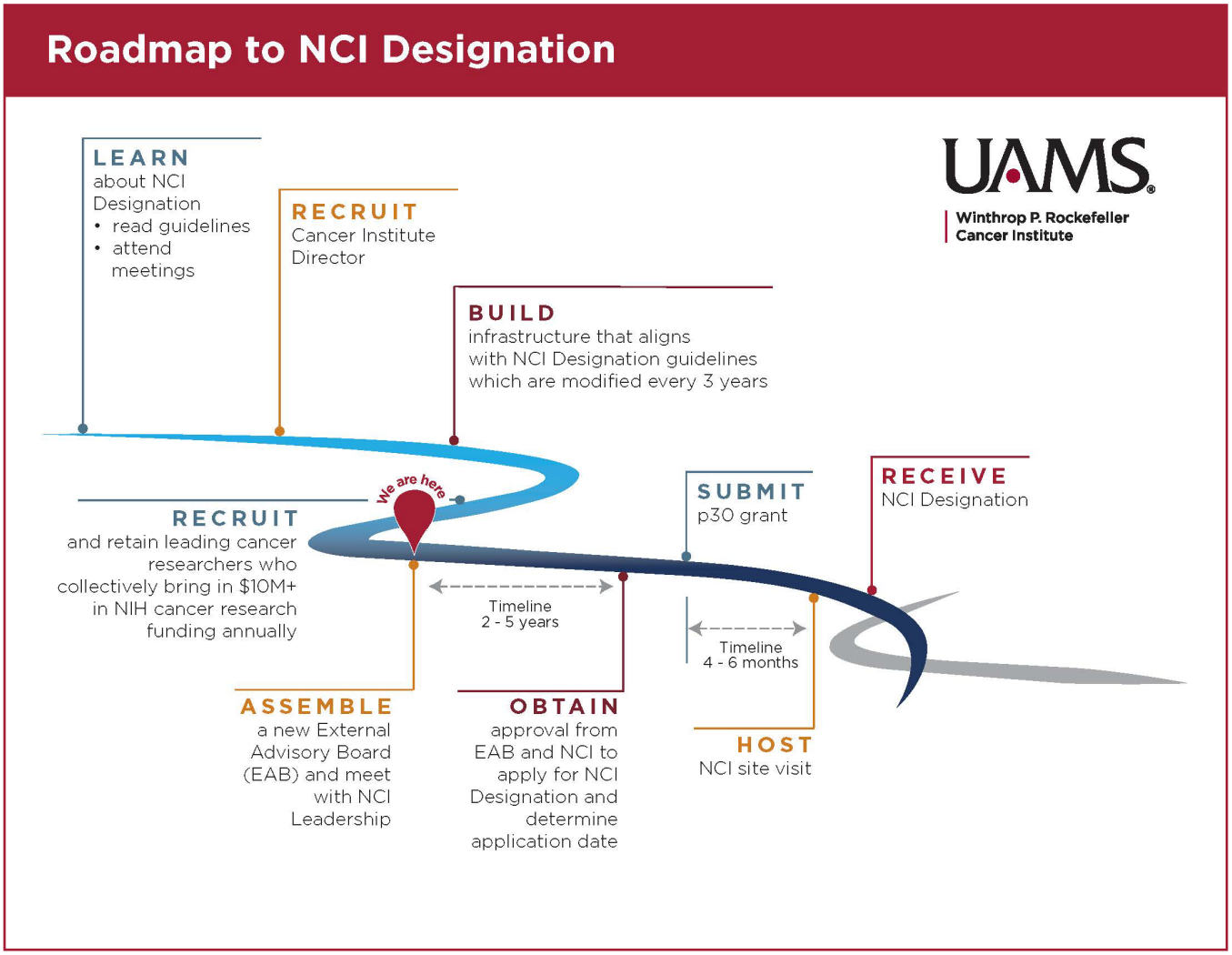


Figure 3. Roadmap to NCI Designation.

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 June 1, 2022 – November 30, 2022. Details on the expense breakdown can be found in **Appendix A**.

Table 1. State Funds – NCI Designation.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
Division	FY20 (Actual Expense)	FY21 (Actual Expense)	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
Actual Expense	1,929,339	4,822,056	15,821,985							22,573,379
Encumbered Expense (current confirmed commitments)				40,698,989	24,057,543	20,989,955	17,168,422	12,587,092	9,190,903	124,692,904
Total Actual Expense Plus Encumbered Expenses										147,266,283
Total Revenue Received to Trust Fund To Date										77,827,850

Table 2. Trust Fund Reporting Period: June 1, 2022 to November 30, 2022.

Beginning Balance (June 1, 2022)	**$30,707,625.08**
Total Transfers In	**$27,277,898.91**
Special Revenue: Cigarette Paper Tax	**$889,404.96**
**Processing Charges by DF&A on Special Revenue	**($27,571.55)**
Net Revenue Received	**$58,847,357.40**

Expense:

**Workers Comp Charged direct by DF&A	**($13,453.13)**
Expense Draws Posted for Period (6/01/2022 – 11/30/2022)	**($6,984,967.01)**
Ending Balance (November 30, 2022)	**$51,848,937.26**
Expense Draws for November Not Yet Posted to AASIS	**($2,912,027.79)**
Adjusted Ending Balance	**$48,936,909.47**

**Department of Finance and Administration adjustments

Progress Toward Achieving NCI Designation June 1, 2022 – Nov. 30, 2022

Large-Scale Recruitment of Cancer Researchers

The Winthrop P. Rockefeller Cancer Institute continues to see residual recruitment activities from the omnibus ads that were placed in high-impact journals during previous reporting periods. Because we have worked with departments across campus on recruitment for a couple of years now, our relationships and processes have become more defined, 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. **Table 3** shows two successful recruitments from this reporting period that were referrals from our partner departments, one in a department chair leadership position. These two recruits' CVs are provided in **Appendix B**. The sum total of our large-scale recruitment efforts to date is 23 diverse candidates across academic rank, research focus, and home departments.

Table 3. Cancer Research Recruitments June 1, 2022 – November 30, 2022.

Candidate	Current/Previous Institution	Recruited Rank	Recruitment Status	Recruitment Home Department	Research Interest	Peer-Reviewed Cancer Research Funding at Time of Legislative Reporting	CI investment*
John Imig, PhD	Medical College of Wisconsin	Professor, Pharmaceutical Sciences Department Chair	Started September 30, 2022	Pharmaceutical Sciences	Hypertension and kidney disease	R01 - NIH $2,612,705	$1,000,000 total for start-up resources over 4 years ($250,000 per year FY23 - FY27)
Ellen van der Plas, PhD	University of Iowa Hospital and Clinics	Associate Professor	Started September 1, 2022	Pediatrics - Hematology/Oncology	Child brain development and cancer treatment	R37 – NCI $1,543,030	$650,000 total for start-up resources over two years (FY23-FY24)

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

Targeted Recruitment of Cancer Researchers

In August of 2022, the Winthrop P. Rockefeller Cancer Institute recruited a new Associate Director of Cancer Prevention and Control (CPC) – Pebbles Fagan, PhD. In an effort to expand the Cancer Prevention and Population Sciences research program, targeted advertisements were placed in population sciences high-impact journals. Dr. Fagan is in the process of reviewing some of our early applications. In addition, we continue our efforts in the area of community outreach and engagement (COE), by placing targeted advertisements for mid-career researchers in order to diversify our COE portfolio. Applicants will begin to be evaluated early next year.

Strategic Recruitment of Oncology Clinical Faculty and Staff

In the last six months, we have hired two additional hematology oncologists to join our impressive clinical team who will be starting in 2023 (**Table 4**). Sri Obulareddy, MD and Vivek Yadala, MD will serve our cancer network. We have also hired a radiation oncologist (Ciani Ellison, MD) and a gynecologic oncologist (Maria Ruiz, DO). Their CVs are presented in **Appendix C**. We continue to utilize medical search firms and our own advertisements to recruit top medical oncologists from around the country.

Table 4. Clinical Oncology Recruitments June 1, 2022 – November 30, 2022.

Incoming	Anticipated Start Date	Clinic	Subspeciality	Previous Organization
Ciani Ellison, MD	July 2023	Radiation Oncology	Radiation Oncology	Medical College of Wisconsin
Sri Obulareddy, MD	January 2023	Medical Oncology	Breast	Yakima Valley Memorial, North Star Lodge Cancer Center
Maria Ruiz, DO	November 2022	Gynecologic Oncology	Gynecologic Oncology	North Florida Hospital
Vivek Yadala, MD	August 2023	Medical Oncology	General Oncology	Marshall University School of Medicine

New Winthrop P. Rockefeller Cancer Institute Senior Leadership

The Winthrop P. Rockefeller Cancer Institute is excited to announce a new Cancer Institute leader who will help develop the infrastructure for the programs required for our NCI designation application. Marjan Boerma, PhD, Professor of Pharmaceutical Sciences in the College of Pharmacy and Director of the Division of Radiation Health, was appointed as Associate Director of Basic Sciences for the Winthrop P. Rockefeller Cancer Institute. She will play a role in expanding our capacity in basic research through interactions with our Research Programs and their leaders and overseeing research operations and space within the Cancer Institute.

External Advisory Board

Over the last year, the Winthrop P. Rockefeller Cancer Institute Director has personally solicited and engaged multiple cancer experts to participate in an External Advisory Board (EAB) for the Cancer Institute. The Winthrop P. Rockefeller Cancer Institute EAB is now established (**Figure 3, Appendix D**) and is comprised of ten diverse expert physicians and researchers from NCI-designated (and comprehensive) cancer centers across the country. The purpose of the EAB is to address the progress of the Cancer Institute and provide crucial guidance as we continue to move towards NCI designation.

The first EAB meeting was held on August 2, 2022, via Zoom. Dr. Michael Birrer (Director, Winthrop P. Rockefeller Cancer Institute), Dr. Pearl McEflish (Associate Director of Community Outreach and Engagement), Amy Jo Jenkins (Associate Director of Administration), and the four Program Leaders (Dr. Steve Post, Dr. Mayumi Nakagawa, Dr. Marjan Boerma, and Dr. Hong-yu Li) all provided detailed presentations to the EAB from their respective areas and programs. Feedback and comments from the EAB were favorable and provided critical guidance for moving forward (**Appendix E**). The next meeting will take place in person in Spring 2023.

Increased Research Funding

Our recruitment of active researchers has brought in additional cancer research funding. Our 23 signed recruits are bringing in $17 million of active external peer-reviewed funding (total); this number does not include all of the recruits' planned grant submissions once arriving on campus. Investments in FY22 new recruits amounted to a 212% return on investment. In addition, our current researchers continue to submit multiple grants to cancer-related funding sources such as NCI, American Cancer Society (ACS), and Department of Defense (DOD). Our researchers were awarded $8.18 million in new peer-reviewed, cancer-related funding (total) during the current reporting period of June 1, 2022 – November 30, 2022. As of November 30, 2022, our cancer researchers held $18.6 million in peer-reviewed, cancer-related annual project direct cost grant funding.

Cancer Research Grant Activity

Table 5 summarizes grant activity occurring June 1, 2022 – November 30, 2022. A detailed list of cancer research grant activity is provided in **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)
12	**$8,185,734**

Table 6. Detailed List of Cancer Research Grant Activity.

Grant Number	Title	Funding Agency	PI	Total Amount Awarded
5 K01 DA055088-05	K01 - smoking lapse among AA menthol smokers	NIH/Nat. Inst. on Drug Abuse	Jones, Dina	$732,868
1 R03DE031978-01	Targeting ILlRAP in virus-associated malignancies	NIH/Nat. Inst. of Dental & Craniofacial Research	Dai, Lu	$304,000
5 U01 AI170039-05	Platelets in radiation-induced immune dysregulation	NIH/Nat. Inst. of Allergy & Infectious Diseases	Cannon, Martin Ware, Jerry Pathak, Rupak	$3,357,966
5 R01CA167065	Defining mechanisms of gamma herpesvirus-driven gen	NIH/Nat. Cancer Institute	Forrest, James	$1,840,360
75N91019D00024	TO8 MIDI 1.2	NIH/Nat. Cancer Institute	Prior, Fred	$137,743
75N91019D00024	TO 9 MIDI 3	NIH/Nat. Cancer Institute	Prior, Fred	$46,595
Advance Account	UAMS Mobile Mammography Program 2023	Arkansas Department of Health	Bryant-Smith, Gwendolyn	$423,067
EYIA 2020	Aberrant Splicing and NMD in MDS	Edward P. Evans Foundation	Rahman, Mohammad	$125,000
MNPR-301-001	MNPR-301-001, 273418	Monopar Therapeutics Inc.	Lewis, Gary	$161,535
P20GM121293	Role of HELB in the Replication Stress Response	NIH/Nat. Inst. of General Medical Sciences	Byrd, Alicia	$266,000
TLC-21-164-01 - TLC	Mechanistic characterization of the Hippo tumor su	American Cancer Society, Inc.	Leung, Justin	$30,600
W81XWH2211031	Targeting unique DNA structures to repress	U.S. Department of Defense	Kendrick, Samantha	$760,000
Total				**$8,185,734**

Philanthropic Fundraising

As the Winthrop P. Rockefeller Cancer Institute continues to pursue philanthropic support, the ability to return to in-person events has allowed us to bring back one of our premier fundraising events, the Cancer Institute's Gala for Life. Our advisory boards are slowly returning to meeting in person as well, giving us the ability to schedule tours of our new Radiation Oncology/Proton Center as well as the opportunity for solicitation of funds needed to complete the build out. This year also marked our third year to host the Be a Part of the Cure Telethon, which took place in early December. We continue to collaborate with the Vice Chancellor of

Institutional Advancement, John Erck, and to date, have gifts and pledges totaling $21.5 million of our $30 million goal.

Radiation Oncology Program Expansion

On May 25, 2021, UAMS in collaboration with Arkansas Children's Hospital, Baptist Health, and Proton International launched construction of a 52,249 square foot Radiation Oncology and Proton Center on the main campus. As part of the Winthrop P. Rockefeller Cancer Institute, the center will be the only proton center in Arkansas and will allow our residents to receive this cutting-edge treatment without having to leave the state. Proton therapy is an alternative treatment to traditional radiation therapy and uses a precisely focused high-energy beam that targets tumors without affecting the surrounding tissue and organs. The building construction was completed on September 19, 2022, and the proton cyclotron and gantry arrived from Belgium with installation beginning on October 17, 2022. We are currently anticipating three state-of-the-art linear accelerators to arrive by May 2023, which will offer additional treatment options for patients receiving photon therapy.

The first patients are scheduled to be treated in our center in October 2023 following the successful clinical testing and regulatory approvals for the equipment. Efforts are currently underway to recruit highly skilled specialists who will operate this complex equipment, including two experienced proton physicists and radiation oncologists with proton training along with critical support staff, including radiation therapists, nurses, IT staff, and an engineer. Proton International is coordinating training both on campus and at other proton centers around the country to ensure that staff have all the necessary skills to provide excellent care to our patients.

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 65 research nurses, research coordinators, and regulatory and financial specialists currently support 270 clinical research studies in brain, breast, cutaneous, gastrointestinal, genitourinary, gynecological, head and neck, lung, and hematological cancers. Clinical trials staff have enrolled 76 participants in therapeutic trials and over 500 total participants during this reporting period. Enrollment is up over 10% since the previous reporting period. We also expanded our staff presence and clinical trial access to Northwest Arkansas and the Central Arkansas Veterans Healthcare System, with the first trials to open in early 2023.

Community Outreach and Engagement

To advance coordinated care for cancer patients and families and improve access to care, the Winthrop P. Rockefeller Cancer Institute Community Outreach and Engagement (COE) office mobilized an effort to ensure community partners know "Who We Are & What We Do," visiting nearly 900 FQHCs, health care facilities, community-based organizations, faith-based organizations, top employers, and other businesses across the state collectively. Our seven-person navigator team, located in Fort Smith, Jonesboro, Batesville, Little Rock, Pine Bluff, Magnolia, and Texarkana, helped nearly 1,100 individuals and/or families seeking cancer screening or care. The rural research network established a community advisory board; and in collaboration with UAMS Regional Campuses launched several studies. For example, the We Inspire Smart Eating (WISE) study launched in October 2022 and is led by Taren Swindle, PhD, Associate Professor, College of Medicine, Research and Evaluation, Department of Family and Preventive Medicine. The study, taking place in Batesville (Independence) and Hardy (Sharp/Fulton), aims to adapt and pilot test WISE curriculum for home visiting programs in rural Arkansas. Targeted enrollment is 80 participants.

Cancer Research Training and Education

A critical component needed for gaining designation as an NCI 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. The Cancer Research Training and Education (CRTE) Core 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. Since October 2021, the CRTE core has awarded 22 travel grants.

The Forum Seminar Series targets internationally recognized basic and translational scientists who are doing transformative cancer research. Such scientists not only have innovative ideas and techniques to share with our scientists, but they also serve on scientific review panels that determine if our grant proposals are funded and editorial boards of prestigious journals that judge suitability of our research for publication. Typically, each speaker is identified by a Cancer Institute member who serves as host. The speaker arrives the evening prior to the seminar date and has dinner with the host and one or two other Cancer Institute members who are interested in the speaker's work and could benefit from getting to know the speaker. On the day of the Forum seminar, the speaker has a full itinerary to meet with small groups of our investigators to discuss ongoing cancer research. This allows our scientists to showcase their cancer research and to potentially establish long-term relationships with the speakers.

Similarly, the Cancer Institute Grand Rounds attracts internationally known clinical scientists who are applying the latest treatments and conducting clinical trials. This CME accredited series features interactions of our clinical teams with leaders in treatment of cancers. The CRTE 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 year and a half. Finally, the travel grants allow Cancer Institute members, their fellows, and students to present their research at national and international meetings. This gives exposure of our scientists to the international scientific community and provides a path for exchange of ideas with other leading scientists. These discussions, often around a poster, foster collaborations, and refinement of scientific concepts.

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 the Winthrop P. Rockefeller Cancer Institute research portfolio in pursuit of NCI designation, the 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:

- **Team Science Award** – First established in 2020, the Team Science mechanism supports new cancer-focused research between 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 FY22, seven investigative teams received Team Science Awards (**Table 7**). 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 8**).

Table 7. Team Science Awards – FY22.

Project Title	Principal Investigators	Total Budget Amount
NEK2 kinase as a new oncogenic vulnerability in lymphoma	Samantha Kendrick, PhD, Assistant Prof. of Biochemistry & Molecular Biology Brendan Frett, PhD, Assistant Prof. of Pharmaceutical Sciences	$100,000
Functional ORFeome atlas	Justin Leung, PhD, Associate Prof. of Radiation Oncology Brian Koss, PhD, Assistant Prof. of Biochemistry & Molecular Biology	$100,000
Development of Potent Dual HDACs/BRD4 Inhibitors for the Treatment of Virus-associated Lymphomas	Hong-yu Li, PhD, Professor of Pharmaceutical Sciences Zhiqiang Qin, MD, PhD, Associate Prof. of Pathology	$100,000
Loss of FAM60A promotes HBB induced mammary gland tumorigenesis	Sayem Miah, PhD, Assistant Prof. of Biochemistry & Molecular Biology Mohammad Rahman, PhD, Assistant Prof. of Biochemistry & Molecular Biology	$100,000
Immunotherapy of hepatocellular carcinoma by live attenuated vaccine vectors	Bolni "Marius" Nagalo, PhD, Assistant Prof. of Pathology Martin Cannon, PhD, Professor of Microbiology & Immunology	$100,000
Suppression and Resolution of R-Loop and G-Quadruplex Structures: The Cancer Connection	Kevin Raney, PhD, Professor and Chair of Biochemistry & Molecular Biology Eric Enemark, PhD, Associate Prof. of Biochemistry & Molecular Biology	$100,000
Synergizing methionine restriction with radiation therapy in KRAS mutant rectal cancer	Adam Wolfe, MD, PhD, Assistant Prof. of Radiation Oncology Isabelle Racine Miousse, PhD, Assistant Prof. of Biochemistry & Molecular Biology	$100,000

Table 8. Team Science Awards Productivity Metrics – Summary.

Number of Pilots Awarded	Number of Publications	Grants Obtained	Total Extramural Grant Funding
14	**2**	**0**	**$0**

- **Seeds of Science Award** – Since 2009, the 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 FY22, four cancer investigators received Seeds of Science Awards (**Table 9**). 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 10**).

Table 9. Seeds of Science Award – FY22.

Project Title	Principal Investigator	Total Budget Amount
NEK2 mechanism of action in multiple myeloma disease progression and therapeutic resistance	Michael Bauer, PhD, Assistant Professor Biomedical Informatics	$50,000

Detecting mitochondrial DNA mutations at the single-cell level	Yong-chen "William" Lu, PhD, Assistant Professor of Pathology	$50,000
Understanding and Targeting Aberrant Splicing in MDS-RS	Mohammad Rahman, PhD, Assistant Professor of Biochemistry & Molecular Biology	$50,000
A proteomics approach to determining how driver mutations effect the metastatic potential of lung cancer	Katie Ryan, PhD, Assistant Professor of Biochemistry & Molecular Biology	$50,000

Table 10. Seeds of Science Award Productivity Metrics – Summary.

Number of Pilots Awarded	Number of Publications	Grants Obtained	Total Extramural Grant Funding
31	**33**	**16**	**$7,505,450**

- **Rural Research Award Program** – The Rural Research Award Program (RRAP) supports research that is cancer-focused and strives to address a healthcare problem in rural Arkansas populations. Funding supports investigators or teams of investigators seeking to collect data for competitive NCI/NIH R01 grant submissions. Areas of special funding interest include projects that focus on prostate, colon, breast, and/or lung cancer; cancer patient outcomes; cancer screening and prevention; and/or cancer health disparities. RRAP was created to highlight the work of the UAMS Rural Research Network (RRN), which was established in January of 2020 to leverage the existing clinical and educational infrastructure of UAMS Regional Programs for research and to help ensure that Arkansas' rural populations are included in health research. The network comprises UAMS' eight Regional Campuses, located across the state, and is supported by an intra-institutional partnership. Its partners are UAMS Community Health & Research, the Translational Research Institute, UAMS Regional Programs, and the Cancer Institute. RRAP awardees are not required to use the RRN, but projects that do are given priority. Projects are funded for 18 months with budgets up to $100,000. **Table 11** outlines projects awarded in 2022.

Table 11. Rural Research Award Program – FY22.

Project Title	Principal Investigator	Total Budget Amount
Treatment Adherence among Prostate, Colon, Breast, and Lung Cancer Survivors in Arkansas	Emily Hallgren, PhD, Assistant Professor of Internal Medicine, Office of Community Health and Research	$99,613
Exploring and Characterizing HPV Vaccine Hesitancy Among Hesitant Adopter Parents in Rural Arkansas	Ramey Moore, PhD, Assistant Professor of Internal Medicine, Office of Community Health and Research	$99,434

*The RRAP mechanism has only been in place since 2021, so no measures of productivity have been obtained.

Shared Resources

Shared resources play an important role in advancing the research mission of the Winthrop P. Rockefeller Cancer institute. The Cancer Institute provides access to state-of-the-art equipment, technologies, services, and scientific consultation that enhance scientific interaction and productivity among Cancer Institute members as well as researchers at UAMS. The Cancer Institute supports six shared resources: Bioinformatics, Biostatistics, Genomics, Proteomics, Radiation Biology, and Translational Pathology. The Cancer Institute continues to grow, develop, and enhance available shared resources in its effort to obtain NCI designation. Shared resources accomplishments during the past year include the following:

- **Integration of Core Metrics with the Cancer Institute Hub** – In order to help Cancer Institute Administration and Shared Resources Directors report key data related to the usage and cost of shared resources, Cancer Institute staff have optimized integration with our proprietary reporting system known as the Hub. Access to data gives administrative staff the ability to retrieve information about shared resources quickly and accurately so that we can report relevant information to NCI and in our CCSG application.
- **Expansion of Services and Equipment** – The Bioinformatics Shared Resource added several new services, to further enhance the shared resource's ability to process multiple data types, improve the detection of cancer, and potentially identify novel cancer biomarkers. The Radiation Biology Shared Resource added additional services related to studying the biological effects of chronic radiation exposures. The Genomics Shared Resource received a $245,000 grant from the NIH to purchase new equipment that uses the latest, cutting-edge technology for next generation sequencing. The Tissue Biorepository and Procurement Service (a core within the Translational Pathology Shared Resource) is in the process of transitioning to a new metadata repository platform used to collect, store, process, annotate and distribute biospecimens in a cohesive database. The tissue biorepository is used by researchers at UAMS and Arkansas Children's Hospital, and the new repository platform will streamline the management of biospecimens across both institutions.
- **Developmental and Educational Programs** – Several programs aimed at project development and education of Proteomics Shared Resource users have been created, including a symposium for current staff, a workshop for non-specialists interested in applying the shared resource to their research, a 2-week program for graduate students, and an 8-week summer internship for undergraduates.
- **Research Support and Grant Proposals** – The Biostatistics Shared Resource has provided support for study design and the development of research and analytical methods for a COBRE application. The resource has also engaged in additional collaboration with UAMS researchers in clinical and translational sciences, epidemiology, and pharmacy with goals to submit academic manuscripts and develop grant applications.

APPENDIX A

Expense Breakdown

Semiannual Report June 1, 2022 to November 30, 2022 – Expense Breakdown

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Owsley, Kelsey	CC004123	6,900.00	1,573.00	0.00	8,473.00	
Atiq, Omar, MD (COM Internal Medicine-Medical Oncology)	CC100244	27,720.00	6,869.87	224,266.00	258,855.87	Support of head & neck clinical trial
Cancer Service Line Support	CC100246	6,899.50	1,182.35	1,094.00	9,175.85	Clinical research effort for Jibran Ahmed, MD
Cancer Institute Administration	CC100248	11,854.73	2,958.77	4,227,371.43	4,242,184.93	Staff salaries, equipment, supplies, etc.
Cancer Institute Basic Research	CC100249	0.00	0.00	146,678.00	146,678.00	For WPRCI Research Retreat
Cancer Clinical Trials Research Administration (CCTRA)	CC100250	132,834.59	38,752.16	23,659.18	195,245.93	Cancer Clinical Trials
Lewis, Gary, MD (COM - Radiation Oncology)	CC100252	38,000.33	3,205.02	0.00	41,205.35	Recruitment package support
Leung, Ricky, PhD (COM Pharmacology Toxicology)	CC100253	24,787.50	5,734.88	3,686.56	34,208.94	Recruitment package support
Birrer, Michael, MD, (Cancer Institute)	CC100332	15,000.00	24.00	16,948.56	31,972.56	Recruitment package support
Manzano, Mark, PhD (COM Microbiology & Immunology)	CC100335	12,249.67	2,857.07	0.00	15,106.74	Recruitment package support
Zhan, Frank MD, PhD (COM Internal Medicine - Medical Oncology)	CC100336	47,262.23	10,448.13	0.00	57,710.36	Recruitment package support
Cancer Institute Bioinformatics Core Support	CC100353	0.00	0.00	13,709.68	13,709.68	Supplement to Core for expense in excess of operating revenue
Belido, Teresita, PhD (COM Physiology and Biophysics)	CC100360	9,750.00	1,940.90	12,566.47	24,257.37	Recruitment package support
Stephens, Kimberly, MD (COM Peds Care)	CC100361	3,284.00	944.27	4,156.00	8,384.27	Recruitment package support
Su, Joseph, MD (CPH Epidemiology)	CC100362	4,208.34	1,593.86	-715.00	5,087.20	Recruitment package support
Cancer Institute Genomics Core Support	CC100363	0.00	0.00	273,418.51	273,418.51	Supplement to Core for expense in excess of operating revenue
Cancer Institute Health Disparities - Ronda Henry-Tillman, MD	CC100366	32,005.03	8,275.60	9,685.00	49,965.63	Retention package support
Core Voucher Program	CC100372	0.00	0.00	41,439.20	41,439.20	Cancer core use vouchers for CI members
Cancer Pilot Program	CC100373	0.00	0.00	100,000.00	100,000.00	Support for 4 cancer pilot projects at $100K each, credit represents balance not yet spent

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Cornett, Larry (AR INBRE grant support)	CC100415	4,100.33	1,199.62	55,000.00	60,299.95	Program support
Ryan, Katie, PhD (COM Biochemistry)	CC100416	46,449.81	9,060.78	5,799.15	61,309.74	Recruitment package support
Chiang, Rung-Chin, MD, (CPH Environmental & Occup Health)	CC100417	3,063.67	957.87	0.00	4,021.54	Recruitment package support
Jones, Dina (CPH HBHE Center for Tobacco Study)	CC100418	2,072.80	463.96	-11,702.00	-9,165.24	Recruitment package support
Cancer Institute Community Outreach	CC100422	412,745.22	91,870.94	82,979.17	587,595.33	Support for Associate Director for Community Outreach and Engagement
Cancer Institute CCSG Administration	CC100423	14,185.00	3,618.76	0.00	17,803.76	Recruit ads
Wolfe, Adam	CC100428	96,907.41	15,377.13	13,552.38	125,836.92	Recruitment package support
Delgado-Calle, Jesus, MD, (COM Physiology & Biophysics)	CC100457	20,202.00	4,092.00	37,530.94	61,824.94	Recruitment package support
DFA Charges - Workers Comp	CC100461	0.00	5,651.82	0.00	5,651.82	Charges administered by DFA
Radiation Core	CC100471	5,150.33	942.82	15,412.66	21,505.81	Purchase of x-ray cabinet
Tricot, Guido, MD (COM Myeloma Center)	CC100478	9,285.54	722.39	0.00	10,007.93	Recruitment package support
Dr. Karbassi Breast Vaccine Support	CC100509	44,278.34	12,144.13	74,893.84	131,316.31	Support of clinical trial for a breast cancer vaccine
Roy Choudhury, Samrat, PhD (COM Pediatrics)	CC100771	-13,312.50	-4,131.42	0.00	-17,443.92	Recruitment package support
Yeh, Ed (COM Internal Medicine)	CC100779	0.00	0.00	10,430.48	10,430.48	Recruitment package support
Nagalo, Marius (COM Pathology)	CC100783	44,682.50	11,773.02	33,920.86	90,376.38	Recruitment package support
Miah, Syem (COM Biochemistry)	CC100924	47,354.10	13,245.48	3,510.27	64,109.85	Recruitment package support
Park, Mark (COPH Epidemiology)	CC100794	39,025.17	9,678.76	7,779.00	56,482.93	Recruitment package support
Enemark, Eric (COM-Biochemisty)	CC100826	31,298.50	10,034.58	34,903.74	76,236.82	Recruitment package support
Chang, Ming (COM Pharmacology and Toxicology)	CC100827	0.00	0.00	7,447.99	7,447.99	Recruitment package support
Brochausen, Mathias (DBMI)	CC100840	56,892.34	13,912.16	0.00	70,804.50	Recruitment package support

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Tackett, Alan (COM Biochemistry)	CC100988	66,275.17	16,740.58	11,806.93	94,822.68	Research support
Leung, Justin (COM Radiation Oncology)	CC100989	32,500.00	5,753.44	14,165.00	52,418.44	Recruitment package support
Qin, Z (COM Pathology)	CC100991	-566.67	-101.57	25,219.00	24,550.76	Recruitment package support
Byrd, Alicia (COM Biochemistry)	CC100992	16,196.00	1,991.00	32,241.34	50,428.34	Recruitment package support
Xia, Fen (COM Radiation Oncology)	CC100993	18,185.06	3,323.15	12,346.81	33,855.02	Recruitment package support
Proteomics Core (COM Biochemistry)	CC100994	9,626.25	2,775.17	0.00	12,401.42	Proteomics Core support
Lu, Williams (COM Pathology)	CC101002	0.00	0.00	56,807.95	56,807.95	Recruitment package support
Hsu, Ping-Ching (COPH EOH)	CC101004	12,194.06	2,888.94	0.00	15,083.00	Recruitment package support
Structural Biology	CC101007	0.00	0.00	488,320.00	488,320.00	Stuctural Biology Core support
WPRCI Diversity	CC101028	52,040.23	9,503.01	0.00	61,543.24	Support for Associate Director for Diversity, Equity, and Inclusion
Johann, Don (DBMI)	CC101114	136,662.37	34,054.82	43,688.63	214,405.82	Research support
Chambers, Tim (COM Biochemistry)	CC101127	0.00	0.00	2,000.00	2,000.00	Project Collaboration Support
Rahman, Mohammad (COM Biochemistry)	CC101130	65,525.34	9,269.81	10,614.15	85,409.30	Recruitment package support
Racine-Miousse, Isabella (COM Biochemistry)	CC101152	0.00	0.00	3,194.21	3,194.21	Recruitment package support
Bai, Mei	CC101156	3,318.00	659.00	20,050.00	24,027.00	Recruitment package support
Travel Grant Program	CC102679	0.00	0.00	3,779.25	3,779.25	Support for cancer-related research travel
KL2-Lu, Williams (COM Pathology)	CC102683	0.00	0.00	236,875.00	236,875.00	KL2-Award
CTRM Scholars (TRI)	CC102684	54,635.65	8,849.66	0.00	63,485.31	Translational Research support
Koss, Brian (COM Biochemistry)	CC102685	28,216.75	7,762.49	93,157.76	129,137.00	Recruitment package support
Tobacco Cessation	CC102719	34,149.01	5,812.75	77.00	40,038.76	Tobacco cessation program support

Program Account Description	Fund Center Account	Salary	Fringe	M&O	Total Expense	Notes
Hallgren, Emily	CC102779	45,000.00	11,353.88	646.50	57,000.38	Recruitment package support
Clawson, Emily	CC102782	23,106.00	4,500.00	0.00	27,606.00	Recruitment package support
Bioinformatics Core	CC102803	32,250.00	8,048.81	0.00	40,298.81	Supplement to Core for expense in excess of operating revenue
Van Rhee, Fritz	CC102810	5,480.00	1,811.00	119,523.00	126,814.00	Translational Research support
Schootman, Mario	CC102817	99,999.67	20,630.41	0.00	120,630.08	Recruitment package support
Rodriguez, Analiz	CC102823	61,206.54	4,057.82	31.00	65,295.36	Research support
Cancer Prevention and Population Sciences	CC102830	0.00	101.00	0.00	101.00	Program support
Genomics Core Secondary	CC102833	99,108.00	28,196.00	0.00	127,304.00	Additional support to the Core for expense not included in the recharge rate sheet.
Jaemsen, Joonas	CC102851	48,257.25	11,044.19	82,321.18	141,622.62	Recruitment package support
Moldoveanu, Tudor	CC102852	28,186.00	7,542.00	73,519.00	109,247.00	Recruitment package support
Biostatistics	CC102853	66,562.00	13,873.00	250.00	80,685.00	Support to Biostatistics Core
Bauer, Michael	CC102861	10,521.00	4,034.00	0.00	14,555.00	Recruitment package support
DelNero, Peter	CC103030	48,999.67	18,560.97	8,528.00	76,088.64	Recruitment package support
Kim, KyoungHyun	CC103331	45,360.00	11,243.00	27,308.00	83,911.00	Recruitment package support
Cancer Prevention and Control	CC103351	59,367.00	7,541.00	636.00	67,544.00	Program support
Cancer Grand Rounds	CC103373	0.00	0.00	1,000.00	1,000.00	Support to cancer education
Allen, Antino	CC103374	0.00	0.00	64,948.00	64,948.00	Recruitment package support
Cancer Forum	CC103376	0.00	0.00	11,861.00	11,861.00	Support to cancer education
Cancer Gifts	CC001766	0.00	0.00	19.00	19.00	Posting error to be removed next cycle
Total Expense		**2,439,497**	**548,794**	**6,914,356**	**9,896,995**	

APPENDIX B

Curricula Vitae of Cancer Research Recruits

CURRICULUM VITAE
December 14, 2022

John D. Imig

PERSONAL DATA

Work Address: Department of Pharmaceutical Sciences
University of Arkansas for Medical Sciences (UAMS)
Little Rock, AR 72205
E-mail: jimig@uams.edu

EDUCATION

1985 B.A. Biology, Blackburn College, Carlinville, IL
1991 Ph.D. Physiology & Biophysics, University of Louisville, Louisville, KY
Advisor: Gary L. Anderson, Ph.D.

PROFESSIONAL POSITIONS

1990-1993 Postdoctoral Fellow, Department of Physiology, Medical College of Wisconsin, Milwaukee, WI
Advisor: Richard J. Roman, Ph.D.

1993-1995 Research Instructor, Department of Physiology, Tulane University School of Medicine, New Orleans, LA

1995-1998 Research Assistant Professor, Department of Physiology, Tulane University School of Medicine, New Orleans, LA

1998-2001 Assistant Professor, Department of Physiology, Tulane University School of Medicine, New Orleans, LA

2001-2006 Associate Professor, Vascular Biology Center & Department of Physiology, Medical College of Georgia, Augusta, GA (Tenured 2005)

2006-2007 Professor, Vascular Biology Center & Department of Physiology, Medical College of Georgia, Augusta, GA

2008-2022 Professor, Department of Pharmacology & Toxicology, Medical College of Wisconsin, Milwaukee, WI (Tenured July 2008)

2010-2016 Vice Chair, Department of Pharmacology & Toxicology, Medical College of Wisconsin, Milwaukee, WI

2014-2022 Founding Director, Drug Discovery Center, Medical College of Wisconsin, Milwaukee, WI

2022- Vice President of Therapeutics, BioVentures, Little Rock, AR

2022- Chair, Department of Pharmaceutical Sciences, College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, AR

Adjunct Appointment

2021- Professor and Advisory Board Member, School of Applied Sciences and Department of Biotechnology, REVA University, Bangalore, India

BIOTECHNOLOGY APPOINTMENTS

Scientific Advisory Board

2004-2008	Arête Therapeutics, Hayward, CA
2011-2016	CRO Laboratories, Dallas, TX
2011-2018	Meruvax Pharma, Dallas, TX
2015-present	Synthia, Davis, CA
2017-present	OROX BioSciences, San Diego, CA

Co-Founder & Chief Scientific Officer

2017-2022	Diplos Therapeutics, Ann Arbor, MI

Co-Founder & Scientific Advisory Board

2018-present	Nephraegis Therapeutics, Lake Forest, IL (https://www.nephraegis.com/)
2021-present	MetaSyn Therapeutics (https://metasyntherapeutics.com/)

HONORS & AWARDS

1981	Academic Scholarship, Le Roy Education Association
1982	Beginning Biology Scholar Award, Blackburn College
1984	Academic Scholarship, Blackburn College
1985	Samuel's Biology Prize, Blackburn College
1985	Graduated Magna cum Laude, Blackburn College
1988	Golden Key National Honor Society
1992	Merck Sharp & Dohme Travel Fellowship Award, 46th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
1992-1995	NIH Postdoctoral Fellowship, National Research Service Award
1998	Outstanding Faculty Award, Department of Physiology, Tulane University
2000	Young Faculty Research Award, Southern, Am. Fed. for Medical Research
2001	Am. Society of Hypertension/ Monarch Pharmaceuticals Young Scholars Award
2004	Outstanding Young Basic Science Faculty Award, Medical College of Georgia School of Medicine
2004	AstraZeneca Young Investigator Award, Am. Physiological Soc. Renal Section
2005	Star Reviewer: American Journal of Physiology – Renal Physiology
2007	Graduate School Distinguished Research Award, Medical College of Georgia
2004-2008	American Heart Association Established Investigator
2008	LeRoy High School Distinguished Alumni Award
2016	Outstanding Graduate School Educator, Medical College of Wisconsin
2017	Outstanding Medical School Educator, Medical College of Wisconsin
2018	Society for Research Excellence, Medical College of Wisconsin
2018	Outstanding Medical School Educator, Medical College of Wisconsin
2019	Outstanding Graduate School Educator, Medical College of Wisconsin
2019	Eminent Scholar, Medical College of Wisconsin
2109	Lewis K. Dahl Memorial Lecture, American Heart Association Council on Hypertension
2020	Outstanding Graduate School Educator, Medical College of Wisconsin

RESEARCH

Active Grant Support:

6/2021 - 6/2025 ***Principal Investigator (40% effort)*** National Institutes of Health - NIDDK, (DK126452) Endothelial Epoxygenase, Kidney Injury, and Blood Pressure Regulation, $2,653,006

4/2022 - 3/2023 ***Principal Investigator (5% effort)*** Clinical & Translational Science Institute Pilot Award, (UL1 TR001436) Therapeutic for Focal Segmental Glomerulosclerosis, $50,000

7/2019 - 6/2023 ***Co-Investigator (10% effort)*** National Institutes of Health – HLBI, (HL147976-01) Role of p66Shc in Regulation of Microvascular Reactivity of Renal Blood Vessels, PI: Andrey Sorokin, $1,935,800

9/01/20 - 8/31/25 ***Co-Mentor (1% effort)*** National Institutes of Health - NIDDK, (K01 DK126792) Novel Mechanisms Regulating Renal Perfusion and Kidney Redox Biology: Role in Salt Sensitive Hypertension, PI: Jing Wu, $530,510

8/01/21 - 7/31/23 ***Co-Mentor (1% effort)*** National Institutes of Health - HLBI, (K99 HL153686) The Role of CIC-6 in Vascular Control of Blood Pressure, PI: Christine Klemens, $201,268

Total = $5,370,584

Pending Grant Support:

Principal Investigator (40% effort) National Institutes of Health - NIDDK, (DK134679-01) Renal and Mesenteric Microcirculatory Regulation in Hepatorenal Syndrome, $1,832,187

Principal Investigator (40% effort) National Institutes of Health - NIDDK, (DK128815-01) Early-Stage Preclinical Validation of Therapeutic Leads for Diseases of Interest to the NIDDK, Multi-Target Drugs for Organ Fibrosis. $2,643,921

Project Leader (20% effort) National Institutes of Health, NCCIH, (0000-01) A dietary supplement that targets epoxide hydrolase to prevent pain and cardiovascular disease. PI: Claus Schneider, $2,500,000; Imig Project Budget, $978,408 (submitted June 2022)

Co-Investigator (5% effort) National Institutes of Health – NCI, (CA-244412-01) Development of Next Generation IST5-002 Stat5 Inhibitors for Prostate Cancer, PI: Marja Nevalainen, $3,630,173 (submitted July 2022) Percentile: 17

Past Grant Support – Principal Investigator:

3/1992 - 2/1995 ***Principal Investigator*** National Institutes of Health - NIDDK Institute, National Research Service Award (DK08676), Cytochrome P450 and NO in the Control of Renal Vascular Tone, $78,200

7/1994 - 6/1995 ***Principal Investigator*** American Heart Association - Louisiana Affiliate, Epoxygenase Metabolites in the Control of Renovascular Tone, $22,000

7/1995 - 6/1996 ***Principal Investigator*** American Heart Association - Louisiana Affiliate, Epoxygenase and Lipoxygenase Metabolites in the Control of Renovascular Tone, $27,500 *Declined due to overlap*

7/1995 - 6/1998 ***Principal Investigator*** American Heart Association - Grant-in-Aid, Role of Epoxyeicosatrienoic Acids on Renal Vascular Reactivity, $132,000

1/1998 - 12/2001 ***Principal Investigator*** American Heart Association - Established Investigator Grant, Renal Vascular Oxygenase Metabolites in Hypertension. $272,278 *Declined due to overlap*

1/2002 - 12/2002 ***Principal Investigator*** Boehringer Ingelheim Pharmaceuticals Inc., Cardiovascular & Renal Protective Effects of Soluble Epoxide Hydrolase Inhibitors in Hypertension, $22,140

7/2002 - 6/2006 ***Principal Investigator*** American Heart Association, Established Investigator Grant, Contribution of Renal Vascular Epoxide Metabolites to Hypertension, $300,000 *Declined due to overlap*

9/2005 - 8/2007 ***Principal Investigator*** National Institutes of Health, Phase I STTR (NS053002), Novel Epoxide Hydrolase Inhibitor for Stroke Prevention, $100,000

1/1998 - 5/2008 ***Principal Investigator*** National Institutes of Health, HLB Institute, R29 - FIRST Award / R01 (HL59699), Oxygenase Metabolites and Renal Microvascular Reactivity, $1,718,515

1/2004 - 12/2008 ***Principal Investigator*** American Heart Association - Established Investigator Award (AHA 0440015N), Epoxide Hydrolase and Epoxygenase Metabolites as Renal & Cardiovascular Therapeutic Targets. $500,000

11/2005 - 4/2009 ***Principal Investigator*** Arête Therapeutics, Inc., Pharmacological Testing of sEH Inhibitors in Rat Models of Hypertension, $86,692

5/2004 - 4/2009 ***Project Leader*** National Institutes of Health, Program Project Grant (HL074167), Cytokines and Angiotensin II-Induced Hypertension. PI: R.C. Webb, $10,972,043; Project Title: Renal Endothelial Dysfunction in Salt- Sensitive Hypertension, $955,645

7/1997 - 6/2009 ***Project Leader*** National Institutes of Health - NIDDK Institute, Program Project Grant (DK38226), Role of Eicosanoids in Renal Function. PI: J.H. Capdevila, Project Title: Eicosanoids and Renal Microvascular Function, $2,012,056

7/2009 - 6/2010 ***Principal Investigator*** Takeda San Diego, Inc. Testing Compounds in a Rodent Model of Hypertension & Obesity. $201,593

9/2009 - 8/2010 ***Principal Investigator*** NOT-RM-09-010 NIH RAID Supplement - National Institutes of Health, HLB Institute, R01 (HL59699), Epoxyeicosanoids and Renal Vascular Function in Obesity & Hypertension, $76,000

5/2011 - 4/2012 ***Principal Investigator*** Advancing a Healthier Wisconsin Endowment, Clinical & Translational Science Institute Pilot Award, Therapeutic Targeting of Epoxyeicosanoids for Renal and Cardiovascular Diseases, $25,000

9/2011 - 9/2013 ***Principal Investigator*** Takeda Pharmaceuticals, Azilsartan and End Organ Protection in Cardiometabolic Syndrome & Type 2 Diabetes, $175,143

6/2008 - 5/2013 ***Principal Investigator*** National Institutes of Health, HLB Institute, R01 (HL59699), Epoxyeicosanoids and Renal Vascular Function in Obesity & Hypertension, $1,525,745

7/2009 - 6/2014 ***Project Leader*** National Institutes of Health - NIDDK Institute, Program Project Grant (DK38226), Role of Eicosanoids in Renal Function. PI: J.H. Capdevila & Nancy J. Brown, $9,643,895; Project Title: CYP Monooxygenases & Renal Vascular Regulation, $1,117,200

4/2013 - 9/2014 ***Principal Investigator*** Clinical and Translational Science Institute / Advancing a Healthier Wisconsin, Novel Small Molecules to Treat Radiation Injury, $50,000

7/2013 - 6/2015 ***Principal Investigator***, American Heart Association Midwest Affiliate, Grant-in-Aid, Identification of EET Receptors. $143,000

8/2014 - 7/2017 ***Multi-Principal Investigator (20% effort)***, Institut De Recherches Servier, Phase I: Preclinical Proof of Concept and Evaluation of Existing EET Analogs, Co-PIs: J.R. Falck & W.B. Campbell, Total Costs: $1,469,196; Project Costs: $372,841

1/2017 – 12/2017 ***Principal Investigator (1% effort)*** Lupus Research – MCW Faculty Grant, Epoxides and Lupus Nephritis, $25,000

1/2018 - 12/2019 ***Principal Investigator (5% effort)*** Advancing a Healthier Wisconsin, Research & Education Program, Fructose-induced Changes in Renal Microvascular Function & Blood Pressure, $200,000

7/2015 - 6/2020 ***Principal Investigator (30% effort)*** National Institutes of Health - NIDDK Institute, Early-Stage Pharmacological Validation of Novel Targets and Accompanying Pretherapeutic Leads for Diseases of Interest to the NIDDK, (DK103616) Eicosanoid-based Therapy for Diabetes. $2,382,851

1/2016 - 9/2020 ***Principal Investigator (30% effort)*** Dr. Ralph and Marian Falk Medical Research Trust, Catalyst & Transformational Award, Novel Therapy for Kidney Disease, $1,485,000

1/2021 - 12/2021 ***Principal Investigator (10% effort)*** National Institutes of Health – NIDDK Institute, NIDDK Diabetic Complications Consortium (DiaComp, DK076169 and DK115255), Targeted Therapeutic for Diabetic Nephropathy. $100,000

9/2021 -8/2022 ***Co-Principal Investigator (10% effort)*** National Institutes of Health - NIDDK, (DK125160-01) STTR Grant, Bifunctional New Drug Molecules to Reduce Kidney Fibrosis and Treat Kidney Disease, PI: Lorraine Reeve, $316,956 *Declined due to CEO death*

7/2019 - 6/2022 ***Program Director (10% effort)*** Wisconsin Economic Development Corporation (WEDC), Targeted Industry Projects Program, MCW Therapeutic Accelerator Program, $400,000

Total = $15,919,710

Past Grant Support – Sponsor/Mentor:

7/2002 - 6/2004 ***Sponsor*** American Heart Association Southeast Affiliate, Postdoctoral Fellowship, Dr. Xueying Zhao, Regulation of Renal Microvascular Soluble Epoxide Hydrolase in Angiotensin II-Dependent Hypertension, $63,000

7/2003 - 6/2004 ***Sponsor*** National Kidney Foundation of Georgia, Postdoctoral Fellowship, Dr. Aparajita Dey, CYP450 Metabolites and Renal Damage in Obesity, $30,000

7/2005 - 6/2005 ***Sponsor*** National Kidney Foundation of Georgia, Postdoctoral Fellowship, Dr. Ahmed Elmarakaby, Role of Oxidative Stress in Endothelin-1 Induced Hypertension, $32,000

7/2006 - 6/2007 ***Sponsor*** American Heart Association Postdoctoral Fellowship, Dr. Jeffrey J. Olearczyk, Epoxides and the Prevention of Nephropathy Associated with Type 2 Diabetes and Hypertension, $75,000

7/2005 - 6/2007 ***Sponsor*** American Heart Association Postdoctoral Fellowship, Dr. Ahmed A. Elmarakby, Role of the Inflammatory Cytokine, TNFα in Angiotensin II Hypertension, $75,000

4/2007 - 3/2010 ***Sponsor*** National Institutes of Health Predoctoral Fellowship (F31 HL087723), Alexis Simpkins, Vascular Protection by Epoxide Hydrolase Inhibition in Cerebral Ischemia, $97,896

1/2012 - 12/2013 ***Sponsor***, American Heart Association Midwest Affiliate, Postdoctoral Fellowship, Dr. Md Abdul Hye Khan, EET analogs as Novel Therapeutic Candidate for Cardiovascular Diseases. $98,476

1/2019 – 12/2020 ***Sponsor***, PhRMA Foundation, Postdoctoral Fellowship, Dr. Scott Barnett, Dual Inhibition of sEH for the Treatment of Focal Segmental Glomerular Sclerosis. $80,000.

11/2020 - 10/2022 ***Mentor (10% effort)*** NIH CTSI, KL2 Award (KL2TR001438**),** CYP/EET Pathway: Novel Therapeutic Target for Hepatorenal Syndrome, PI: Michael Yeboah, $279,400

Total = $830,772

Past Grant Support – Co-Investigator:

6/1994 - 5/1995 ***Co-Investigator*** Louisiana Stimulus for Excellence in Research (LASER), Integrative and Cellular Physiology of Vascular Control Mechanisms, PI: L.G. Navar, $70,637

6/1994 - 5/1995 ***Co-Investigator*** Louisiana Education Quality Support Fund (LEQSF), Integrative and Cellular Biology of Vascular Control Mechanisms, PI: L.G. Navar, $66,300

4/1997 - 3/1998 ***Co-Investigator*** Astra Hässle - Effects of candesartan on arterial pressure, renal function and sodium reabsorption in hypertensive rats. PI: L.G. Navar, $28,000

4/2000 - 3/2001 ***Co-Investigator*** National Institutes of Health - NIA Institute (AG18187), Renal microvascular function in aged rats. PI: E.W. Inscho, $74,250

5/1997 - 6/2001 ***Co-Investigator*** National Institutes of Health, HLB Institute (HL18426), Regulation of Renal Hemodynamics, PI: L.G. Navar, $1,480,980

4/1995 - 6/2001 ***Co-Investigator*** National Institutes of Health - HLB Institute (HL25371), Renal Functional Derangements in Hypertension, PI: L.G. Navar, $2,612,158

4/1997 - 12/2001 ***Co-Investigator*** Astra Hässle - Influence of AT1 receptor blockade with candesartan on the autoregulatory dysfunction that accompanies chronic angiotensin II-induced hypertension. PI: E.W. Inscho, $54,623

12/1999 - 3/2004 ***Co-Investigator*** National Institutes of Health - NIDDK Institute (DK44628), Purinergic regulation of the renal microvasculature, PI: E.W. Inscho, $1,306,315

3/2004 - 6/2005 ***Co-Investigator*** National Institutes of Health – NHLBI Institute (HL56259), Cardiovascular and Renal Dysfunction in Early Diabetes, PI: Michael Brands, $1,700,000

7/2004 - 6/2007 ***Co-Investigator*** National Institutes of Health - HLBI Institute (HL64776), Endothelin Regulation of Kidney Function, PI: D.M. Pollock, $1,430,000

3/2004 - 1/2008 ***Co-Investigator*** National Institutes of Health - NIDDK Institute (DK44628), Purinergic Regulation of the Renal Microvasculature, PI: E.W. Inscho, $1,690,750

5/2013 - 9/2015 ***Co-Director***, ASPET Summer Undergraduate Research Fellowship (SURF), Institutional Award. Director: John A. Auchampach, $27,000

1/2012 - 12/2015 ***Co-Investigator***, National Institutes of Health - HLB Institute, (HL105991) Autoregulation of Cerebral Blood Flow. PI: D.R. Harder, $2,557,125

1/2014 - 12/2017 ***Co-Investigator (15% effort)*** Veterans Administration Merit Grant (BX002256), Afferent Arteriolar Function and Novel Small Molecules for Renal Radiation Injury. PI: Eric P. Cohen and Neil S. Mandel, $599,824

10/2018 - 3/2019 ***Co-Investigator (1% effort)*** CTSI Start-Up: Molecular Mechanisms of Renal Hyperfiltration in Humans with Diabetes, PI: Andrey Sorokin, $12,500

9//2018 - 8/2023 ***Mentor/Instructor (1% effort)*** National Institutes of Health - Cancer Institute, (R25CA221715) Student-Centered Pipeline to Advance Research in Cancer Careers (SPARCC) for Underrepresented Minority Students, PI: Janet S. Rader, $934,427

Total = $14,644,889

Clinical Trial: NCT00847899, Evaluation of soluble epoxide hydrolase (s-EH) inhibitor in patients with mild to moderate hypertension and impaired glucose tolerance, Phase II, Arête Therapeutics

Intellectual Property:

License Agreements: 5 licensing agreements executed

Issued U.S. Patents:

U.S. Patent 11,358,968: Substituted epoxyeicosatrienoic acid (EET) analogs for treatment of kidney disease. JD Imig, MAH Khan, A Adebesin, JR Falck. **Issued June 14, 2022**.

U.S. Patent 10,927,069: Diabetes and metabolic syndrome treatment with a novel dual modulator of soluble epoxide hydrolase and peroxisome proliferator-activated receptors. JD Imig, MAH Khan, R Blocher, E Proschak. **Issued February 23, 2021**

U.S. Patent 9,422,318: Epoxyeicosatrienoic acid analogs and methods of making and using the same, JD Imig, JR Falck, WB Campbell. **Issued August 23, 2016**

U.S. Patent 9,127,027 B2: Epoxyeicosatrienoic acid analogs and methods of making and using the same, JD Imig, JR Falck, WB Campbell. **Issued September 8, 2015**

U.S. Patent 7,732,470: Compositions and methods for the treatment of renal and cardiovascular disease, JD Imig, JR Falck. **Issued June 8, 2010**

U.S. Patent 7,550,617: Compositions and methods for the treatment of renal and cardiovascular disease, JD Imig, JR Falck. **Issued June 23, 2009**

Patent Applications:

U.S. Patent Application 17/636,276: Compounds and compositions for treating kidney disease. JD Imig, MAH Khan, D Merk. February 17, 2022.

U.S. Patent Application 20200255433: Kidney-targeted epoxyeicosatrienoic acid (EET) analogs. JD Imig, MAH Khan, A Adebesin, JR Falck. August 13, 2020.

U.S. Provisional Patent Application 62/902,771: Compounds and compositions for treating kidney disease. JD Imig, MAH Khan, D Merk. September 19, 2019.

International Patent WO 2017/004525 A1: Diabetes and metabolic syndrome treatment with a novel dual modulator of soluble epoxide hydrolase and peroxisome proliferator-activated receptors. JD Imig, MAH Khan, R Blocher, E Proschak. January 5, 2017

U.S. Patent Application 20180297936: Diabetes and metabolic syndrome treatment with a novel dual modulator of soluble epoxide hydrolase and peroxisome proliferator-activated receptors. JD Imig, MAH Khan, R Blocher, E Proschak. July 1, 2016

U.S. Patent Application 20150336916: Epoxyeicosatrienoic acid analogs and methods of making and using the same, JD Imig, JR Falck, WB Campbell. November 26, 2015

International Patent Application PCT/US2012/032090, U.S. Patent Application #650053.00227: Epoxyeicosatrienoic acid analogs and methods of making and using the same, JD Imig, JR Falck, WB Campbell. April 4, 2012

U.S. Provisional Patent Application 61.608.361: Epoxyeicosatrienoic acid analogs for cisplatin-induced nephrotoxicity. JD Imig, JR Falck. March 8, 2012

U.S. Provisional Patent Application 61.472.410: Epoxyeicosatrienoic acid analogs and methods of making and using the same, JD Imig, JR Falck, WB Campbell. April 6, 2011

U.S. Patent Application 20060148744: Use of cis-epoxyeicosatrienoic acids and inhibitors of soluble epoxide hydrolase to reduce damage from stroke, BD Hammock, JD Imig, AM Dorrance. July 6, 2006

Laboratory Trainees:

Current Postdoctoral Fellows:
Samaneh Goorani (2021-2022)
Abhishek Mishra (2022)

Current Graduate Students:

Current Medical Students:

Current Pharmacy Students:
Payeng Lor (2020-2023), Clinical Translational Pathway

Current Mentoring Committee Member:
Katie Cohen, MD (2019 – 2022), NIH R38 Stimulating Access to Research in Residency (StARR) Mentoring Team

Jing Wu, PhD (2020 – 2025), NIH K01, Novel Mechanisms Regulating Renal Perfusion and Kidney Redox Biology: Role in Salt Sensitive Hypertension

Christine Klemens (2020 – 2023), NIH K01, The Role of CLC-6 in Vascular and Renal Control of Blood Pressure

Past Laboratory Trainees:
High School Student Research Sponsor:
2013 - 2021: MCW Research Opportunity for Academic Development in Science (ROADS), Students

Undergraduate Student Research Sponsor:
1994 - 2000: Howard Hughes Institute Undergraduate Biology Research Intern, 7 Students
2003 - 2007: Medical College of Georgia Research Apprentice Program, 3 Students
2005 - 2007: Georgia Institute of Technology CO-OP Education Program, 3 Students
2011: ASPET Summer Undergraduate Fellowship, 1 Student
2016: CTSI 500 Stars Summer Program, 1 Student
2008 - 2021: MCW Summer Program for Undergraduate Research (SPUR), 14 Students
2011 - 2022: MCW Diversity Summer Research Program (DSHREP), 11 Students
2014 - 2021: MCW Program for Undergraduate Research Experience (PURE), 6 Students
2021 - 2022: MCW Student-centered Program to Advance Research in Cancer Careers (SPARCC), 2 students

Medical School Student Research Sponsor:
2003 - 2004: Medical College of Georgia Dean's Summer Research Fellowship, 2 Students
2008 - 2016: Medical College of Wisconsin Summer Research Program, 7 Students

School Teacher Research Sponsor:
2002 - 2003: James Murzynowski, GA Industrial Fellowships for Teachers (GIFT) Program

2009: Deborah Wallace, American Physiological Society Frontiers in Physiology Professional Development Fellowship

2015: Stacey Benson, American Physiological Society Frontiers in Physiology Professional Development Fellowship

2015: Judy Birschbach, American Physiological Society Frontiers in Physiology Professional Development Fellowship

Past Postdoctoral Fellows:
Xueying Zhao, Ph.D. (2000-2003)
Current Position: Associate Professor, Department of Physiology, Morehouse School of Medicine

Aparjita Dey, Ph.D. (2002-2004)
Current Position: Professor, Anna University – K B Chandrasekhar Research Centre, Chennai, India

Jeffrey J. Olearczyk, Ph.D. (2004-2006)
Current Position: Senior Medical Liaison, Amgen

Sarah F. Knight Marvar, Ph.D. (2006-2007)
Current Position: Assistant Professor, Georgetown University, Department of Pharmacology and Physiology

Ahmed Elmarakby, Ph.D. (2004-2007)
Current Position: Professor, Augusta University

Varadarajan Sudhahar, Ph.D. (2007-2009)
Current Position: Assistant Professor, Augusta University

Tasuku Nagasawa, M.D. (2009-2011)
Current Position: Vice-Chief of Nephrology, Ishinomaki Red Cross Hospital, Japan

Md Abdul H Khan, Ph.D. (2010-2014)
Current Position: Instructor, University of Tennessee Health Science Center

Amit Sharma, Ph.D. (2014-2016)
Current Position: Research Fellow, Mayo Clinic

Scott D. Barnett (2018-2019)
Current Position: Research Associate, University of Nevada Reno

Past Visiting Scientists:
Jan Neckar, Ph.D. (2012-2014) Academy of Sciences of the Czech Republic

Past Graduate Students:
Marlina Manhiani, Ph.D., 2008, Vascular Biology, Medical College of Georgia
Current Position: Dentist, Augusta, Georgia

Alexis N. Simpkins, M.D., Ph.D., 2008, Vascular Biology, Medical College of Georgia Current Position: Assistant Professor, Department of Neurology, University of Florida

Anna Stavniichuk, Ph.D., 2021, ESC Institute of Biology and Medicine, National University of Kyiv, Ukraine. Current Position: Postdoctoral Fellow, The University of Texas Health Science Center at Houston (UTHealth)

Wojciech Jankiewicz, Ph.D. 2022, Pharmacology, Medical College of Wisconsin
Current Position: IP Staff Attorney, Katten Muchin Rosenman LLP, Chicago, IL

Biomedical Engineering Senior & M.S. Thesis Advisor:
Shih Shen Yiu, M.S., 2001, M.D., 2006, Tulane University School of Medicine, New Orleans, LA

Past Medical Students:
Jon Pace (2010-2013), Physician Scientist Pathway, Honors Research Thesis Advisor
Breana Cummens (2011-2013), Physician Scientist Pathway
Geneva Wahl (2013-2016), Physician Scientist Pathway, Honors Research Thesis Advisor
Xavier Glover (2015-2018), Physician Scientist Pathway
Satvir Kalsi (2020-2022), Clinical Translational Pathway

Master Thesis Committee:
Erika R. Daniels, M.S., 2004, Department of Physiology, Medical College of Georgia Adrienne Lepp, M.S., 2011, Department of Pharmacology, Medical College of Wisconsin Ankush Korishettar, M.S., 2019, Department of Pharmacology, Medical College of Wisconsin

Ph.D. Thesis Committee:
Jan Williams, Department of Physiology, Ph.D., 2005, Medical College of Georgia
Jennifer Sasser, Department of Pharmacology, Ph.D., 2005, Medical College of Georgia
Joseph Poole, Vascular Biology, Ph.D., 2006, Medical College of Georgia
Jason Burnette, Department of Pharmacology, Ph.D., 2006, Medical College of Georgia
Tracy Bell, Department of Physiology, Ph.D., 2007, Medical College of Georgia
Kyu-Tae Kang, Vascular Biology, Ph.D., 2007, Medical College of Georgia
Pimonrat Ketsawatsomkron, Vascular Biology, Ph.D., 2008, Medical College of Georgia
Matthew Socha, Vascular Biology, Ph.D., 2008, Medical College of Georgia
Jan Foster, Vascular Biology, Ph.D., 2009, Medical College of Georgia
Jason Maas, Department of Pharmacology, Ph.D., 2010 Medical College of Wisconsin
Satarupa Das, Department of Physiology, Ph.D., 2011 Medical College of Wisconsin
Kathleen Lukaszewicz, Department of Physiology, Ph.D., 2012, Medical College of Wisconsin
Victor Garcia, Department of Pharmacology, Ph.D., 2015, New York Medical College Shraddha Nayak, Department of Pharmacology, Ph.D., 2015, Medical College of Wisconsin Mike Tanner, Department of Pharmacology, Ph.D., 2016, Medical College of Wisconsin Johnathan Ebben, Department of Pharmacology, Ph.D., 2016, Medical College of Wisconsin Ankit Gilani, Department of Pharmacology, Ph.D., 2019, New York Medical College
Nnamdi Uche, Department of Physiology, Ph.D., Medical College of Wisconsin
Ahmed Mohamed Darwesh Essa, Department of Pharmacology, Ph.D., University of Alberta

UNIVERSITY TEACHING

Undergraduate School

1983 - 1984 Laboratory Teaching Assistant, General Chemistry & Mammalian Physiology, Blackburn College

1988 - 1990 Lecturer, Human Organ Systems, Gastroenterology Section (8 lecture hours), University of Louisville School of Allied Health

1998 - 2001 Lecturer, Medical Sciences for Engineers (10-15 lecture hours) - Cardiovascular & Gastroenterology Sections, Tulane University

2002 Lecturer, Principles of Human Physiology Course, Gastroenterology Section (8 lecture hours), School of Allied Health Sciences, Medical College of Georgia

2010 - 2011 Instructor, American Physiological Society Professional Skills Training, Making Scientific Presentations: Critical First Skills

Graduate School

1997 - 2000 Lecturer, Vascular Physiology (Graduate course, 16 lecture hours), Tulane University School of Medicine

2002 - 2006 Lecturer, Scientific Communications (2-5 lecture hours), Medical College of Georgia

2003 - 2005 ***Course Director***, Cardiovascular Physiology & Pharmacology, Medical College of Georgia

2002 - 2007 Lecturer, Cardiovascular Physiology & Pharmacology, (2-6 lecture hours), Medical College of Georgia

2005 - 2007 Lecturer, Fundamentals of Functional Genomics, (8 lecture hours) Medical College of Georgia

2005 - 2007 ***Course Director***, Fundamentals of Functional Genomics, Medical College of Georgia

2002 - 2007 Lecturer, Integrative Systems Biology, Gastroenterology Section, Renal Vascular Section (3-5 lecture hours), Medical College of Georgia

2004 - 2007 Lecturer, Frontiers in Vascular Biology (2 lecture hours), Medical College of Georgia

2007 ***Course Director***, Frontiers in Vascular Biology, Medical College of Georgia

2006 - 2007 Lecturer, Critical Analysis of Disease Mechanisms (2 lecture hours), Medical College of Georgia

2007 - 2008 Lecturer, Modern Drug Discovery & Development (3 lecture hours), Medical College of Georgia

2008 - 2010 Lecturer, Analytical Methods in Pharmacology & Toxicology (2 lecture hours), Medical College of Wisconsin

2010 Guest Lecturer, Physiology and Pathophysiology of the Kidney (2 lecture hours), University of Nebraska Medical Center

2011 - 2012 Discussion Panel, Methods in Grant Writing Course (2 contact hours), Medical College of Wisconsin

2015 Lecturer, Pediatric Foundation Grant Writing Course (2 contact hours), Medical College of Wisconsin

2016 Lecturer, Models of Disease and Drug Discovery (2 lecture hours), Medical College of Wisconsin

2017 Lecturer & Discussion Panel, Refresher Responsible Conduct in Research Workshop (2 contact hours),

2015 - 2019 Lecturer, Introduction to Clinical Translational Research (2 contact hours), Medical College of Wisconsin

2014 - 2019 Lecturer, IDP Course: Mechanisms of Cellular Signaling (2 contact hours), Medical College of Wisconsin

2010 - 2019 Lecturer, Cellular Signal Transduction (4 lecture hours), Medical College of Wisconsin

2019 Discussion Panel, Science Café, Licensing Technologies (1 contact hour), Medical College of Wisconsin

2013 - 2019 ***Course Director*** & Lecturer (16 contact hours), Modern Drug Discovery & Development, Medical College of Wisconsin

2021 Instructor, MCW Student Centered Pipeline to Advance Research in Cancer Careers (SPARCC), Clinical Trials Session (2 hours)

2015 - 2022 Lecturer, Ion Channels & Signal Transduction (2 contact hours), Medical College of Wisconsin

2020 - 2022 Lecturer, Foundations in Biomedical Sciences, Drug Discovery Process (3 lecture hours), Medical College of Wisconsin

2020 – 2022 Lecturer, Understanding Cell Signaling through Therapeutic Drugs, Targeting signaling by angiotensin GPCRs and use of ACE inhibitors (2 lecture hours), Medical College of Wisconsin

2022 Lecturer, Preliminary Studies and Grant Development, Ethical, Cultural, and Diversity Considerations, (1 lecture hour), UAMS

Pharmacy School

2019 - 2021 Instructor, Advanced Drug Delivery (3 hours), Medical College of Wisconsin

2021 - 2022 Instructor, Independent Study, Medical College of Wisconsin

Medical School

1989 - 1990 Tutor, Medical Physiology, University of Louisville School of Medicine

1991 - 1993 Laboratory Instructor, Medical Physiology Course, Renal Section, Medical College of Wisconsin

1994 - 2001 Lecturer, Medical Physiology Course - Gastroenterology & Cardiovascular Sections (10-15 lecture hours), Tulane University School of Medicine

1994 - 2001 Instructor, Problem Based Learning & Laboratory Sessions, Medical Physiology Course (20-28 hours), Tulane University School of Medicine

1998 - 2001 Lecturer, Experimental Physiology (4 lecture hours), Tulane University School of Medicine.

2002 - 2004 Lecturer, Medical Physiology Course, Cell Physiology Section (8-12 lecture hours), Medical College of Georgia

2003 - 2004 Lecturer, Medical Physiology Course, Gastroenterology Section (6 lecture hours), Medical College of Georgia
2004 Lecturer, Medical Molecular Cell Biology Course, Cell Transport Section (2 lecture hours), Medical College of Georgia
2005 - 2006 Lecturer, Medical Cellular & Systems Processes Course, Gastroenterology Section (4-7 lecture hours), Medical College of Georgia
2005 - 2007 Lecturer, Medical Cellular & Systems Processes Course, Cell Physiology Section (6-8 lecture hours), Medical College of Georgia
2010 - 2011 Medical School Curriculum Development – GI/Nutrition Diabetes Section (6 days, 4 hours / day), Medical College of Wisconsin
2011 Teaching Team, M1 Exploratory Curriculum – GI/Nutrition Diabetes Section, (3 days, 4 hours / day), Medical College of Wisconsin
2012 Teaching Team, Exploratory Curriculum - M1 Chronic Kidney Disease Section, (3 hours), Medical College of Wisconsin
2013 - 2021 Lecturer & Teaching Team, M2 Discovery Curriculum – Cardiovascular and Renal Units, (8 hours), Medical College of Wisconsin
2014 - 2022 Teaching Team, M2 Symptoms Units – Hypertension, Edema, Headache, and Chronic Kidney Disease Sessions, (8 hours), Medical College of Wisconsin
2010 - 2022 Instructor, Principles of Drug Action Course, POPS Session, Anti-hypertensives Section, Dilator Drugs (4-7 hours), Medical College of Wisconsin

UNIVERSITY SERVICE

Tulane University School of Medicine Committees:

1996 - 2000 Interviewer - Medical School Admissions
1999 - 2000 Awards Committee - Tulane University Health Sciences Research Day
1999 - 2001 Search Committee - Chief of Hematology/Oncology
2000 - 2001 Member – Graduate Faculty
2000 - 2001 Pharmacology Curriculum Review Committee

Tulane University School of Medicine Departmental Committees:

1998 - 2000 Medical Education Committee
1998 - 2000 Graduate Studies Committee
1998 - 2001 Facilities & Space Committee
1998 - 2001 Coordinator, Renal Vascular Workshop
2000 - 2001 Biomedical Engineering Undergraduate Liaison Committee

Medical College of Georgia Committees:

2002 - 2005 Awards Committee – Graduate Research Day
2001 - 2007 Member – Graduate Faculty
2002 - 2004 Student Affairs Committee: School of Graduate Studies Representative
2005 - 2007 Student Judicial Committee: School of Graduate Studies Representative
2006 - 2007 University of Georgia Systems MD/PhD Program Committee
2006 - 2007 IACUC Subcommittee Member
2006 - 2007 Intramural Grants Program Review Committee

Medical College of Georgia Departmental Committees:

2001 - 2002 Physiology Department Faculty Search Committee

2001 - 2002 Vascular Biology Center Faculty Search Committee
2003 - 2006 Physiology Department Promotions & Tenure Committee
2004 Physiology Department Faculty Review Committee
2003 - 2007 ***Chair*** **-** Vascular Biology Center Postdoctoral Review Committee
2003 - 2007 Vascular Biology Center Graduate Program Committee

Medical College of Wisconsin Committees:
2008 - 2009 Ophthalmology Department Faculty Search Committee
2008 - 2012 Faculty Council, Pharmacology Department Representative
2013 Biomedical Resource Center Program Coordinator Search Committee
2013 - 2014 Cardiovascular Center Faculty Search Committee
2013 - 2014 ***Co-Leader*** **-** Cardiovascular Research Strategy Workgroup
2013 - 2014 Neuroscience Research Center Pilot Project Scientific Advisory Committee
2015 MCW Cancer Center Drug Discovery Working Group
2015 MCW Digestive Disease Center Grant Reviewer
2016 MCW Cancer Center Seed Grant Reviewer
2010 - 2016 CTSI Pilot Grant Scientific Review Committee
2017 Office of Technology Development Director Search Committee
2017 - 2018 MCW Chair of Physiology Search Committee
2016 - 2018 Advancing A Healthier Wisconsin Endowment Grant Reviewer
2019 ***Chair*** **-** Cardiovascular Center Pilot Project Scientific Advisory Committee
2016 - 2019 MCW Executive Faculty Committee
2018 - 2019 ***President*** **-** Faculty Council
2018 - 2019 MCW Institutional Finance Committee
2019 MCW Chief Development Officer Search Committee
2015 - 2020 Cardiovascular Center Pilot Project Scientific Advisory Committee
2016 - 2021 MCW Assessment and Oversight Committee
2017 - 2021 MCW Health Sciences University Steering Committee
2016 - 2022 Faculty Council Governance Committee
2009 - 2022 ***Chair*** **-** Vice-Chair, & Scientific Member, IACUC Committee
2014 - 2022 Biomedical Resource Center Advisory Committee
2021 - 2022 Cardio-oncology Faculty Search Committee

Medical College of Wisconsin School of Pharmacy Committees:
2016 – 2019 School of Pharmacy Faculty Search Interviewer

Medical College of Wisconsin Graduate School Committees:
2014 - 2021 Graduate Studies Council
2012 - 2021 ***Chair*** **-** Graduate School Biomedical Sciences Program Evaluation Committee

University of Arkansas for Medical Sciences Committees:
2022 - Research Space Committee

University of Arkansas for Medical Sciences College of Pharmacy Committees:
2022 - Executive Committee

SOCIETY & EDITORIAL SERVICE

American Association for the Advancement of Science
2015 – 2022: AAAS Annual Meeting Symposium Proposal Reviewer

American Association of Colleges of Pharmacy

American Heart Association - *Fellow American Heart Association*
Member, Council for Hypertension and Council for Kidney in Cardiovascular Diseases
2003 - 2008: Communications Committee: Council for Kidney in Cardiovascular Diseases
2004: EDHF Award Committee: American Heart Association Meeting
2008 - 2010: Scientific Program Committee: Council for Kidney in Cardiovascular Disease
2012: AHA Scientific Classification Taskforce
2009 - 2013: High Blood Pressure Fall Conference Program Committee
2022 – 2024: Awards Committee: Council on Hypertension

American Society of Nephrology - *Fellow of the American Society of Nephrology*

American Society of Pharmacology and Experimental Therapeutics

American Physiological Society - *Fellow American Physiological Society*
Gulf Coast Physiological Society Nominating Committee
1999-2001: Member

APS Renal Section Service
2002 - 2008: Renal Section Awards Committee: EB Meeting
2006 - 2008: Chair Renal Section Awards Committee
2005 - 2011: Renal Section Steering Committee
2009 - 2012: Treasurer – Renal Section
2017 - 2020: ***Chair*** **-** Renal Section
2020 - 2023: Sage - Renal Section

APS Nominating Committee
2017 - 2020: Member

APS Education Committee
2007 - 2009: Member
2008 - 2014: David Bruce Awards Committee
2006 - 2008: Frontiers in Physiology Review Committee
2006 - 2009: APS Archive Reviewer

APS Career Opportunities in Physiology Committee
2010 - 2012: Member
2011 - 2019: Undergraduate Summer Fellowship Awards Committee

APS Conference Committee
2015 - 2018: Member

APS Section Advisory Committee
2017 - 2020: Member

Editorial Service:

Chief Editor
Chief Field Editor, Frontiers in Physiology, 2021 - present
Specialty Chief Editor, Frontiers in Physiology, Metabolic Physiology, 2021 - 2022

Managing Editor
2007-2008 Frontiers in Bioscience

2018-2019 Frontiers in Translational Pharmacology, Clinical Paths for Soluble Epoxide Hydrolase Inhibitors

2019-2021 International Journal of Molecular Sciences, Cardiovascular Consequence of Acute Kidney Injury, Chronic Kidney Disease and AKI-to-CKD

2019-2021 Frontiers in Renal Physiology, Renal Function in Acute and Chronic Kidney Diseases

2019-2022 Frontiers in Renal Physiology, Interactions between Podocytes, Mesangial Cells, and Glomerular Endothelial Cells in Glomerular Diseases

2021-2022 Frontiers in Vascular Physiology, Nuclear Receptors in Hemodynamics and Blood Pressure Control

Associate Editor
Cardiovascular Therapeutics, 2018 - present
Frontiers in Vascular Physiology, 2010 - present
Prostaglandins and Other Lipid Mediators, WEC Special Issue, 2016, 2018

Review Editor
Clinical Science, 2012 - 2015

Editorial Board
American Journal of Physiology: Heart and Circulatory Physiology, 2006 - present
American Journal of Physiology: Regulatory, Integrative & Comparative Physiology, 2001 - present
American Journal of Physiology: Renal Physiology, 2001 - present
Biochemical Pharmacology, 2016 - present
Bioscience Reports, 2016 - 2019
Cardiovascular Therapeutics, 2007 - 2018
Clinical Science, 2016 – present
Current Hypertension Reviews, 2004 – 2011
Hypertension, 2003 - present
Journal of Vascular Research, 2007 - 2018
Journal of Pharmacology & Experimental Therapeutics, 2006 - 2016
Kidney360, 2019 - present
Microcirculation, 2004 - 2010

Editorial Advisory Panel
Clinical Science, 2002 - 2012
Faculty of 1000 Biology, 2006 - present

Journal Reviewer: 2020 - 2022
ACS Omega, 2022
Acta Physiologica, 2002 – 2021
American Journal of Physiology: Endocrinology & Metabolism, 2011 - 2022
BBA – Molecular Basis of Disease, 2021

Bioscience Reports, 2016 – 2020
British Journal of Pharmacology, 1997-2021
Canadian Journal of Physiology & Pharmacology, 1993 – 2021
Cellular Signaling, 2020
Circulation Research, 2001-2021
Clinical & Experimental Hypertension, 1992 – 2021
Clinical & Experimental Pharmacology & Physiology, 1999 - 2022
Clinical & Translational Immunology, 2022
Clinical and Translational Science, 2020 - 2022
Current Medicinal Chemistry, 2019 -2021
Diabetes, Obesity, and Metabolism, 2018 – 2022
Diabetes Research and Clinical Practice, 2019 - 2021
Drug Discovery Today, 2021
EBio Medicine, 2020 - 2022
European Journal of Clinical Pharmacology, 2020
European Journal of Pharmacology, 2007 – 2022
Expert Opinion on Therapeutic Targets, 2020
FASEB Journal, 2013-2021
Frontiers in Cardiovascular Medicine, 2022
Frontiers in Cellular Neuroscience, 2021
Frontiers in Endocrinology, 2017 – 2020
Frontiers in Immunology, 2016 - 2022
Frontiers in Molecular Biosciences, 2020
Frontiers in Pharmacology, 2014 – 2022
International Journal of Molecular Sciences, 2018 - 2021
Journal of the American Heart Association, 2017 - 2022
Journal of the American Society of Nephrology, 2000 - 2022
Journal of Biochemical and Molecular Toxicology, 2020
Journal of Cardiovascular Pharmacology, 2010 - 2022 Journal
of Molecular Medicine, 2018 - 2021
Journal of Pharmacology and Experimental Therapeutics, 2002 - 2022
Journal of Pharmacy & Pharmacology, 2011 – 2022
Journal of Physiology & Pharmacology, 2018 - 2022
Kidney International, 1995 - 2022
Life Sciences, 2004-2022
Microvascular Research, 1998-2021
Molecular and Cellular Endocrinology, 2015 - 2020
Molecular Pharmacology, 2012 - 2022
Nature Communications, 2021
Nutrients, 2018 - 2020
Pharmacological Research, 2009 – 2021
Pharmacology & Therapeutics, 2020 - 2022
Physiological Reports, 2020 - 2021
Proceedings of the National Academy of Sciences USA, 2005 - 2021
Renal Failure, 2008 - 2022
Scientific Reports, 2016 - 2020
Theranostics, 2019-2020
Vascular Pharmacology, 2000 - 2022

Scientific Meetings Abstract Reviewer

American Society of Nephrology Meeting, Vascular Physiology Review Committee, 1998

American Heart Association Scientific Sessions, Experimental Hypertension Abstract Review Committee, 2001 - 2007

Interamerican Society of Hypertension Meeting, Kidney and Hypertension Abstract Review Committee, 2005

Winter Eicosanoid Meeting, Travel Awards Committee, 2005, 2008, 2014 (Chair)

American Society of Nephrology Meeting, Lipid Mediators / Eicosanoids Abstract Review Committee, 2005 - 2007, Chair 2007 – 2009

American Society of Nephrology Meeting, Vascular Biology and Dysfunction Abstract Review Committee, 2017

American Heart Association Council for High Blood Pressure Research, Scientific Sessions Abstract Review Committee, 1999 - 2022

American Heart Association Scientific Sessions, Therapeutics & Biotechnology, Emerging Technologies Abstract Review Committee, 2017-2022

Grant Review Activities

1995	Jewish Hospital Foundation Grant Review, Louisville, KY
2001	Health Research Board in Ireland, Clinical Research Fellowship Program
1995, 2002	Veterans Administration Merit Grant Review
2003	Ohio University Research Committee Grant Review
2003	National Institutes of Health, Cardiovascular & Renal (CVB) Study Section
2000 - 2004	American Heart Association – National, Cardiovascular Regulation Committee
2004	National Heart Foundation of Australia Grant Review
2005	National Institutes of Health, COBRE Grant Review Committee
2006	Department of Health, United Kingdom – Clinical Research Initiative Grants
2005 - 2007	Philip Morris External Research Program Grant Review
2006 - 2007	American Heart Association – Southern & Ohio Valley Consortium, Vascular Wall
2003 - 2009	Kentucky Science and Engineering Foundation (KSEF) Grant Review
2009	National Institutes of Health-NIDDK, Collaborative Interdisciplinary Research Program in Diabetes, Endocrinology and Metabolic Diseases Study Section
2009	National Institutes of Health-NIDDK, Cellular & Molecular Kidney Study Section
2009	National Institutes of Health-HLBI, CV Sciences Small Business Study Section
2007 - 2011	***Chair*** **-** American Heart Association, Vascular Wall Biology Committee
2010 - 2011	National Institutes of Health-HLBI, Vascular Hematology Study Section
2011	Jeffress Memorial Trust Scientific Research – Grant Review
2011	***Chair*** **-** National Institutes of Health, Action to Control Cardiovascular Disease (ACCORD) Special Emphasis Panel Study Section
2008 - 2012	Israel Science Foundation – Research Grant Review
2012	NIH-NHLBI Patient Oriented Research Career Enhancement Awards
2012	American Heart Association – Western States Consortium, Innovator Grants
2012	National Health and Medical Research Council of Australia, Research Grant Review

2011 - 2013	Natural Sciences and Engineering Research Council of Canada, Discovery Grants
2013	Wellbeing of Women Research Project Grants
1999 - 2014	National Institutes of Health-HLBI, Program Project Review Committees
2014	National Institutes of Health, Director's Early Independence (DP5) Awards
2014	NIH-NIDDK, Kidney Disease Ancillary Studies Study Section
2013 - 2015	National Institutes of Health, Hypertension & Microcirculation (HM) Study Section
2016	NIH-NIDDK, Diabetes Complications Consortium Study Section
2016 - 2017	Canadian Institutes of Health Research (CIHR), Project Grant Review Panel
2018	National Science Centre – Poland Research Grant Review
2018	NIH-NIDDK, Biomarkers Using Biosamples NIDDK Repository Study Section
2018	NIH-NIDDK, Early-Stage Validation of Therapeutic Leads for Diseases of Interest to the NIDDK Study Section
2018	NIH-NIDDK, Clinical Research in Type 1 Diabetes Living Biobank Study Section
2018 - 2019	Dr. Ralph and Marian Falk Medical Research Trust Awards - Grant Reviews
2019	French National Research Agency (ANR) – Research Grant Reviewer
2019	CTSA External Reviewers Exchange Consortium (CEREC) Grant Reviewer
2020	CIHR/IRSC Canada Research Chair Reviewer
2019 - 2020	Swiss National Science Foundation – Research Grant Reviewer
2017 - 2020	Member, NIH, Hypertension & Microcirculation (HM) Study Section
2016, 2021	NIH-NIDDK, Molecular Basis Diabetes Complications (DiaComp) Study Section
2017, 2021	NIH, Pathobiology of Kidney Disease Study Section
2021	NIH, F31 Fellowships: Physiology and Pathobiology of the Vascular and Hematological Systems Study Section
2008 - 2022	Czech Science Foundation – Research Grant Reviewer
2017 - 2022	Member, CIHR/IRSC College of Reviewers, Cardiovascular Sciences Study Section
2012 - 2022	American Heart Association – EIA Basic & Clinical Science Review Committee
2022	NIH-NIDDK, Kidney Precision Medicine Project (KPMP) Study Section

INVITED LECTURES

Academic Institutions & Pharmaceutical Companies

1991 Department of Physiology, Medical College of Wisconsin.
1993 Department of Physiology, Tulane University School of Medicine
1997 Department of Physiology, University of Louisville School of Medicine
1998 Department of Physiology, University of South Alabama School of Medicine
1999 Department of Physiology, University of Texas San Antonio School of Medicine
1999 Department of Pharmacological & Physiological Sciences, St. Louis University SOM
1999 Vascular Biology Center, Medical College of Georgia
2000 Department of Molecular & Integrative Physiology, Kansas University Medical Center
2001 Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT
2001 Seminars in Molecular Biology, University of California-Davis
2002 Department of Physiology, University of South Florida School of Medicine
2002 Department of Medical Physiology, Texas A&M College of Medicine
2003 Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT
2004 Seminars in Biotechnology, University of California-Davis
2004 Department of Integrative Physiology, University of North Texas Health Sciences Ctr.
2005 Kansas City University of Medicine and Biosciences
2006 Pfizer Global Research & Development, St. Louis, MO
2006 Arête Therapeutics, Hayward, CA
2007 Merck & Co., Rahway, NJ
2007 Department of Pharmacology, Medical College of Wisconsin
2007 GlaxoSmithKline, King of Prussia, PA
2007 Johnson & Johnson Pharmaceutical Services, Raritan, NJ
2008 Department of Pharmacology, Virginia Commonwealth University
2008 Translational Cardiovascular Science Distinguished Speaker, University of California-Davis
2009 Takeda San Diego, San Diego, CA
2009 Department of Physiology, University of Louisville
2010 AstraZeneca, Mölndal, Sweden
2010 Department of Pharmacology, New York Medical College
2010 Department of Physiology, University of Nebraska Medical Center
2010 Takeda Pharmaceuticals North America, Lincolnshire, IL
2010 Eli Lilly Co. Indianapolis, IN
2011 Renal Research Conference, Division of Nephrology, Vanderbilt University, Nashville, TN
2012 Institute of Research Servier, Paris, France
2013 Henry Ford Hospital, Hypertension and Vascular Research Division, Detroit, MI
2013 Ardelyx, Fremont, CA
2013 Reata Pharmaceuticals, Dallas, TX

2014 Cellular & Molecular Basis Disease Series, University of New Mexico, Albuquerque, NM
2015 Hematologic Malignancy & Transplantation Program, Medical College of Wisconsin
2015 Concordia University School of Pharmacy, Mequon, WI
2017 University of Illinois, Champaign-Urbana, IL
2018 University of California-Davis, Medicine Grand Rounds, Sacramento, CA
2018 University of Tennessee Health Sciences Center, Memphis, TN
2018 L. Gabby Navar Symposium, Tulane University School of Medicine, New Orleans, LA
2018 University of Houston, School of Pharmacy, Houston, TX
2018 West Virginia University, School of Pharmacy, Morgantown, WV
2018 University of Kentucky, Dept. of Pharmacology & Nutritional Sciences, Lexington, KY
2018 University Arkansas for Medical Sciences, Physiology & Biophysics, Little Rock, AR
2019 Albert Einstein College of Medicine, Molecular Pharmacology, New York, NY
2019 University of Mississippi Medical Center, Jackson MS
2019 Drexel University, College of Medicine, Philadelphia, PA
2019 University of North Texas Health Sciences Center, Fort Worth, TX
2019 New York Medical College, Department of Pharmacology, Valhalla, NY
2020 Emory University, School of Medicine, Atlanta, GA
2020 University of Missouri-Kansas City, Kansas City, MO
2020 REVA University, Bangalore, India
2021 Vanderbilt University, Clinical Pharmacology, Nashville, TN
2022 University of Illinois – Chicago, Chicago, IL
2022 University Arkansas for Medical Sciences, Pharmaceutical Sciences, Little Rock, AR
2022 Tulane University School of Medicine, New Orleans, LA

Scientific Meetings

1995 FASEB Conference on Renal Hemodynamics, Vascular Physiology of Angiotensin II Session, Saxtons River, VT
1998 FASEB Conference on Renal Hemodynamics, Renal Endothelial Factors Session, Saxtons River, VT
1999 Winter Eicosanoid Conference, Session, Winter Eicosanoid Conference, Baltimore, MD
2000 American Society of Nephrology Meeting, Symposium: Renal Actions of 20-HETE & EETS, Toronto, Canada
2000 International Meeting on Cyclooxygenase 2 and Renal Function, University of Regensburg, Regensburg, Germany
2000 International Society of Hypertension Meeting, Symposium: Role of Intrarenal Angiotensin II in the Pathophysiology of Hypertension, Chicago, IL
2000 Winter Eicosanoid Conference, Session IV, Baltimore, MD
2001 American Society of Hypertension Scientific Meeting, Awards Session, San Francisco
2001 FASEB Conference on Renal Hemodynamics, Renal Hemodynamics & Hypertension Session, Saxtons River, VT

2001 Winter Eicosanoid Conference, Session IV, Baltimore, MD

2002 4th International Congress of Pathophysiology, Integration of Endocrine, Paracrine and Novel Messengers in Cardiovascular Disease Session, Budapest, Hungary

2002 Winter Eicosanoid Conference, Renal Session, Baltimore, MD

2003 International Conference on Dialysis V: Advances in ESRD 2003, New Technology Session, Miami, FL

2003 International Symposium on Molecular Toxicology and Environmental Health, Molecular Basis of Human Disease Session, Lucknow, India

2004 Fifth Annual John H. Laragh Conference on Advances in Hypertension Research, Interaction of ACE with the RAS, the Kinin System and Beyond, Aventura, FL

2004 Experimental Biology 2004, AstraZeneca Young Investigator Lecture Session, Renal Hemodynamics, Washington, DC

2004 FASEB Conference on Renal Microcirculatory and Tubular Dynamics: Molecules to Man, Arachidonic Acid Metabolites Renal Hemodynamics Session, Pine Mountain, GA

2004 Center for Drug Research, Development and Safety (ZAFES) Kick-Off Symposium, Lipid Signaling Session, Universitat Frankfurt Am Main, Frankfurt, Germany

2005 Winter Eicosanoid Conference, EETs and Soluble Epoxide Hydrolase Session, Baltimore, MD

2005 16th Scientific Meeting of the Interamerican Society of Hypertension, Hypertension and Renal Damage Session, Cancun, Mexico

2006 International Society of Nephrology Meeting, Endothelial Cell Biology and Renal Disease: from bench to prevention, New Jersey

2007 Winter Eicosanoid Conference, Soluble Epoxide Hydrolase Session, Baltimore, MD

2007 17th Scientific Meeting of the Interamerican Society of Hypertension, Eicosnoids and Mechanisms of Hypertension Session, Miami, FL

2007 FASEB Conference on Renal Hemodynamics – Biomolecular Control Mechanisms Integrating Vascular and Tubular Function, Saxtons River, VT

2008 Winter Eicosanoid Conference, Astrocyte Regulation of Cerebral Blood Flow by Eicosanoids Session, Baltimore, MD

2008 ASPET Centennial Symposium: Development of inhibitors of soluble epoxide hydrolase as a novel treatment for hypertension, vascular inflammation and end organ damage, San Diego, CA

2009 Winter Eicosanoid Conference, CYPP450-derived Eicosanoids Session, Baltimore, MD

2010 FASEB Conference on Renal Hemodynamics: Mechanisms to Understand Disease, Prostanoids in the Kidney Session, Saxtons River, VT

2010 9th World Congress for Microcirculation, Vascular Remodeling Session, Paris, France

2011 Forum on Kidney Injury and Metabolic Disease, Shandong University, Jinan, China

2012 14th International Winter Eicosanoid Conference, Capdevila Symposium, Baltimore, MD

2012 Drug Development Workshop, CTSI of Southeastern Wisconsin

2013 2013 Shanghai Symposium on Polyunsaturated Fatty Acid Metabolism, Shanghai, China

2014 International School of Pharmacology, Course on Eicosanoids – Eicosanoids and Related Compounds, Erice, Italy

2016 16th Winter Eicosanoid Conference, Epoxylipid Mediators in Disease, Baltimore, MD

2016 6th European Workshop on Lipid Mediators, Frankfurt, Germany

2016 21st International Symposium Microsomes and Drug Oxidations, Davis, CA

2016 American Heart Association Meeting, Lipids, Inflammation and Vascular Disease Session, New Orleans

2018 ASPET Symposium: Clinical Paths for Soluble Epoxide Hydrolase Inhibitors, San Diego, CA

2018 American Heart Association Research Leaders Academy, How to Bring Your Discovery to Market, Salt Lake City, UT

2019 Vasculata Conference, Therapeutic Development, Milwaukee, WI

2019 American Heart Association Hypertension 2019 Meeting, Lewis K. Dahl Memorial Lecture, New Orleans, LA

2021 PharmD 2021, Pharmaceutical Research and Drug Development, Washington, D.C.

2021 Global Trends in Health and Life Sciences, Bangalore, India

2021 American Heart Association Meeting, Recent Advances in Hypertension Control, Boston, MA

2022 International Conference on Pharma Research & Development, San Francisco, CA

2022 Recent Advances in Allied Health and Biological Sciences Research, Bangalore, India

2023 APS Summit Symposium: Microvascular Homeostasis in Health & Disease, Long Beach, CA

Scientific Meeting Session Chair 2016-2022

2016 Co-Organizer & Co-Chairperson, Winter Eicosanoid Conference, Epoxygenase Metabolites – New Opportunities for Translational Research, Baltimore, MD

2016 Co-Organizer & Co-Chairperson, 21st International Symposium Microsomes and Drug Oxidations, Inhibition of Epoxide Hydrolase: Enzymes, Targets and Possible Paths to the Clinic, Davis, CA

2016 Co-Chairperson, American Heart Association Meeting, Lipids, Inflammation and Vascular Disease Session, New Orleans

2018 Organizing Committee & Co-Chairperson, Inflammation and Kidney Symposium, Winter Eicosanoid Conference, Baltimore, MD

2018 Co-Organizer & Co-Chairperson, ASPET Symposium: Clinical Paths for Soluble Epoxide Hydrolase Inhibitors, San Diego, CA

2019 Co-Organizer, Vasculata Conference, Drug Discovery Workshop, Milwaukee, WI

2020 Co-Organizer & Co-Chairperson, APS/ASPET Presidential Symposium: CV and Renal Inflammation in Health and Disease, San Diego, CA

2022 Co-Organizer & Co-Chairperson, Drug Discovery, Development, & Delivery, International Conference on Pharma Research & Development, San Francisco, CA

PUBLICATIONS: 188 Original Articles & 70 Reviews / Book Chapters / Editorials

Scopus *h* index = 64 Google *h* index = 73 NIH Relative Citation Ratio (RCR) = 392.30

Author ID Profile Links:

Scopus Author ID: 7007147118

Loop profile: 12341

https://orcid.org/0000-0002-9668-2899

https://scholar.google.com/citations?hl=en&pli=1&user=MxpRqJkAAAAJ

https://www.ncbi.nlm.nih.gov/myncbi/john.imig.1/bibliography/public/

https://pubmed.ncbi.nlm.nih.gov/?term=imig+jd&sort=date

Scientific Articles

1. Imig JD, Anderson GL. Small artery resistance increases during the development of renal hypertension. *Hypertension* 17:317-322, 1991. PMID: 1999362
2. Imig JD, Roman RJ. Nitric oxide modulates vascular tone in preglomerular arterioles. *Hypertension* 19:770-774, 1992. PMID: 1592479
3. Imig JD, Passmore JC, Anderson GL, Jimenez AE. Chloride alters renal blood flow autoregulation in deoxycorticosterone-treated rats. *J Lab Clin Med* 121:608-613, 1993. PMID: 8454943
4. Gebremedhin D, Ma YH, Imig JD, Roman RJ, Harder DR. Role of cytochrome P-450 in elevating renal vascular tone in spontaneously hypertensive rats. *Journal of Vascular Research* 30:53-60, 1993. PMID: 8435472
5. Imig JD, Gebremedhin D, Harder DR, Roman RJ. Modulation of vascular tone by erythrocytes: role of EDRF. *Am J Physiol Heart Circ Physiol* 264: H190-H195, 1993. PMID: 8430845
6. Imig JD, Falck JR, Gebremedhin D, Harder DR, Roman RJ. Elevated renovascular tone in young spontaneously hypertensive rats: Role of cytochrome P450. *Hypertension* 22:357- 364, 1993. PMID: 8349328
7. Zou A-P, Imig JD, Ortiz de Montellano PR, Sui Z, Roman RJ. Inhibition of renal vascular 20-HETE impairs autoregulation of renal blood flow. *Am J Physiol Renal Physiol* 266: F275-F282, 1994. PMID: 8141328
8. Zou A-P, Imig JD, Ortiz de Montellano PR, Sui Z, Falck JR, Roman RJ. Effect of P-450 ω-hydroxylase metabolites of arachidonic acid on tubuloglomerular feedback. *Am J Physiol Renal Physiol* 266: F934-F941, 1994. PMID: 8023972
9. Imig JD, Zou A-P, Ortiz de Montellano PR, Sui Z, Roman RJ. Cytochrome P450 inhibitors alter the afferent arteriolar response to elevations in perfusion pressure. *Am J Physiol Heart Circ Physiol* 266: H1879-H1885, 1994. PMID: 8203587
10. Imig JD, Zou A-P, Stec DE, Harder DR, Falck JR, Roman RJ. Formation and actions of 20-hydroxyeicosatetraenoic acid in the renal microcirculation. *Am J Physiol Regul Integr Comp Physiol* 270: R217-R227, 1996. PMID: 8769805
11. Zou LX, Hymel A, Imig JD, Navar LG. Renal accumulation of circulating angiotensin II in angiotensin II-infused rats. *Hypertension* 27:658-662, 1996. PMID: 8613220

12. Imig JD, Navar LG. Afferent arteriolar responses to arachidonic acid: Involvement of metabolic pathways. *Am J Physiol Renal Physiol* 271: F87-F93, 1996. PMID: 8760247
13. Harder DR, Narayanan J, Birks E, Liard JF, Imig JD, Lombard JH, Lange AR, Roman RJ. Identification of a putative microvascular oxygen sensor. *Circ Res* 79:54-61, 1996. PMID: 89-25569
14. Zou LX, Imig JD, Von Thun A, Hymel A, Ono H, Navar LG. Receptor-mediated intrarenal angiotensin II augmentation in angiotensin II-infused rats. *Hypertension* 28:669-677, 1996. PMID: 8843896
15. Imig JD, Navar LG, Roman RJ, Reddy KK, Falck JR. Actions of epoxygenase metabolites on the preglomerular vasculature. *J Am Soc Nephrol* 7:2364-2370, 1996. PMID: 8959626
16. Inscho EW, Imig JD, Cook AK. Afferent and efferent arteriolar vasoconstriction to angiotensin II and norepinephrine involves release of Ca^{2+} from intracellular stores. *Hypertension* 29:222-227, 1997. PMID: 9039105
17. Ichihara A, Inscho EW, Imig JD, Michel RE, Navar LG. Role of renal nerves in afferent arteriolar reactivity in angiotensin II-induced hypertension. *Hypertension* 29:442-449, 1997. PMID: 9039140
18. Kaye AD, Nossaman BD, Smith DE, Ibrahim IN, Imig JD, Kadowitz PJ. Effects of phospholipase A_2, 12-lipoxygenase, and cyclooxygenase inhibitors in the feline pulmonary bed. *Am J Physiol Lung Cell Mol Physiol* 272:L573-L579, 1997. PMID: 9142927
19. Inscho EW, Mason MJ, Schroeder AC, Deichmann P, Stiegler KD, Imig JD: Agonist- induced calcium regulation in freshly isolated renal microvascular smooth muscle cells. *J Am Soc Nephrol* 8:569-579, 1997. PMID: 10495786
20. Imig JD, Deichmann PC. Afferent arteriolar responses to angiotensin II involve activation of phospholipase A_2 and modulation by lipoxygenase and cytochrome P450 pathways. *Am J Physiol Renal Physiol* 273:F274-F282, 1997. PMID: 9277588
21. Inscho EW, Cook AK, Mui V, Imig JD. Calcium mobilization contributes to pressure-mediated afferent arteriolar vasoconstriction. *Hypertension* 31:421-428, 1998. PMID: 9453339
22. Ichihara A, Inscho EW, Imig JD, Navar LG. Neuronal nitric oxide synthase modulates rat renal microvascular function. *Am J Physiol Renal Physiol* 274:F516-F524, 1998. PMID: 9530268
23. Zou LX, Imig JD, Hymel A, Navar LG. Renal uptake of circulating angiotensin II in Val^5-angiotensin II infused rats. *Am J Hypertens* 11:570-578, 1998. PMID: 9633793
24. Ichihara A, Imig JD, Inscho EW, Navar LG. Interactive nitric oxide-angiotensin II influences on renal microcirculation in angiotensin II-induced hypertension. *Hypertension* 31:1255-1260, 1998. PMID: 9622138
25. Ichihara A, Imig JD, Inscho EW, Navar LG. Cyclooxygenase-2 participates in tubular flow-dependent afferent arteriolar tone: interaction with neuronal nitric oxide synthase in rat kidneys. *Am J Physiol Renal Physiol* 275:F605-F612, 1998. PMID: 9755132
26. Inscho EW, Imig JD, Deichmann PC, Cook AK. Candesartan Cilexetil protects against loss of autoregulatory efficiency in angiotensin II-infused rats. *J Am Soc Nephrol* 10:S178-S183, 1999. PMID: 9892160
27. Ichihara A, Imig JD, Navar LG. Neuronal nitric oxide synthase-dependent afferent arteriolar function in angiotensin II-induced hypertension. *Hypertension* 33:462-466, 1999. PMID: 9931148

28. Inscho EW, LeBlanc EA, Pham BT, White SM, Imig JD. Purinoceptor-mediated calcium signaling in preglomerular smooth muscle cells. *Hypertension* 33:195-200, 1999. PMID: 9931104
29. Imig JD, Inscho EW, Deichmann PC, Reddy KM, Falck JR. Afferent arteriolar vasodilation to the sulfonimide analog of 11,12-epoxyeicosatrienoic acid involves protein kinase A. *Hypertension* 33:408-413, 1999. PMID: 9931138
30. Inscho EW, Schroeder AC, Deichmann PC, Imig JD. ATP-mediated Ca^{2+} signaling in preglomerular smooth muscle cells. *Am J Physiol Renal Physiol* 276:F450-F456, 1999. PMID: 10070169
31. Navar LG, Harrison-Bernard LM, Imig JD, Wang CT, Cervenka L, Mitchell KD. Intrarenal angiotensin II generation and renal effects of AT1 receptor blockade. *J Am Soc Nephrol* 10:S266-S272, 1999. PMID: 10201881
32. Imig JD, Falck JR, Inscho EW. Contribution of cytochrome P450 epoxygenase and hydroxylase pathways to afferent arteriolar autoregulatory responsiveness. *British Journal of Pharmacology* 127:1399-1405, 1999. PMID: 10455289 / PMCID: PMC1760652
33. Imig JD, Navar GL, Zou LX, O'Reilly K, Allen P, Kaysen JH, Hammond TG, Navar LG. Renal endosomes contain angiotensin peptides, angiotensin converting enzyme and AT_{1A} receptors. *Am J Physiol Renal Physiol* 277:F303-F311, 1999. PMID: 10444586
34. Cervenka L, Harrison-Bernard LM, Dipp S, Primrose G, Imig JD, El-Dahr SS. Early onset salt-sensitive hypertension in bradykinin B_2 receptor null mice. *Hypertension* 34:176-180, 1999. PMID: 10454437
35. Ichihara A, Imig JD, Navar LG. Cyclooxygenase-2 modulates afferent arteriolar responses to increases in pressure. *Hypertension* 34:843-847, 1999. PMID: 10523371
36. Imig JD, Pham BT, LeBlanc EA, Falck JR, Inscho EW. Cytochrome P450 and cyclooxygenase metabolites contribute to the endothelin-1 afferent arteriolar vasoconstrictor and calcium responses. *Hypertension* 35:307-312, 2000. PMID: 10642316
37. Schroeder AC, Imig JD, LeBlanc EA, Pham BT, Pollock DM, Inscho EW. Endothelin-mediated calcium signaling in preglomerular smooth muscle cells. *Hypertension* 35:280- 286, 2000. PMID: 10642311
38. Imig JD. Afferent arteriolar reactivity to angiotensin II is enhanced during the early phase of angiotensin II-induced hypertension. *Am J Hypertens* 13:810-818, 2000. PMID: 10933574
39. Zimpelmann J, Kumar D, Levine DZ, Wehbi G, Imig JD, Navar LG, Burns KD. Early diabetes mellitus stimulates renal proximal tubule renin mRNA expression in the rat. *Kidney International* 58:2320-2330, 2000. PMID: 11115066
40. Imig JD, Cook AK, Inscho EW. Postglomerular vasoconstriction to angiotensin II and norepinephrine depend on intracellular calcium release. *General Pharmacology* 34:409- 415, 2000. PMID: 11483290
41. Holla VR, Adas F, Imig JD, Zhao X, Price E, Olsen N, Kovacs WJ, Magnuson MA, Keeney DS, Breyer MD, Falck JR, Waterman MR, Capdevila JH. Alterations in the regulation of androgen-sensitive Cyp 4a monooxygenases cause hypertension. *Proc Natl Acad Sci USA* 98:5211-5216, 2001. PMID: 11320253 / PMCID: PMC33189
42. Imig JD, Falck JR, Wei S, Capdevila JH. Epoxygenase metabolites contribute to the nitric oxide-independent afferent arteriolar vasodilation to bradykinin. *Journal of Vascular Research* 38:247-255, 2001. PMID: 11399897

43. White SM, Imig JD, Kim T, Hauschild BC, Inscho EW. Calcium signaling pathways utilized by P2X receptors in freshly isolated preglomerular smooth muscle cells. *Am J Physiol Renal Physiol* 280:F1054-F1061, 2001. PMID: 11352845
44. Imig JD, Falck JR, Wei S, Capdevila JH. Enhanced renal microvascular reactivity to angiotensin II in hypertension is ameliorated by the sulfonimide analog of 11,12-epoxyeicosatrienoic acid. *Journal of Hypertension* 19:983-992, 2001. PMID: 11393683
45. Zhao X, Inscho EW, Falck JR, Imig JD. The CYP450 hydroxylase pathway contributes to P2X receptor-mediated afferent arteriolar vasoconstriction. *Am J Physiol Heart Circ Physiol* 281:H2089-2096, 2001. PMID: 11668070
46. Zhuo JL, Imig JD, Hammond TG, Orengo S, Benes E, Navar LG. Ang II accumulation in rat renal endosomes during Ang II-induced hypertension: role of AT1 receptor. *Hypertension* 39:116-121, 2002. PMID: 11799089
47. Imig JD, Zhao X, Capdevila JH, Morisseau C, Hammock BD. Soluble epoxide hydrolase inhibition lowers arterial blood pressure in angiotensin II hypertension. *Hypertension* 39:690-694, 2002. PMID: 11882632
48. Harrison-Bernard LM, Imig JD, Carmines PK. Renal AT1 receptor protein expression during the early stage of diabetes mellitus. *Int J Exp Diabetes Res* 3:97-108, 2002. PMID: 11991202 / PMCID: PMC2478573
49. Imig JD, Breyer MD, Breyer RM. Contribution of prostaglandin EP2 receptors to renal microvascular reactivity in mice. *Am J Physiol Renal Physiol,* 283:F415-F422, 2002. PMID: 1267591
50. Zhao X, Pollock DM, Inscho EW, Zeldin DC, Imig JD. Decreased renal cytochrome P450 2C enzymes and impaired vasodilation are associated with salt-sensitive hypertension. *Hypertension* 41:709-714, 2003. PMID: 12623984
51. Wang MH, Smith A, Zhou Y, Chang HH, Lin SB, Zhao X, Imig JD, Dorrance A. Down regulation of renal CYP-derived eicosanoid synthesis in rats with diet induced hypertension. *Hypertension* 42:594-599, 2003. PMID: 12939236
52. Zhao X, Pollock DM, Zeldin DC, Imig JD. Salt-sensitive hypertension after exposure to angiotensin is associated with an inability to upregulate renal epoxygenases. *Hypertension* 42:775-780, 2003. PMID: 12900436
53. Imig JD, Zhao X, Orengo SR, Dipp S, El-Dahr SS. The bradykinin B2 receptor is required for full expression of renal COX-2 and renin. *Peptides* 24:1141-1147, 2003. PMID: 14612184
54. Yiu SS, Zhao X, Inscho EW, Imig JD. 12-Hydroxyeicosatetraenoic acid participates in angiotensin II afferent arteriolar constriction by activating L-type calcium channels. *J Lipid Res* 44:2391-2399, 2003. PMID: 12951362
55. Inscho EW, Cook AK, Imig JD, Vial C, Evans RJ. Physiological role for P2X1 receptors in renal microvascular autoregulatory behavior. *J Clin Invest* 112:1895-1905, 2003. PMID: 14679185 / PMCID: PMC296993
56. Zhao X, Yamamoto T, Newman JW, Kim IH, Watanabe T, Hammock BD, Stewart J, Pollock JS, Pollock DM, Imig JD. Soluble epoxide hydrolase inhibition protects the kidney from hypertension-induced damage. *J Am Soc Nephrol* 15:1244-1253, 2004. PMID: 15100364
57. Inscho EW, Cook AK, Murzynowski JB, Imig JD. Elevated arterial pressure impairs autoregulation independently of AT1 receptor activation. *Journal of Hypertension* 22:811-818, 2004. PMID: 15126924

58. Sullivan JC, Loomis ED, Collins M, Imig JD, Inscho EW, Pollock JS. Age-related alterations in NOS and oxidative stress in mesenteric arteries from male and female rats. *J Applied Physiol* 97:1268-1274, 2004. PMID: 15169747

59. Dey A, Williams RS, Pollock DM, Stepp DW, Newman JW, Hammock BD, Imig JD. Altered kidney CYP2C and cyclooxygenase-2 levels are associated with obesity-related albuminuria. *Obesity Research* 12:1278-1289, 2004. PMID: 15340111

60. Zhao X, Falck JR, Gopal VR, Inscho EW, Imig JD. P2X receptor stimulated calcium responses in preglomerular smooth muscle cells involves 20-hydroxyeicosatetraenoic acid. *J Pharmacol Exp Ther* 311:1211-1217, 2004. PMID: 15316085

61. Dey A, Maric C, Kaesemeyer WH, Zaharis CZ, Stewart J, Pollock JS, Imig JD. Rofecoxib decreases renal injury in obese Zucker rats. *Clinical Science* 107:561-570, 2004. PMID: 15307815

62. Zhao X, Dey A, Romanko O, Stepp DW, Wang MH, Jin L, Pollock JS, Webb RC, Imig JD. Decreased epoxygenase and increased epoxide hydrolase expression in the mesenteric artery of obese Zucker rats. *Am J Physiol Regul Integr Comp Physiol* 288:R188-R196, 2005. PMID: 15345471

63. Pollock DM, Jenkins JM, AK Cook, Imig JD, Inscho EW. L-type calcium channels in the renal microcirculatory response to endothelin. *Am J Physiol Renal Physiol* 57:F771-F777, 2005. PMID: 15547114

64. Williams JM, Zhao X, Wang MH, Imig JD, Pollock DM. Peroxisome proliferator-activated receptor-α activation reduces salt-dependent hypertension during chronic endothelin B receptor blockade. *Hypertension* 46:366-371, 2005. PMID: 15967866

65. Zhao X, Cook AK, Field M, Edwards B, Zhang S, Zhang Z, Pollock JS, Imig JD, Inscho EW. Impaired Ca^{2+} signaling attenuates P2X receptor-mediated vasoconstriction of afferent arterioles in angiotensin II hypertension. *Hypertension* 46:562-568, 2005. PMID: 16116048

66. Imig JD, Zhao X, Zaharis CZ, Olearczyk JJ, Pollock DM, Newman JW, Kim IH, Hammock BD. An orally active epoxide hydrolase inhibitor lowers blood pressure and provides renal protection in salt-sensitive hypertension. *Hypertension* 46:975-981, 2005. PMID: 16157792 / PMCID: PMC1444888

67. Fuller AJ, Hauschild BC, Gonzalez-Villalobos R, Awayda M, Imig JD, Inscho EW, Navar LG. Calcium and chloride channel activation by angiotensin II-AT1 receptors in preglomerular vascular smooth muscle cells. *Am J Physiol Renal Physiol* 289:F760-F767, 2005. PMID: 15942047 / PMCID: PMC1314975

68. Dorrance AM, Rupp N, Pollock DM, Newman JW, Hammock BD, Imig JD. An epoxide hydrolase inhibitor, 12-(3-adamantan-1-yl-ureido) dodecanoic acid (AUDA) reduces ischemic cerebral infarct size in stroke-prone spontaneously hypertensive rats. *J Cardiovascular Pharmacol* 46:842-848, 2005. PMID: 16306811 / PMCID: PMC1444897

69. Inscho EW, Imig JD, Cook AK, Pollock DM. ETA and ETB receptors differentially modulate afferent and efferent arteriolar responses to endothelin. *Br J Pharmacol* 146:1019- 1026, 2005. PMID: 16231007 / PMCID: PMC1751231

70. Portik-Dobos V, Harris AK, Song W, Hutchinson J, Johnson MH, Imig JD, Pollock DM, Ergul A. Endothelin antagonism prevents early EGRF transactivation but not increased matrix metalloproteinase activity in diabetes. *Am J Physiol Renal Physiol* 290:R435-R441, 2006. PMID: 16239374

71. Elmarakby AA, Quigley JE, Pollock DM, Imig JD. Tumor necrosis factor-α blockade increases renal CYP2C23 expression and slows the progression of renal damage in salt-sensitive hypertension. *Hypertension* 47:557-562, 2006. PMID: 16415373

72. Lee D, Sturgis L, Labazi H, Osborne J, Fleming C, Pollock JS, Manihiani M, Imig JD, Brands MW. Angiotensin II hypertension is attenuated in interleukin-6 knockout mice. *Am J Physiol Heart Circ Physiol* 290:H935-H940, 2006. PMID: 16284237

73. Zhao X, Quigley J, Yuan J, Wang MH, Zhou Y, Imig JD. PPAR-α activator fenofibrate induces CYP-derived eicosanoid synthesis and improves endothelial dilator function in obese Zucker rats. *Am J Physiol Heart Circ Physiol* 290:H2187-H2195, 2006. PMID: 16501022

74. Jin L, Ying Z, Hilgers RH, Yin J, Zhao X, Imig JD, Webb RC. Increased RhoA/Rho-kinase signaling mediates spontaneous tone in aorta from angiotensin II-induced hypertensive rats. *J Pharmacol Exp Ther* 318:288-295, 2006. PMID: 16569756

75. Olearczyk JJ, Field MB, Kim IH, Morisseau C, Hammock BD, Imig JD. Substituted adamantyl-urea inhibitors of soluble epoxide hydrolase dilate mesenteric resistance vessels. *J Pharmacol Exp Ther* 318:1307-1314, 2006. PMID: 16772540 / PMCID: PMC1892247

76. Joly E, Seqqat R, Flamion B, Caron N, Michel, A, Imig JD, Kramp R. Increased renal vascular reactivity to ANG II after unilateral nephrectomy in the rat involves 20-HETE. *Am J Physiol Regul Integr Comp Physiol* 29:R777-R786, 2006. PMID: 16675634

77. Jin L, Foss CE, Zhao X, Mills TM, Wang MH, McCluskey LP, Falck JR, Yaddanapudi GSS, Imig JD, Webb C. Cytochrome P450 2C epoxygenases provide a novel mechanism for maintaining penile erection. *FASEB J* 20:539-541, 2006. PMID: 16415108

78. Elmarakby AA, Williams JM, Imig JD, Pollock JS, Pollock DM. Synergistic actions of enalapril and tempol during chronic angiotensin II-induced hypertension. *Vascular Pharmacology* 46:144-151, 2007. PMID: 17112788 / PMCID: PMC2746434

79. Dimitropoulou C, West L, White RE, Reddy LM, Falck JR, Imig JD. Protein phosphatase 2A and Ca^{2+}-activated K^+ channels contribute to 11,12-epoxyeicosatrienoic acid analog mediated mesenteric arterial relaxation. *Prostaglandins & other Lipid Mediators* 83:50-61, 2007. PMID: 17259072

80. Kang KT, Sullivan JC, Sasser JM, Imig JD, Pollock JS. Novel nitric oxide synthase- dependent mechanism of vasorelaxation in small arteries from hypertensive rats. *Hypertension* 49:893-901, 2007. PMID: 17309950

81. Manhiani MM, Quigley JE, Socha MJ, Motamed K, Imig JD. IL6 suppression provides renal protection independent of blood pressure in a murine model of salt sensitive hypertension. *Kidney & Blood Pressure Research* 30:195-202, 2007. PMID: 17575466

82. Chabova VC, Kramer HJ, Vaneckova I, Vernerova S, Eis F, Skaroupkova P, Thumova M, Schejbalova S, Imig JD, Cervenka L. Effects of chronic cytochrome P-450 inhibition on the course of hypertension and end-organ damage in Ren-2 transgenic rats. *Vascular Pharmacology* 47:145-159, 2007. PMID: 17604232

83. Guan Y, Zhang Y, Qi Z, Yang G, Wu J, Chen L, Zhang X, Davis LS, Wei M, Fan X, Camosino M, Hao C, Imig JD, Breyer RM, Breyer MD. Anti-hypertensive effects of selective prostaglandin E_2 receptor subtype 1 targeting. *J Clin Invest* 117:2496-2505, 2007. PMID: 17710229 / PMCID: PMC1940235

84. Certikova Chabova V, Kramer HJ, Vaneckova I, Thumova M, Skaroupkova P, Tesar V, Falck JR, Imig JD, Cervenka L. The roles of intrarenal 20-hydroxyeicosatetraenoic acid and epoxyeicosatrienoic acids in the regulation of renal function in hypertensive Ren-2 transgenic rats. *Kidney & Blood Pressure Research* 30:335-346, 2007. PMID: 17785988

85. Socha MJ, Manhiani M, Said N, Quigley JE, Imig JD, Motamed K. Secreted protein acidic and rich in cysteine deficiency ameliorates renal inflammation and fibrosis in angiotensin hypertension. *American Journal of Pathology* 171:1104-1112, 2007. PMID: 17717147 / PMCID: PMC1988862

86. Said N, Socha MJ, Olearczyk JJ, Elmarakby AA, Imig JD, Motamed K. Normalization of the ovarian cancer microenvironment by SPARC. *Molecular Cancer Research* 5:1015- 1030, 2007. PMID: 17951402

87. Elmarakby AA, Quigley JE, Olearczyk JJ, Srindhar A, Cook AK, Inscho EW, Pollock DM, Imig JD. Chemokine receptor 2b blockade inhibition provides renal protection in angiotensin II-salt hypertension. *Hypertension* 50:1069-1076, 2007. PMID: 17938380 / PMCID: 2491337

88. Elmarakby AA, Quigley JE, Imig JD, Pollock JS, Pollock DM. TNF-α inhibition reduces renal injury in DOCA-salt hypertensive rats. *Am J Physiol Regul Integr Comp Physiol* 294:R76-R83, 2008. PMID: 17989143 / PMCID: PMC2820582

89. Knight SF, Quigley JE, Yuan J, Roy SS, Elmarakby A, Imig JD. Endothelial dysfunction and the development of renal injury in spontaneously hypertensive rats fed a high fat diet. *Hypertension* 51:352-359, 2008. PMID: 18158349 / PMCID: PMC2491336

90. Imig JD, Dimitropoulou C, Reddy DS, White RE, Falck JR. Afferent arteriolar dilation to 11,12-EET analogs involves PP2A activity and Ca^{2+}-activated K^+ channels. *Microcirculation* 15:137-150, 2008. PMID: 18260004 / PMCID: PMC2654618

91. Chen JK, Chen J, Imig JD, Wei S, Hachey DL, Guthi JS, Falck JR, Capdevila JH, Harris RC. Identification of novel endogenous cytochrome P450 arachidonate metabolites with high affinity for cannabinoid receptors. *J Biol Chem* 283:24514-24524, 2008. PMID: 18606824 / PMCID: PMC2528993

92. Said N, Elmarakby A, Imig JD, Fulton D, Motamed K. SPARC ameliorates ovarian cancer-associated inflammation. *Neoplasia* 10:1092-1104, 2008 PMID: 18813349

93. Athirakul K, Bradbury JA, Graves JP, DeGraff LM, Ma J, Zhao Y, Couse J, Quigley R, Harder DR, Zhao X, Imig JD, Newman JW, Hammock BD, Conley AJ, Rockman HA, Korach KS, Coffman TM, Zeldin DC. Increased blood pressure in mice lacking a cytochrome P450 2J5. *FASEB J* 22:4096-4108, 2008. PMID: 18716027 / PMCID: PMC2614614

94. Olearczyk JJ, Quigley JE, Mitchell B, Yamamoto T, Kim IH, Newman JW, Lauria A, Hammock BD, Imig JD. Inhibition of the soluble epoxide hydrolase protects the kidney from damage in hypertensive Goto-Kakizaki rats. *Clinical Science* 116:61-70, 2009. PMID: 18459944 / PMCID: PMC2590620

95. Quigley JE, Elmarakby AE, Knight SF, Manhiani M, Stepp DW, Olearzcyk JJ, Imig JD. Obesity-induced renal oxidative stress contributes to renal injury in salt-sensitive hypertension. *Clin Exp Pharmacol Physiol* 36:724-728, 2009. PMID: 19207724 / PMCID: PMC2710419

96. Sudhahar V, Shaw S, Imig JD. Mechanisms involved in oleamide-induced vasorelaxation in rat mesenteric resistance arteries. *Eur J Pharmacol* 607:143-150, 2009. PMID: 19326479 / PMCID: PMC2664517

97. Simpkins AN, Rudic RD, Schreihofer DA, Roy S, Manhiani M, Tsai HJ, Hammock BD, Imig JD. Soluble epoxide hydrolase inhibition is protective against cerebral ischemia via vascular and neural protection. *American Journal of Pathology* 174:2086-2095, 2009. PMID: 19435785 / PMCID: PMC2684174

98. Manhiani MM, Quigley JE, Knight SF, Tasoobshirazi S, Moore T, Brands MW, Hammock BD, Imig JD. Soluble epoxide hydrolase gene deletion attenuates renal injury and inflammation in DOCA-salt hypertension. *Am J Physiol Renal Physiol* 297:F740-F748, 2009. PMID: 19553349 / PMCID: PMC2739707

99. Quigley R, Chakravarty S, Zhao X, Imig JD, Capdevila JH. Increased renal proximal convoluted tubule transport contributes to hypertension in Cyp4a14 knockout mice. *Nephron Physiology* 113:23-28, 2009. PMID: 19713718 / PMCID: PMC2790762

100. Imig JD, Carpenter MA, Shaw S. The soluble epoxide hydrolase inhibitor, AR9281, decreases blood pressure, ameliorates renal injury and improves vascular function. *Pharmaceuticals* 2: 217-227, 2009.

101. Elmarakby A, Imig JD. Obesity is the major contributor to vascular dysfunction and inflammation in high fat diet hypertensive rats. *Clinical Science* 118:291-301, 2010. PMID: 19728860 / PMCID: PMC2842481

102. Walkowska A, Skaroupková P, Husková Z, Vaňourková Z, Chábová VC, Tesař V, Kramer HJ, Falck JR, Imig JD, Kompanowska-Jezierska E, Sadowski J, Cervenka L. Intrarenal cytochrome P-450 metabolites of arachidonic acid in the regulation of the nonclipped kidney function in two-kidney, one-clip Goldblatt hypertensive rats. *J Hypertens* 28:582-593, 2010. PMID: 19940786 / PMCID: PMC2855337

103. Knight SF, Yuan J, Roy S, Imig JD. Simvastatin and tempol protect against endothelial dysfunction and renal injury in a rat model of obesity and hypertension. *Am J Physiol Renal Physiol* 298:F86-F94, 2010. PMID: 19906952

104. Simpkins AN, Rudic RD, Roy S, Tsai HJ, Hammock BD, Imig JD. Soluble epoxide hydrolase inhibition attenuates vascular remodeling. *Am J Physiol Heart Circ Physiol* 298:H795-H806, 2010. PMID: 20035028 / PMCID: PMC2838550

105. Certíková Chábová V, Walkowska A, Kompanowska-Jezierska E, Sadowski J, Kujal P, Vernerová Z, Vanourková Z, Kopkan L, Kramer HJ, Falck JR, Imig JD, Hammock BD, Vaneckova I, Cervenka L. Combined inhibition of 20-hydroxyeicosatetraenoic acid formation and of epoxyeicosatrienoic acids degradation attenuates hypertension and hypertension-induced end-organ damage in Ren-2 transgenic rats. *Clinical Science* 118:617- 632, 2010. PMID: 20050826 / PMCID: PMC2854172

106. *Lee CR, *Imig JD, Edin ML, Foley J, DeGraff LM, Bradbury JA, Graves JP, Lih FB, Clark J, Myers P. Perrow L, Lepp AN, Kannon A, Ronnekleiv OK, Alkayed NJ, Falck JR, Tomer KB, Zeldin DC. Endothelial expression of human cytochrome P450 epoxygenases lowers blood pressure and attenuates hypertension-induced renal injury in mice. *FASEB J* 24:3770-3781, 2010. PMID: 20495177 / PMCID: PMC2996903 *contributed equally to this work

107. Imig JD, Elmarakby A, Nithipatikom K, Wei S, Capdevila JH, Tuniki VR, Sangra B, Anjaiah S, Manthati VL, Reddy DS, Falck JR. Development of epoxyeicosatrienoic acid analogs with *in vivo* anti-hypertensive actions. *Frontiers in Physiology* 1:157, 2010. doi: 10.3389/fphys.2010.00157. PMID: 21423396 / PMCID: PMC3059925

108. Honetschlagerova Z, Huskova Z, Vanourkova Z, Sporkova A, Kramer HJ, Hwang SH, Tsai HJ, Hammock BD, Imig JD, Cervenka L, Kopkan L. Renal mechanisms contributing to the antihypertensive action of soluble epoxide hydrolase inhibition in REN-2 transgenic rats with inducible. *J Physiol* 589:207-219, 2011. PMID: 21078594 / PMCID: PMC3039270

109. Sporkcova A, Kopkan L, Varcabova S, Huskova Z, Hwang SH, Hammock BD, Imig JD, Kramer HJ, Cervenka L. Role of cytochrome P450 metabolites in the regulation of renal function and blood pressure in 2-kidney 1-clip hypertensive rats. *Am J Physiol Regul Integr Comp Physiol* 300:R1468-R1475, 2011. PMID: 21411763 / PMCID: PMC3119161

110. Luria A, Bettaieb A, Xi Y, Shieh GJ, Liu HC, Inoue H, Tsai HJ, Imig JD, Haj FG, Hammock BD. Soluble epoxide hydrolase deficiency alters pancreatic islet size and improves glucose homeostasis in a model of insulin resistance induced by high fat diet. *Proc Natl Acad Sci USA* 108:9038-9043, 2011 PMID: 21571638 / PMCID: PMC3107315

111. Khan MA, Imig JD. Telmisartan provides better renal protection that valsartan in a rat model of metabolic syndrome. *Am J Hypertens* 24:816-821, 2011. PMID: 21415842

112. Honetschlägerová Z, Sporková A, Kopkan L, Husková Z, Hwang SH, Hammock BD, Imig JD, Kramer HJ, Kujal P, Vernerová Z, Čertíková Chábová V, Tesař V, Červenka L. Inhibition of soluble epoxide hydrolase improves the impaired pressure-natriuresis relationship and attenuates the development of hypertension and hypertension-associated end-organ damage in Cyp1a1-Ren-2 transgenic rats. *J Hypertens* 29:1590-1601, 2011. PMID: 21720266

113. Zhao X, Zhang Y, Li L, Mann D, Imig JD, Emmett N, Gibbons G, Jin LM. Glomerular expression of kidney injury molecule-1 and podocytopenia in diabetic glomerulopathy. *Am J Nephrol* 34:268-280, 2011. PMID: 21822010 / PMCID: PMC3169370

114. Gauthier KM, Olsen L, Harder A, Isbell M, Imig JD, Gutterman DD, Falck JR, Campbell WB. Soluble epoxide hydrolase contamination of specific catalase preparations inhibits epoxyeicosatrienoic acid vasodilation of rat renal arterioles. *Am J Physiol Renal Physiol* 301:F765-F772, 2011. PMID: 21753077

115. Elmarakby AA, Faulkner J, Al-Shabrawey M, Wang MH, Maddipati KR, Imig JD. Deletion of soluble epoxide hydrolase gene improves renal endothelial function and reduces renal inflammation and injury in streptozotocin-induced diabetes. *Am J Physiol Regul Integr Comp Physiol* 301:R1307-R1317, 2011. PMID: 21832210 / PMCID: PMC3213948

116. Neckář J, Kopkan L, Husková Z, Kolář F, Papousek F, Kramer HJ, Hwang SH, Hammock BD, Imig JD, Malý J, Netuka I, Ošťádal B, Červenka L. Inhibition of soluble epoxide hydrolase by cis-4-[4-(3-adamantan-1-yl-ureido)-cyclohexyl-oxy]-benzoic acid exhibits antihypertensive and cardioprotective actions in transgenic rats with angiotensin II- dependent hypertension. *Clinical Science* 122:513-525, 2012. PMID: 22324471

117. Bukhari IA, Shah AJ, Gauthier KM, Walsh KA, Konduru SR, Imig JD, Falck JR, Campbell WB. 11,12,20-Trihydroxy-eicosa-8(Z)-enoic acid: a selective inhibitor of 11,12-EET induced relaxations of bovine coronary and rat mesenteric arteries. *Am J Physiol Heart Circ Physiol* 302:H1574-H1583, 2012. PMID: 22307677 / PMCID: PMC3330801

118. Nagasawa T, Khan MAH, Imig JD. Captopril attenuates vascular endothelial growth factor (VEGF) inhibitor, sorafenib-induced hypertension and renal injury. *Clin Exp Pharmacol Physiol* 39:454-461, 2012. PMID: 22443474 / PMCID: PMC3613249

119. Kopkan L, Husková Z, Sporková A, Varcabová S, Honetschlägerová Z, Hwang SH, Tsai HJ, Hammock BD, Imig JD, Kramer HJ, Burgelova M, Vojtiskova A, Kujal P, Vernerova Z, Cervenka L. Soluble epoxide hydrolase inhibition exhibits antihypertensive actions independently of nitric oxide in mice with renovascular hypertension. *Kidney & Blood Pressure Research* 35:595-607, 2012. PMID: 22948718 / PMCID: PMC3604982

120. Imig JD, Walsh KA, Khan MAH, Nagasawa T, Cherian-Shaw M, Shaw SM, Hammock BD. Soluble epoxide hydrolase inhibition and PPARγ agonist improve vascular function and decrease renal injury in hypertensive obese rats. *Exp Biol Med* 237:1402-1412, 2012. PMID: 23354399 / PMCID: PMC3613242

121. Varcabova S, Huskova Z, Kramer HJ, Hwang SH, Hammock BD, Imig JD, Kitada K, Cervenka L. Antihypertensive action of soluble epoxide hydrolase inhibition in Ren-2 transgenic rats is mediated by suppression of the intrarenal renin-angiotensin system. *Clin Exp Pharmacol Physiol* 40:273-281, 2013. PMID: 23039246

122. Honetschlägerová Z, Kitada K, Husková Z, Sporková A, Kopkan L, Bürgelová M, Varcabová A, Nishiyama A, Hwang SH, Hammock BD, Imig JD, Kramer HJ, Kujal P, Vernerová Z, Červenka L. Antihypertensive and renoprotective action of soluble epoxide hydrolase inhibition in ANG II-dependent malignant hypertension are abolished by pretreatment with L-NAME. *Journal of Hypertension* 31:321-332, 2013. PMID: 23307303

123. Ulu A, Harris TR, Morisseau C, Miyabe C, Inoue H, Schuster G, Dong H, Iosif AM, Liu JY, Weiss RH, Chiamvimonvat N, Imig JD, Hammock BD. Anti-inflammatory effects of omega-3 polyunsaturated fatty acids and soluble epoxide hydrolase inhibitors in angiotensin II dependent hypertension. *J Cardiovasc Pharmacol* 62:285-297, 2013. PMID: 23676336

124. Khan MAH, Liu J, Kumar G, Skapek SX, Falck JR, Imig JD. Novel orally active epoxyeicosatrienoic acid (EET) analogs attenuate cisplatin nephrotoxicity. *FASEB J* 27:2946-2956, 2013. PMID: 23603837

125. Khan MAH, Manthati V, Errabelli R, Pavlov TS, Staruschenko A, Falck JR, Imig JD. An orally active epoxyeicosatrienoic acid analog attenuates kidney injury in hypertensive Dahl salt sensitive rat. *Hypertension* 62:905-913, 2013. PMID: 23980070

126. Nagasawa T, Imig JD. Afferent arteriolar responses to β,γ-methylene ATP and 20-HETE are not blocked by ENaC inhibition. *Physiological Reports* 1:e00082, 2013. PMID: 24159379

127. Mohamed IN, Hafez SS, Fairaq A, Ergul A, Imig JD, El-Remessy A. Thioredoxin- interacting protein is required for endothelial NLRP3 inflammasome activation and cell death in a rat model of high-fat diet. *Diabetologia* 57:413-423, 2014. PMID: 24201577

128. Cabral PD, Hong NJ, Khan MA, Ortiz PA, Beierwaltes WH, Imig JD, Garvin JL. Fructose stimulates Na/H exchange activity and sensitizes the proximal tubule to angiotensin II. *Hypertension* 63:e68-e73, 2014. PMID: 24379189

129. Capdevila JH, Pidkovka N, Mei S, Gong Y, Falck JR, Imig JD, Harris RC, Wang WH. The Cyp2c44 epoxygenase regulates epithelial sodium channel activity and the blood pressure responses to increased dietary salt. *J Biol Chem* 289:4377-4386, 2014. PMID: 24368771

130. Hye Khan MA, Neckar J, Haines J, Imig JD. Azilsartan improves glycemic status and reduces kidney damage in Zucker diabetic fatty rat. *American Journal of Hypertension* 27:1087-1095, 2014. PMID: 24598210

131. Kujal P, Certikova Chabova V, Skaroupkova P, Huskova Z, Vernerova Z, Kramer HJ, Walkowska A, Kompanowska-Jezierska E, Sadowski J, Kitada K, Nishiyama A, Hwang SH, Hammock BD, Imig JD, Cervenka L. Inhibition of soluble epoxide hydrolase is renoprotective in 5/6 nephrectomized Ren-2 transgenic hypertensive rats. *Clin Exp Pharmacol Physiol* 41:227-237, 2014. PMID: 24471737

132. Hye Khan MA, Pavlov TS, Christian SV, Neckar J, Staruschenko A, Gauthier KM, Capdevila JH, Falck JR, Campbell WB, Imig JD. Epoxyeicosatrienoic acid analogue lowers blood pressure through vasodilation and sodium channel inhibition. *Clinical Science* 127:463-474, 2014. PMID: 24707975

133. Khan MA, Neckar J, Cummens B, Wahl GM, Imig JD. Azilsartan decreases renal and cardiovascular injury in spontaneously hypertensive obese rat. *Cardiovascular Therapeutics* 28:313-322, 2014. PMID: 24842561

134. Falck JR, Koduru SR, Mohapatra S, Manne R, Atcha KR, Manthati VL, Capdevila JH, Christian S, Imig JD, Campbell WB. Robust surrogates of 14,15-epoxyeicosa-5,8,11- trienoic acid (14,15-EET): carboxylate modifications. *J Med Chem* 57:6965-6972, 2014. PMID: 25119851

135. Khan MAH, Falck JR, Manthati VL, Campbell WB, Imig JD. Epoxyeicosatrienoic acid analog attenuates angiotensin II hypertension and kidney injury. *Frontiers in Pharmacology* 5:216, 2014. doi: 10.3389/fphar.2014.00216. PMID: 25295006

136. Kim J, Imig JD, Yang J, Hammock BD, Padanilam BJ. Inhibition of soluble epoxide hydrolase prevents renal interstitial fibrosis and inflammation. *Am J Physiol Renal Physiol* 307:F971-F980, 2014. PMID: 25164080

137. Sporková A, Jichova S, Husková Z, Kopkan L, Nishiyama A, Hwang SH, Hammock BD, Imig JD, Kompanowska-Jezierska E, Sadowski J, Kramer HJ, Červenka L. Different mechanisms of acute versus long-term antihypertensive effects of soluble epoxide hydrolase inhibition: studies in Cyp1a1-Ren-2 transgenic rats. *Clin Exp Pharmacol Physiol* 41:1003- 1013, 2014. PMID: 25224811

138. Kim J, Yoon SP, Toews ML, Imig JD, Hwang SH, Hammock BD, Padanilam BJ. Pharmacological inhibition of soluble epoxide hydrolase prevents renal interstitial fibrogenesis in obstructive nephropathy. *Am J Physiol Renal Physiol* 308:F313-139, 2015. PMID: 25377915

139. Gangadhariah MH, Luther JM, Garcia V, Paueksakon P, Zhang MZ, Hayward SW, Love HD, Falck JR, Manthati VL, Imig JD, Schwartzman ML, Zent R, Capdevila JH, Pozzi A. Hypertension is a major contributor to 20-hydroxyeicosatetraenoic acid-mediated kidney injury in diabetic nephropathy. *J Am Soc Nephrol* 26:597-610, 2015. PMID: 25071086

140. Chytilová A, Borchert GH, Mandíková-Alanova P, Hlavackova M, Kopkan L, Khan MA, Imig JD, Kolář F, Neckář J. Tumor necrosis factor α contributes to improved cardiac ischemic tolerance in rats adapted to chronic continuous hypoxia. *Acta Physiologica* 214:97- 108, 2015. PMID: 25760892

141. Cervenka L, Melenovsky V, Huskova Z, Sporkova A, Burgelova M, Skaroupkova P, Hwang SH, Hammock BD, Imig JD, Sadowski J. Inhibition of soluble epoxide hydrolase does not improve the course of congestive heart failure and the development of renal dysfunction in rats with volume overload induced by aorto-caval fistula. *Physiological Research* 64:857- 873, 2015. PMID: 26047375

142. Alanova P, Huskova Z, Kopkan L, Sporkova A, Jichova S, Neckar J, Imig JD, Klevstig M, Kolar F, Reddy NR, Falck JR, Sadowski J, Nishiyama A, Kramer HJ, Melenovsky V, Crevenkova L, Kujal P, Vernerova Z, Cervenka L. Orally active epoxyeicosatrienoic acid analog does not exhibit antihypertensive and reno- or cardioprotective actions in two- kidney, one-clip Goldblatt hypertensive rats. *Vascular Pharmacology* 73:45-56, 2015. PMID: 26304700

143. Nayak S, Khan MA, Wan TC, Pei H, Linden J, Dwinell MR, Geurts AM, Imig JD, Auchampach JA. Characterization of Dahl salt-sensitive rats with genetic disruption of the A2B adenosine receptor gene: implications for A2B adenosine receptor signaling during hypertension. *Purinergic Signaling* 11:519-531, 2015. PMID: 26385692

144. Khan MA, Sharma A, Rarick KR, Roman RJ, Harder DR, and Imig JD. Elevated aminopeptidase P attenuates cerebral arteriolar responses to bradykinin in fawn-hooded hypertensive rats. *PLOS ONE* 10:e0145335, 2015. PMID: 26683993

145. Khan MAH, Fish B, Wahl G, Sharma A, Falck JR, Paudyal MP, Moulder JE, Imig JD, Cohen EP. Epoxyeicosatrienoic acid analog mitigates kidney injury in a rat model of radiation nephropathy. *Clinical Science* 130:587-599, 2016. (Cover) PMID: 26772189

146. Sporkova A, Reddy NR, Falck JR, Imig JD, Kopkan L, Sadowski J, Cervenka L. Interlobular arteries from two-kidney, one-clip Golblatt hypertensive rats exhibit impaired vasodilator response to epoxyeicosatrienoic acids. *American Journal of Medical Sciences* 351:513-519, 2016. PMID: 27140711

147. Imig JD, Khan MA, Sharma A, Fish BL, Mandel NS, Cohen E. Radiation-induced afferent arteriolar endothelial-dependent dysfunction involves decreased epoxygenase metabolites. *Am J Physiol Heart Circ Physiol* 310:H1695-H1701, 2016. PMID: 27106038

148. Miller B, Palygin O, Rufanova VA, Wakatsuki T, Lazar J, Jacob HJ, Mattson D, Roman RJ, Williams JM, Cowley AW, Geurts A, Staruschenko A, Imig JD, Sorokin A. p66 Shc impairs vascular reactivity and promotes renal vascular dysfunction in hypertension-induced nephropathy. *Journal of Clinical Investigation* 126:2533-2546, 2016. PMID: 27270176

149. Sharma A, Hye Khan MA, Levick SP, Lee KS, Hammock BD, Imig JD. Novel omega-3 fatty acid epoxygenase metabolite reduces kidney fibrosis. *International Journal of Molecular Sciences* 17:E751, 2016. PMID: 27213332

150. Jichova S, Kopkan L, Huskova Z, Dolezelova S, Neckar J, Kujal P, Vernerova Z, Kramer HJ, Sadowski J, Kompanoowska-Jezierska E, Reddy NR, Falck JR, Imig JD, Cervenka L. Epoxyeicosatrienoic analog attenuates development of malignant hypertension, but does not reverse it once established: a study in Cyp1a1-Ren-2 transgenic rats. *Journal of Hypertension* 34:2008-2025, 2016. PMID: 27428043

151. Yeboah MM, Khan MA, Chesnik MA, Sharma A, Paudyal MP, Falck JR, Imig JD. The epoxygenase acid analog, PVPA, ameliorates cyclosporine-induced hypertension and renal injury. *Am J Physiol Renal Physiol* 311:F576-F585, 2016. PMID: 27358055

152. Khan MAH, Hwang SH, Sharma A, Corbett JA, Hammock BD, Imig JD. A dual COX- 2/sEH inhibitor improves metabolic profile and reduces kidney injury in Zucker diabetic fatty rat. *Prostaglandins & other Lipid Mediators* 125:40-47, 2016. PMID: 27432695

153. Gangadhariah MH, Dieckmann BW, Lantier L, Kang L, Wasserman DH, Chiusa M, Caskey CF, Dickerson J, Luo P, Gamboa JL, Capdevila JH, Imig JD, Yu C, Pozzi A, Luther JM. Cytochrome P450 Epoxygenase-derived epoxyeicosatrienoic acids contribute to insulin sensitivity in mice and in humans. *Diabetologia* 60:1066-1075, 2017. PMID: 28352940

154. Skibba M, Khan MAH, Kolb LL, Yeboah M, Falck JR, Amaradhi R, Imig JD. Epoxyeicosatrienoic acid analog decreases renal fibrosis by reducing epithelial-to-mesenchymal transition. *Frontiers in Pharmacology* 8:406, 2017. doi: 10.3389/fphar.2017.00406 PMID: 28713267

155. Bettaieb A, Koike S, Hsu MF, Ito Y, Chahed S, Bachaalany S, Gruzdev A, Calvo-Rubio M, Lee KSS, Inceoglu B, Imig JD, Villalba JM, Zeldin DC, Hammock BD, Haj FG. Soluble epoxide hydrolase in podocytes is a significant contributor to renal function under hyperglycemia. *Biochim Biophys Acta* 1861:2758-2765, 2017. PMID: 28757338

156. Yeboah MM, Hye Khan MA, Cheshnik MA, Skibba M, Kolb L, Imig JD. Role of the cytochrome P-450/ epoxyeicosatrienoic acids pathway in the pathogenesis of renal dysfunction in cirrhosis. *Nephrology Dialysis Transplantation* 33:1333-1343, 2018. PMID: 29361048

157. Certikova Chabova V, Kujal P, Skaroupkova P, Vanourkova Z, Vackova S, Huskova Z, Kikerlova S, Sadowski J, Kompanowska-Jezierska E, Baranowska I, Hwang SH, Hammock BD, Imig JD, Tesar V, Cervenka L. Combined inhibition of soluble epoxide hydrolase and renin-angiotensin system blockade in 5/6 nephrectomized Ren-2 transgenic hypertensive rats with established chronic kidney disease. *Kidney and Blood Pressure Research* 43:329- 349, 2018. PMID: 29529602

158. Červenka L, Husková Z, Kopkan L, Kikerlová S, Sedláková L, Vaňourková Z, Alánová P, Kolář F, Hammock BD, Hwang SH, Imig JD, Falck JR, Sadowski J, Kompanowska- Jezierska E, Neckář J. Two pharmacological epoxyeicosatrienoic acids-enhancing therapies effectively anti-hypertensive and reduce the severity of ischemic arrhythmias in rats with angiotensin II-dependent hypertension. *Journal of Hypertension* 36:1326-1341, 2018. PMID: 29570510

159. Kala P, Sedláková L, Škaroupková P, Kopkan L, Vaňourková Z, Táborský M, Nishiyama A, Hwang SH, Hammock BD, Sadowski J, Melenovský V, Imig JD, Červenka L. Effect of angiotensin-converting enzyme blockade, alone or combined with blockade of soluble epoxide hydrolase, on the course of congestive heart failure and occurrence of renal dysfunction in Ren-2 transgenic hypertensive rats with aorto-caval fistula. *Physiological Research* 67:401-415, 2018. PMID: 29527914.

160. Khan MAH, Kolb L, Skibba M, Hartmann M, Blöcher R, Proschak E, Imig JD. A novel dual PPAR-γ /sEH inhibitor treats type 2 diabetic complications. *Diabetologia* 61:2235- 2246, 2018. PMID: 30032428.

161. Sedlakova L, Kikerlova S, Huskova Z, Cervenkova L, Certikova Chabova V, Zicha J, Falck JR, Imig JD, Kompanowska-Jezierska E, Sadowski J, Kratky V, Cervenka L, Kopkan L. 20-Hydroxyeicosatetraenoic acid antagonist attenuates the development of malignant hypertension and reverses it once it is established: a study in CYP1a1-Ren2 transgenic rats. *Bioscience Reports* 38:BSR20171496, 2018. PMID: 30054426

162. Neckar J, Hsu A, Hye Khan MA, Gross GJ, Nithipatikom K, Cyprova M, Benak D, Hlavackova M, Falck JR, Sedmera D. Kolar F, Imig JD. Infarct size-limiting effect of epoxyeicosatrienoic acid analog EET-B is mediated by hypoxia inducible factor-1α via down regulation of prolyl hydroxylase 3. *Am J Physiol Heart Circ Physiol* 315:H1148- H1158, 2018. PMID: 30074840

163. Miller BS, Blumenthal SR, Shalygin A, Wright K, Staruschenko A, Imig JD, Sorokin A. Inactivation of adaptor protein p66Shc decreases afferent arteriolar K_{ATP} channel activity and decreases renal damage in diabetic Dahl SS rats. *Diabetes* 67:2206-2212, 2018. PMID: 30131395

164. Vackova S, Kopkan L, Kikerlova S, Huskova Z, Sadowski J, Kompanowska-Jerierska E, Hammock BD, Imig JD, Tabrosky M, Melenovsky V. Cervenka L. Pharmacological blockade of soluble epoxide hydrolase attenuates the progression of congestive heart failure combined with chronic kidney disease: insights from studies with fawn-hooded hypertensive rats. *Frontiers in Pharmacology* 10:18, 2019. doi: 10.3389/fphar.2019.00018 PMID: 30728778

165. Hrdlička J, Neckář J, Papoušek F, Husková Z, Kikerlová S, Vaňourková Z, Vernerová Z, Akat F, Vašinová J, Hammock BD, Hwang SH, Imig JD, Falck JR, Červenka L, Kolář F. Epoxyeicosatrienoic acid-based therapy attenuates the progression of postischemic heart failure in normotensive Sprague-Dawley but not in hypertensive Ren-2 transgenic rats. *Frontiers in Pharmacology* 10:159, 2019. doi: 10.3389/fphar.2019.00159 PMID: 30881303

166. Neckar J, Khan MA, Gross GJ, Cyprova M, Hrdlicka J, Kvasilova A, Falck JR, Campbell WB, Sedlakova L, Skutova S, Olenickova V, Gregorovicova M, Sedmera D, Kolar F, Imig JD. Epoxyeicosatrienoic acid analog EET-B attenuates post-myocardial infarction remodeling and renal injury in spontaneously hypertensive rats. *Clinical Science* 133:939- 951, 2019. PMID: 30979784

167. Khan MAH, Stavniichuk A, Falck JR, Mohammad AS, Imig JD. Epoxyeicosatrienoic acid analog EET-A attenuates lupus nephritis in mice. *Frontiers in Pharmacology* 10:512, 2019. doi: 10.3389/fphar.2019.00512. PMID: 31133860

168. Vackova S, Kikerlova S, Melenovsky V, Kolar F, Imig JD, Kompanowska-Jezierska E, Sadowski J, Cervenka L. Altered renal vascular responsiveness in rats with angiotensin II-dependent hypertension and congestive heart failure. *Kidney and Blood Pressure Research* 44:792-809, 2019. PMID: 31430751

169. Khan MAH, Schmidt J, Imig JD, Merk D. A dual farnesoid X receptor/soluble epoxide hydrolase modulator treats non-alcoholic steatohepatitis in mice. *Biochemical Pharmacology* 166:212-221, 2019. PMID: 31129048

170. Widiapradja A, Manteufel EJ, Dehlin HM, Pena J, Goldspink PH, Sharma A, Kolb LL, Imig JD, Janicki JS, Lu B, Levick SP. Regulation of cardiac mast cell maturation and function by the neurokinin-1 receptor in the fibrotic heart. *Scientific Reports* 9:11004, 2019. PMID: 31358823

171. Certikova Chabova V, Kujal P, Vanourkova Z, Skaroupkova P, Sadowski J, Kompanowska-Jezierska E, Tesar V, Hammock BD, Imig J, Vaneckova I, Maxova H, Cervenka L. Addition of endothelin A-receptor blockade spoils the beneficial effect of combined renin-angiotensin and soluble epoxide hydrolase inhibition: studies of the course of chronic kidney disease in 5/6 nephrectomized Ren-2 transgenic hypertensive rats. *Kidney and Blood Pressure Research* 26:1-13, 2019. PMID: 31770762

172. Stavniichuk A, Khan MAH, Yeboah MM, Chesnik MA, Jankiewicz WK, Hartmann M, Blocher R, Savchuk O, Proschak E, Imig JD. Dual soluble epoxide hydrolase inhibitor/PPAR-γ agonist attenuates renal fibrosis. *Prostaglandins & other Lipid Mediators* 150:106472, 2020. PMID: 32569747

173. Gawrys O, Huskova Z, Baranowska I, Walkowska A, Sadowski J, Kikerlova S, Vanourkova Z, Honetschlagerova Z, Skaroupkova P, Cervenka L, Falck JR, Imig JD, Kompanowska-Jezierska E. Combined treatment with epoxyeicosatrienoic acid analog and 20-HETE antagonist provides substantial hypotensive effect in spontaneously hypertensive rats. *Journal of Hypertension* 38:1802-1810, 2020. PMID: 32384390

174. Stavniichuk A, Savchuk O, Khan AH, Jankiewicz WK, Imig JD, Merk D. The effect of compound DM509 on kidney fibrosis in the conditions of the experimental model. *Bulletin of Taras Shevchenko National University of Kyiv, Series: Biology* 80(1):10-14, 2020. DOI: 10.17721/1728 2748.2020.80.10-15 https://doi.org/10.17721/1728_2748.2020.80.10-15 PMID: 33437972

175. Stavniichuk A, Savchuk O, Khan AH, Jankiewicz WK, Imig JD. A sorafenib induced model of glomerular kidney injury. *Bulletin of Taras Shevchenko National University of Kyiv, Series: Biology* 81(2):25-31, 2020. DOI: 10.17721/1728 2748.2020.81.25-31 http://dx.doi.org/10.17721/1728_2748.2020.81.25-31 PMID: 33251532

176. Maranto C, Udhane V, Jing J, Verma R, Muller-Newen G, LaViolette PS, Pereckas M, Sabharawal L, Terhune S, Pattabiraman N, Njar VC, Imig JD, Wang L, Nevalainen MT. Prospects for clinical development of Stat5 inhibitor IST5-002: High transcriptomic specificity in prostate cancer and low toxicity *in vivo*. *Cancers* 12:E3412, 2020. PMID: 33217941

177. Klemens CA, Chulkov EG, Wu J, Khan MAH, Levchenko V, Flister MJ, Imig JD, Kriegel AJ, Palygin O, Staruschenko A. Loss of chloride channel 6 (CLC-6) affects vascular smooth muscle contractility and arterial stiffness via alterations to Golgi calcium stores. *Hypertension* 77:582-593, 2021. PMID: 33390052

178. Walkowska A, Cervenka L, Imig JD, Sadowski J, Kompanowska-Jezierska E. Early renal vasodilator and hypotensive action of epoxyeicosatrienoic acid analog (EET-A) and 20- HETE receptor blocker (AAA) in spontaneously hypertensive rats. *Frontiers in Physiology* 12:622882, 2021. doi: 10.3389/fphys.2021.622882. PMID: 33584348

179. Imig JD, Hye Khan MA, Burkhan A, Chen G, Adebesin A, Falck JR. Kidney-targeted epoxyeicosatrienoic acid analog, EET-F01, reduces inflammation, oxidative stress, and cisplatin-induced nephrotoxicity. *International Journal of Molecular Sciences* 22:2793, 2021. doi: https://doi.org/10.3390/ijms22062793. PMID: 33801911

180. Khan MAH, Hwang SH, Barnett SD, Stavniichuk A, Jankiewicz WK, Hammock BD, Imig JD. Multi-target molecule to treat diabetic nephropathy in rats. *British Journal of Pharmacology* 178:4468-4484, 2021. PMID: 34255857

181. Kala P, Miklovič M, Jíchová S, Škaroupková P, Vaňourková Z, Maxová H, Gawrys O, Kompanowska-Jezierska E, Sadowski J, Imig JD, Falck JR, Veselka J, Červenka L, Aiglová R, Vícha M, Gloger V, Táborský M. Effects of epoxyeicosatrienoic acid-enhancing therapy on the course of congestive heart failure in angiotensin II-dependent rat hypertension: from mRNA analysis towards functional in vivo evaluation. *Biomedicines* 9:1053, 2021. https://doi.org/10.3390/biomedicines9081053. PMID: 34440257

182. George J, Zhang Y, Slogan J, Sims J, Imig JD, Zhao X. Tim-1 deficiency aggravates high- fat diet-induced steatohepatitis in mice. *Frontiers in Immunology* 12:747794, 2021. doi: 10.3389/fimmu.2021.747794. PMID: 34675931

183. Jankiewicz WK, Barnett SD, Stavniichuk A, Belayet JB, Hwang SH, Hammock BD, Khan AH, Imig JD. Dual sEH/COX-2 inhibition using PTUPB – a promising approach to antiangiogenesis-induced nephrotoxicity. *Frontiers in Pharmacology* 12:744776, 2021. doi: 10.3389/fphar.2021.744776. PMID: 34955823

184. Widiapradja A, Kasparian AO, McCaffrey SL, Kolb LL, Imig JD, Lacey JL, Melendez GC, Levick SP. Replacement of lost substance P reduces fibrosis in the diabetic heart by preventing adverse fibroblast and macrophage phenotype changes. *Cells* 10:2659, 2021. doi: 10.3390/cells10102659. PMID: 34685639

185. Baranowska I, Gawrys O, Walkowska A, Olszynski KH, Červenka L, Falck JR, Adebesin AM, Imig JD, Kompanowska-Jezierska E. Epoxyeicosatrienoic acid analog and 20-HETE antagonist combination prevent hypertension development in spontaneously hypertensive rats. *Frontiers in Pharmacology* 12:798642, 2022. doi: 10.3389/fphar.2021.798642. PMID: 35111064

186. Yeboah MM, Khan MAH, Cheshnik MA, Burkhan, A, Zemaj J, Jankiewicz WK, Imig JD. Renal hemodynamic alterations underly hepatorenal physiology in bile duct-ligated rats. *World Journal of Gastroenterology* (in revision)

187. Imig JD, Khan MAH, Stavniichuk A, Jankiewicz WK, Goorani S, Yeboah MM, El- Meanawy A. Salt-sensitive hypertension after reversal of unilateral ureteral obstruction. *Biochemical Pharmacology* (in revision)
188. Goorani S, Khan MAH, El-Meanawy A, Imig JD. Kidney injury by unilateral ureteral obstruction is not enhanced in renal hypoplasia ROP *Os*/+ mice. *Frontiers in Physiology* (submitted)

Reviews

1. Navar LG, Inscho EW, Majid DSA, Imig JD, Harrison-Bernard LM, Mitchell KD. Paracrine regulation of the renal microcirculation. *Physiological Reviews* 76:425-536, 1996. PMID: 8618962
2. Navar LG, Imig JD, Zou L, Wang CT. Intrarenal production of Angiotensin II. *Seminars in Nephrology* 17:412-422, 1997. PMID: 9316209
3. Navar LG, Zou L, Von Thun A, Wang CT, Imig JD, Mitchell KD. Unraveling the mystery of Goldblatt hypertension. *News in Physiological Sciences* 13:170-176, 1998. PMID: 11390784
4. Navar LG, Inscho EW, Imig JD, Mitchell KD. Heterogeneous activation mechanisms in the renal microvasculature. *Kidney International* 54:S17-S21, 1998. PMID: 9736247
5. Imig JD. Epoxyeicosatrienoic acids: biosynthesis, regulation and actions. *Methods in Molecular Biology* 120:173-192, 1999. PMID: 10343317
6. Navar LG, Ichihara A, Chin SY, Imig JD. Nitric oxide-angiotensin II interactions in angiotensin II dependent hypertension. *Acta Physiological Scandanavian* 168:139-147, 2000. PMID: 10691792
7. Navar LG, Harrison-Bernard LM, Imig JD, Cervenka L, Mitchell KD. Renal responses to AT_1 Receptor Blockade. *Am J Hypertens* 13:45S-54S, 2000. PMID: 10678288
8. Imig JD. Eicosanoid regulation of the renal vasculature. *Am J Physiol Renal Physiol* 279:F965-F981, 2000. PMID: 11097615
9. Imig JD. Epoxygenase metabolites: epithelial and vascular actions. *Molecular Biotechnology* 16:233-251, 2000. (Cover) PMID: 11252808
10. Imig JD, Inscho EW. Adaptations of the renal microcirculation to hypertension. *Microcirculation* 9:315-328, 2002. PMID: 12152107
11. Zhao X, Imig JD. Kidney CYP450 enzymes: biological actions beyond drug metabolism. *Current Drug Metabolism* 4:73-84, 2003. PMID: 12570747
12. Dey A, Imig JD. Kidney damage in obesity related diabetes: involvement of arachidonic acid metabolites. *Recent Research Developments in Physiology* 2:95-97, 2004.
13. Inscho EW, Cook AK, Imig JD, Vial C, Evans RJ. Renal autoregulation in P2X1 knockout mice. *Acta Physiol Scand* 181:445-453, 2004. PMID: 15283757
14. Imig JD, Zhao X, Dey A, Shaw M. CYP450, COX-2 and obesity related renal damage. *Toxicology Mechanisms and Methods* 15:125-136, 2005.
15. Imig JD. Epoxide hydrolase and epoxygenase metabolites as therapeutic targets for renal diseases. *Am J Physiol Renal Physiol* 289:F496-F503, 2005. PMID: 16093425
16. Olearczyk JJ, Imig JD. Epoxyeicosatrienoic acids as a therapeutic target for nephropathy associated with diabetes and hypertension. *Current Hypertension Reviews* 1:235-242, 2005.
17. Imig JD, Zhao X. Eicosanoid inhibitors as therapeutic targets for metabolic syndrome related kidney disease. *Current Enzyme Inhibition* 2:73-77, 2006.

18. Imig JD. Eicosanoids and renal vascular function in diseases. *Clinical Science* 111:21-34, 2006. PMID: 16764555
19. Imig JD. Cardiovascular therapeutic aspects of soluble epoxide hydrolase inhibitors. *Cardiovascular Drug Reviews* 24:169-188, 2006. PMID: 16961727
20. Knight SF, Imig JD. Obesity, insulin resistance and renal function. *Microcirculation* 14:349-362, 2007. PMID: 17613807
21. Capdevila JH, Falck JR, Imig JD. Roles of the cytochrome P450 arachidonic acid monooxygenases in the control of systemic blood pressure and experimental hypertension. *Kidney International* 72:683-689, 2007. PMID: 17591402
22. Imig JD. Eicosanoids and renal damage in cardiometabolic syndrome. *Expert Opinion on Drug Metabolism & Toxicology* 4:165-174, 2008. PMID: 18248310
23. Imig JD, Hammock BD. Soluble epoxide hydrolase as a therapeutic target for cardiovascular diseases. *Nat Rev Drug Discov* 8:794-805, 2009. PMID: 19794443 / PMCID: PMC3021468
24. Sudhahar V, Shaw S, Imig JD. Epoxyeicosatrienoic acid analogs and vascular function. *Curr Med Chem* 17:1181-1190, 2010. PMID: 20158473 / PMCID: PMC2855336
25. Pavlov TS, Imig JD, Staruschenko A. Current understanding of the role of peroxisome proliferator-activated receptors in renal epithelial transport. *PPAR Research* 2010:703735, 2010. PMID: 20613963 / PMCID: PMC2896859
26. Imig JD. Targeting epoxides for organ damage in hypertension. *J Cardiovasc Pharmacol* 56:329-335, 2010. PMID: 20531214 / PMCID: PMC3071608
27. Imig JD, Simpkins AN, Renic M, Harder DR. Cytochrome P450 eicosanoids and cerebral vascular function. *Expert Rev Mol Med* 13:e7, 2011. PMID: 21356152
28. Imig JD. Epoxides and soluble epoxide hydrolase in cardiovascular physiology. *Physiological Reviews* 92:101-130, 2012. PMID: 22298653
29. Imig JD and Ryan MJ. Immune and inflammatory role in renal disease. *Comprehensive Physiology* 3:957-976, 2013. PMID: 23720336
30. Imig JD. Epoxyeicosatrienoic acids, 20-hydroxyeicosatetraenoic acid, and renal microvascular function. *Prostaglandins & other Lipid Mediators* 104-105:2-7, 2013. PMID: 23333581
31. Imig JD. Epoxyeicosatrienoic acids, hypertension, and kidney injury. *Hypertension* 65:476-482, 2015. PMID: 25583156
32. Imig JD, Khan MAH. Cytochrome P450 and lipoxygenase metabolites on renal function. *Comprehensive Physiology* 6:423-441, 2015. PMID: 26756638
33. Cohen EP, Fish BL, Imig JD, Moulder JE. Mitigation of normal tissue in radiation injury: evidence from rat radiation nephropathy models. *Journal of Radiation Oncology* 5:1-8, 2016.
34. Imig JD. Epoxyeicosatrienoic acids and 20-hydroxyeicosatetraenoic acid on endothelial and vascular function. *Advances in Pharmacology* 77:106-141, 2016. PMID: 27451096
35. Campbell WB, Imig JD, Schmitz JM, Falck JR. Orally active epoxyeicosatrienoic acid analogs. *J Cardiovasc Pharmacol* 70:211-224, 2017. PMID: 28937442
36. Imig JD. Prospective for Cytochrome P450 Epoxygenase Cardiovascular and Renal Therapeutics. *Pharmacology & Therapeutics*. 192:1-19, 2018. PMID: 29964123.
37. Imig JD. Epoxyeicosanoids in hypertension. *Physiological Research* 68:695-704, 2019. PMID: 31475560

38. Imig JD, Jankiewicz WK, Khan AH. Epoxy fatty acids: from salt regulation to kidney and cardiovascular therapeutics: 2019 Lewis K. Dahl Memorial Lecture. *Hypertension* 76:3-15, 2020. PMID: 32475311
39. Imig JD. Eicosanoid blood vessel regulation in physiological and pathophysiological states. *Clinical Science* 134:2702-2727, 2020. PMID 33095237
40. Lillich FF, Imig JD, Proschak E. Multi-target approaches in metabolic syndrome. *Frontiers in Pharmacology* 11: 554961, 2021. doi: 10.3389/fphar.2020.554961. PMID: 33776749
41. Imig JD, Merk D, Proschak E. Multi-target drugs for kidney diseases. *Kidney360* 2:1645–1653, 2021. doi: https://doi.org/10.34067/KID.0003582021
42. Chiang KC, Imig JD, Kalantar-Zadeh K, Gupta A. Kidney in the net of acute and long-haul coronavirus disease 2019: a potential role for lipid mediators in causing renal injury and fibrosis. *Current Opinion in Nephrology and Hypertension* 31:36-46, 2022. PMID: 34846312
43. Imig JD, Cervenka L, Neckar J. Epoxylipids and soluble epoxide hydrolase in heart diseases. *Biochemical Pharmacology* 195:114866, 2022. doi: 10.1016/j.bcp.2021.114866. PMID: 34863976
44. Chiang KC, Rizk JG, Nelson DJ, Krishnamurti L, Subbian S, Imig JD, Khan I, Reddy ST, Gupta A. Ramatroban for chemoprophylaxis and treatment of COVID-19: David takes on Goliath. *Expert Opinion on Therapeutic Targets* 22:1-16, 2022. PMID: 35068281
45. Imig JD. Orally active epoxyeicosatrienoic acid analogs in hypertension and renal injury *Advances in Pharmacology* 94:27-55, 2022. PMID: 35659375
46. Imig JD. Bioactive lipids in hypertension. *Advances in Pharmacology* 00:00-00, 2023. (in press)

Editorials

1. Imig JD. ACE inhibition and bradykinin-mediated renal vascular responses: EDHF involvement. *Hypertension* 43:533-535, 2004. PMID: 14757781
2. Imig JD. 20-HETE or EETS: Which arachidonic acid metabolite regulates proximal tubule transporters and contributes to pressure-natriuresis? *Am J Physiol Regul Integr Comp Physiol* 287:R3-R5, 2004. PMID: 15191921
3. Imig JD. Adensoine 2A receptors & EETs – A recipe for salt and blood pressure regulation. *Hypertension* 54:1223-1225, 2009. PMID: 19822801 / PMCID: PMC2783356
4. Imig JD. 20-HETE & angiotensin – a positive feedback system to cause hypertension. *Hypertension* 56:822-823, 2010. PMID: 20837886 / PMCID: PMC2998348
5. Sullivan JC, Imig JD. Reply to "Letter to the editor: 'Concern regarding quantification of urinary nephrin by commercially available ELISA. *Am J Physiol Renal Physiol* 309:F271, 2015. PMID 26357487
6. Imig JD. Renal blood flow autoregulation: What are the contributions for nitric oxide and superoxide to modulate the myogenic response? *Am J Physiol Renal Physiol* 310:F1013-F1015, 2016. PMID: 26962100
7. Imig JD. Epigenetic soluble epoxide hydrolase regulation causes endothelial dysfunction. *Acta Physiologica* 225:e13203, 2019. PMID: 30307705
8. Imig JD, Morisseau C. Clinical paths for soluble epoxide hydrolase inhibitors. *Frontiers in Pharmacology* 11:598858, 2020. doi: 10.3389/fphar.2020.598858 PMID:33071800

9. Imig JD, Hye Khan MA, Zhao X. Renal function in acute and chronic kidney diseases. *Frontiers in Physiology* 11:625353, 2020. doi: 10.3389/fphys.2020.625353. PMID: 33343402
10. Imig JD. Diabetes risk associated with plasma epoxylipid levels. *EBioMedicine* 66:103331, 2021. PMID: 33857907
11. Imig JD, Zhao X, Elmarakby AA, Pavlov T. Interactions between podocytes, mesangial cells, and glomerular endothelial cells in glomerular diseases. *Frontiers in Physiology* 13:849693, 2022. doi: 10.3389/fphys.2022.849693. PMID: 35399279.
12. Imig JD. SARS-CoV-2 spike protein causes cardiovascular disease independent of viral infection. *Clinical Science* 136:431-434, 2022. PMID: 35348182
13. Imig JD. Frontiers in metabolic physiology grand challenges. *Frontiers in Physiology* 13:879617, 2022. doi: 10.3389/fphys.2022.879617 PMID: 36035475
14. Imig JD. Osteopotin regulates phosphate solubility to prevent mineral aggregates in chronic kidney disease. *Kidney360* 3:1477-1479, 2022. PMID: 36245661

Book Chapters

1. Navar LG, Harrison-Bernard LM, Imig JD. Compartmentalization of intrarenal angiotensin II. In: *Renin-Angiotensin*, edited by H.R. Ulfendahl and M. Aurell. London: Portland Press. 193-208, 1998.
2. Imig JD, Kitiyakara C, Wilcox CS. Arachidonate metabolites. In: *The Kidney: Physiology and Pathophysiology*, *Third Edition*, edited by D.W. Seldin and G. Giebish. New York, NY: Lippincott Williams & Wilkins, 873-887, 2000.
3. Inscho EW, Imig JD, Navar LG. Nonendothelial paracrine regulation of the renal microcirculation. *Advances in Organ Biology: The Renal Circulation*, edited by W.P. Anderson. Stamford, CT: JAI Press Inc. 9:219-233, 2000.
4. Navar LG, Harrison-Bernard LM, Imig JD, Mitchell KD. Renal actions of angiotensin II and AT_1 receptor blockers. In: *Angiotensin II Receptor Antagonists*, edited by M. Epstein, H.R. Brunner. Philadelphia, PA: Hanley & Belfus, Inc. 189-214, 2000.
5. Imig JD, Navar LG. Measurement of renal tubular angiotensin II. In: *Methods in Molecular Medicine: Angiotensin Protocols*, edited by D.H. Wang. Totowa, NJ: Humana Press Inc. 51:427-434, 2001.
6. Elmarakby AA, Pollock DM, Imig JD. Renal dysfunction in hypertension and obesity. *Comprehensive Medicinal Chemistry*, edited by M. Williams. Oxford, UK: Elsevier Ltd. 6:575-595, 2006.
7. Navar LG, Arendshorst WJ, Bell PD, Imig JD, Inscho EW, Pallone TL. Renal Microcirculation. In: *Handbook of Physiology: Microcirculation*, edited by RF Tuma, WN Duran and K Ley. Academic Press 550-683, 2008
8. Imig JD, Khan MAH, El-Meanawy A. Molecular pathways in hypertensive damage. *Disorders of Blood Pressure Regulation: Phenotypes, Mechanisms, Therapeutic Options*, edited by A.E. Berberi and G. Mancia. Springer. 26:445-463, 2018.
9. Khan MAH, Imig JD. Anti-hypertensive Drugs. *References in Biomedical Sciences* https://doi.org/10.1016/B978-0-12-801238-3.96704-7, 2018.

Book Edited

1. *Advances in Pharmacology*, New Targets for the Treatment of Hypertension and Associated Diseases Edited by William B. Campbell, John D. Imig, 94:1-409, 2022

Ellen van der Plas, PhD
Curriculum vitae
Updated March 07, 2022
eaavdplas@gmail.com | (319) 855 2648
ellen-vanderplas@uiowa.edu | (319) 353 8544
www.medicine.uiowa.edu/psychiatry/profile/ellen-van-der-plas

EDUCATION

2007-2011 PhD, University of Iowa Hospital and Clinics, Iowa, USA
Interdisciplinary Program in Neuroscience
Mentor: Peggy Nopoulos, MD
Thesis: Social functioning and brain structure in adolescents and young adults with isolated cleft lip and palate

2005-2007 Research Master (MSc), Leiden University, The Netherlands
Department of Developmental Psychology
Mentor: Eveline Crone, PhD
Thesis: Acquiring decision-making skills: Differential development of risk estimation, feedback learning and future orientation
Graduated Magna Cum Laude

2002-2005 BSc, Leiden University, The Netherlands
Department of Psychology
Mentor: Erika Blesgraaf-Tunteler, PhD
Thesis: Development of analogical reasoning in school-aged children
Graduated Cum Laude

PROFESSIONAL APPOINTMENTS

2020- Faculty of the University of Iowa Interdisciplinary Program in Neuroscience

2017- Assistant Professor, The University of Iowa Hospital and Clinics, Iowa City, USA

2012-2017 Postdoctoral fellow, the Hospital for Sick Children, Toronto, Canada
Translational Medicine
Mentors: Russell Schachar, MD and Brian Nieman, PhD

PUBLICATIONS

	First author	Senior author	Co-author	Total
Number:	24	2	18	44

1. Crone, E.A., Bullens, L., **van der Plas, E**.A., Kijkuit, E.J., and Zelazo, P.D., Developmental changes and individual differences in risk and perspective taking in adolescence. Dev Psychopathol, 2008. 20(4): p. 1213-29.
2. **van der Plas, E.**A., Crone, E.A., van den Wildenberg, W.P., Tranel, D., and Bechara, A., Executive control deficits in substance-dependent individuals: a comparison of alcohol, cocaine, and methamphetamine and of men and women. J Clin Exp Neuropsychol, 2009. 31(6): p. 706-19.
3. **van der Plas, E.**A., Boes, A.D., Wemmie, J.A., Tranel, D., and Nopoulos, P., Amygdala volume correlates positively with fearfulness in normal healthy girls. Soc Cogn Affect Neurosci, 2010. 5(4): p. 424-31.
4. **van der Plas, E.**, Conrad, A., Canady, J., Richman, L., and Nopoulos, P., Effects of unilateral clefts on brain structure. Arch Pediatr Adolesc Med, 2010. 164(8): p. 763-8.

5. Boes, A.D., Mehta, S., Rudrauf, D., **van der Plas, E.**, Grabowski, T., Adolphs, R., and Nopoulos, P., Changes in cortical morphology resulting from long-term amygdala damage. Soc Cogn Affect Neurosci, 2012. 7(5): p. 588-95.
6. **van der Plas, E**., Caspell, C.J., Aerts, A.M., Tsalikian, E., Richman, L.C., Dawson, J.D., and Nopoulos, P., Height, BMI, and pituitary volume in individuals with and without isolated cleft lip and/or palate. Pediatr Res, 2012. 71(5): p. 612-8.
7. **van der Plas, E.**, Koscik, T.R., Conrad, A.L., Moser, D.J., and Nopoulos, P., Social motivation in individuals with isolated cleft lip and palate. J Clin Exp Neuropsychol, 2013. 35(5): p. 489- 500.
8. **van der Plas, E.**, Nieman, B.J., Butcher, D.T., Hitzler, J.K., Weksberg, R., Ito, S., and Schachar, R., Neurocognitive Late Effects of Chemotherapy in Survivors of Acute Lymphoblastic Leukemia: Focus on Methotrexate. J Can Acad Child Adolesc Psychiatry, 2015. 24(1): p. 25-32.
9. **van der Plas, E.**, Dupuis, A., Arnold, P., Crosbie, J., and Schachar, R., Association of Autism Spectrum Disorder with Obsessive-Compulsive and Attention-Deficit/Hyperactivity Traits and Response Inhibition in a Community Sample. J Autism Dev Disord, 2016. 46(9): p. 3115-25.
10. **van der Plas, E.**, Schachar, R.J., Hitzler, J., Crosbie, J., Guger, S.L., Spiegler, B.J., Ito, S., and Nieman, B.J., Brain structure, working memory and response inhibition in childhood leukemia survivors. Brain Behav, 2017. 7(2): p. e00621.
11. **van der Plas, E.**, Erdman, L., Nieman, B.J., Weksberg, R., Butcher, D.T., O'Connor D, L., Aufreiter, S., Hitzler, J., Guger, S.L., Schachar, R.J., Ito, S., and Spiegler, B.J., Characterizing neurocognitive late effects in childhood leukemia survivors using a combination of neuropsychological and cognitive neuroscience measures. Child Neuropsychol, 2018. 24(8): p. 999-1014.
12. Spencer Noakes, T.L., Przybycien, T.S., Forwell, A., Nicholls, C., Zhou, Y.Q., Butcher, D.T., Weksberg, R., Guger, S.L., Spiegler, B.J., Schachar, R.J., Hitzler, J., Ito, S., **van der Plas, E.**, and Nieman, B.J., Brain Development and Heart Function after Systemic Single-Agent Chemotherapy in a Mouse Model of Childhood Leukemia Treatment. Clin Cancer Res, 2018. 24(23): p. 6040-6052.
13. **van der Plas, E.**, Schubert, R., Reilmann, R., and Nopoulos, P.C., A Feasibility Study of Quantitative Motor Assessments in Children Using the Q-Motor Suite. J Huntingtons Dis, 2019. 8(3): p. 333-338.
14. **van der Plas, E.**, Langbehn, D.R., Conrad, A.L., Koscik, T.R., Tereshchenko, A., Epping, E.A., Magnotta, V.A., and Nopoulos, P.C., Abnormal brain development in child and adolescent carriers of mutant huntingtin. Neurology, 2019. 93(10): p. e1021-e1030.
15. **van der Plas, E.**, Hamilton, M.J., Miller, J.N., Koscik, T.R., Long, J.D., Cumming, S., Povilaikaite, J., Farrugia, M.E., McLean, J., Jampana, R., Magnotta, V.A., Gutmann, L., Monckton, D.G., and Nopoulos, P.C., Brain Structural Features of Myotonic Dystrophy Type 1 and their Relationship with CTG Repeats. J Neuromuscul Dis, 2019. 6(3): p. 321-332.
16. Langbehn, K.E., **van der Plas, E.**, Moser, D.J., Long, J.D., Gutmann, L., and Nopoulos, P.C., Cognitive function and its relationship with brain structure in myotonic dystrophy type 1. J Neurosci Res, 2020.
17. Langbehn, K.E., Cochran, A.M., **van der Plas, E.**, Conrad, A.L., Epping, E., Martin, E., Espe-Pfeifer, P., and Nopoulos, P., Behavioral Deficits in Juvenile Onset Huntington's Disease. Brain Sci, 2020. 10(8).
18. Miller, J.N., **van der Plas, E.**, Hamilton, M., Koscik, T.R., Gutmann, L., Cumming, S.A., Monckton, D.G., and Nopoulos, P.C., Variant repeats within the DMPK CTG expansion protect function in myotonic dystrophy type 1. Neurol Genet, 2020. 6(5): p. e504.
19. **van der Plas, E.**, Spencer Noakes, T.L., Butcher, D.T., Weksberg, R., Galin-Corini, L., Wanstall, E.A., Te, P., Hopf, L., Guger, S., Spiegler, B.J., Hitzler, J., Schachar, R.J., Ito, S., and Nieman, B.J., Quantitative MRI outcomes in child and adolescent leukemia survivors: Evidence for global alterations in gray and white matter. Neuroimage Clin, 2020. 28: p. 102428.

20. Johnson, C., Langbehn, K.E., Long, J.D., Moser, D., Cross, S., Gutmann, L., Nopoulos, P.C., and **van der Plas, E.**, Encoding of facial expressions in individuals with adult-onset myotonic dystrophy type 1. J Clin Exp Neuropsychol, 2020. 42(9): p. 932-940.
21. Tereshchenko, A., **van der Plas**, E., Mathews, K.D., Epping, E., Conrad, A.L., Langbehn, D.R., and Nopoulos, P., Developmental Trajectory of Height, Weight, and BMI in Children and Adolescents at Risk for Huntington's Disease: Effect of mHTT on Growth. J Huntingtons Dis, 2020. 9(3): p. 245-251.
22. **van der Plas, E.**, Schultz, J.L., and Nopoulos, P.C., The Neurodevelopmental Hypothesis of Huntington's Disease. J Huntingtons Dis, 2020. 9(3): p. 217-229.
23. Solomon, M.A., **van der Plas, E.**, Langbehn, K.E., Novak, M., Schultz, J.L., Koscik, T.R., Conrad, A.L., Brophy, P.D., Furth, S.L., Nopoulos, P.C., and Harshman, L.A., Early pediatric chronic kidney disease is associated with brain volumetric gray matter abnormalities. Pediatr Res, 2021. 89(3): p. 526-532.
24. **van der Plas, E.**, Spencer Noakes, T.L., Butcher, D.T., Weksberg, R., Galin-Corini, L., Wanstall, E.A., Te, P., Hopf, L., Guger, S., Hitzler, J., Schachar, R.J., Ito, S., and Nieman, B.J., Cognitive and behavioral risk factors for low quality of life in survivors of childhood acute lymphoblastic leukemia. Pediatr Res, 2021. 90(2): p. 419-426.
25. Koscik, T.R., Sloat, L., **van der Plas, E.**, Joers, J.M., Deelchand, D.K., Lenglet, C., Oz, G., and Nopoulos, P.C., Brainstem and striatal volume changes are detectable in under 1 year and predict motor decline in spinocerebellar ataxia type 1. Brain Commun, 2020. 2(2): p. fcaa184.
26. Langbehn, K.E., Carlson-Stadler, Z., **van der Plas, E.**, Hefti, M.M., Dawson, J.D., Moser, D.J., and Nopoulos, P.C., DMPK mRNA Expression in Human Brain Tissue Throughout the Lifespan. Neurol Genet, 2021. 7(1): p. e537.
27. Guo, Z., Zhang, H., Chen, Z., **van der Plas, E.**, Gutmann, L., Thedens, D., Nopoulos, P., and Sonka, M., Fully automated 3D segmentation of MR-imaged calf muscle compartments: Neighborhood relationship enhanced fully convolutional network. Comput Med Imaging Graph, 2021. 87: p. 101835.
28. Conrad, A.L., Kuhlmann, E., **van der Plas, E.**, and Axelson, E., Brain structure and neural activity related to reading in boys with isolated oral clefts. Child Neuropsychol, 2021. 27(5): p. 621-640.
29. Schultz, J.L., **van der Plas, E***., Langbehn, D.R., Conrad, A.L., and Nopoulos, P.C., Age- Related Cognitive Changes as a Function of CAG Repeat in Child and Adolescent Carriers of Mutant Huntingtin. Ann Neurol, 2021. 89(5): p. 1036-1040. ***Shared first author**
30. Koscik, T.R., **van der Plas, E.**, Gutmann, L., Cumming, S.A., Monckton, D.G., Magnotta, V., Shields, R.K., and Nopoulos, P.C., White matter microstructure relates to motor outcomes in myotonic dystrophy type 1 independently of disease duration and genetic burden. Sci Rep, 2021. 11(1): p. 4886.
31. **van der Plas, E.**, Koscik, T.R., Magnotta, V., Cumming, S.A., Monckton, D., Gutmann, L., and Nopoulos, P., Neurocognitive Features of Motor Premanifest Individuals With Myotonic Dystrophy Type 1. Neurol Genet, 2021. 7(2): p. e577.
32. **van der Plas, E.**, Gutmann, L., Thedens, D., Shields, R.K., Langbehn, K., Guo, Z., Sonka, M., and Nopoulos, P., Quantitative muscle MRI as a sensitive marker of early muscle pathology in myotonic dystrophy type 1. Muscle Nerve, 2021. 63(4): p. 553-562.
33. **van der Plas, E.**, Qiu, W., Nieman, B.J., Yasui, Y., Liu, Q., Dixon, S.B., Kadan-Lottick, N.S., Weldon, C.B., Weil, B.R., Jacola, L.M., Gibson, T.M., Leisenring, W., Oeffinger, K., Hudson, M.M., Robison, L.L., Armstrong, G.T., and Krull, K.R., Sex-Specific Associations Between Chemotherapy, Chronic Conditions, and Neurocognitive Impairment in Acute Lymphoblastic Leukemia Survivors: A Report From the Childhood Cancer Survivor Study. J Natl Cancer Inst, 2021. 113(5): p. 588-596.
34. Kesler, S.R., Sleurs, C., McDonald, B.C., Deprez, S., **van der Plas, E.**, and Nieman, B.J., Brain Imaging in Pediatric Cancer Survivors: Correlates of Cognitive Impairment. J Clin Oncol, 2021. 39(16): p. 1775-1785.

35. **van der Plas, E.**, Modi, A.J., Li, C.K., Krull, K.R., and Cheung, Y.T., Cognitive Impairment in Survivors of Pediatric Acute Lymphoblastic Leukemia Treated With Chemotherapy Only. J Clin Oncol, 2021. 39(16): p. 1705-1717.
36. Kuhlmann, E., **van der Plas, E.**, Axelson, E., and Conrad, A.L., Brain Developmental Trajectories in Children and Young Adults with Isolated Cleft Lip and/or Cleft Palate. Dev Neuropsychol, 2021: p. 1-13.
37. Miller, J.N., Kruger, A., Moser, D.J., Gutmann, L., **van der Plas, E.**, Koscik, T.R., Cumming, S.A., Monckton, D.G., and Nopoulos, P.C., Cognitive Deficits, Apathy, and Hypersomnolence Represent the Core Brain Symptoms of Adult-Onset Myotonic Dystrophy Type 1. Front Neurol, 2021. 12: p. 700796.
38. **van der Plas, E.**, Lullmann, O., Hopkins, L., Schultz, J.L., Nopoulos, P.C., and Harshman, L.A., Associations between neurofilament light-chain protein, brain structure, and chronic kidney disease. Pediatr Res, 2021.
39. Al-Kaylani, H.M., Reasoner, E.E., Loeffler, B.T., Mott, S.L., Madasu, S., Liu, A., Langbehn, K., Conrad, A.L., Dickens, D., Grafft, A., Harshman, L., Modi, A.J., **and van der Plas, E.**, Characterizing academic performance in pediatric acute lymphoblastic leukemia with population-based achievement tests. Cancer Rep (Hoboken), 2021: p. e1560.
40. **van der Plas, E.** and Harshman, L., Leveraging neuroimaging to understand the impact of chronic kidney disease on the brain. Pediatr Nephrol, 2021.
41. **van der Plas, E.**, Solomon, M.A., Hopkins, L., Koscik, T., Schultz, J., Brophy, P.D., Nopoulos, P.C., and Harshman, L.A., Global and Regional White Matter Fractional Anisotropy in Children with Chronic Kidney Disease. J Pediatr, 2022. 242: p. 166-173 e3.
42. **van der Plas, E.**, Long, J.D., Koscik, T.R., Magnotta, V., Monckton, D.G., Cumming, S.A., Gottschalk, A.C., Hefti, M., Gutmann, L., and Nopoulos, P.C., Blood-Based Markers of Neuronal Injury in Adult-Onset Myotonic Dystrophy Type 1. Front Neurol, 2021. 12: p. 791065.
43. Hamilton, M.J., Atalaia, A., McLean, J., Cumming, S.A., Evans, J.J, Ballantyne, B., Jampana, R., Longman, C., Livingston, E., **van der Plas, E.**, Koscik, T., Nopoulos, P., Farrugia, M.E., Monckton, D.G. Clinical and neuroradiological correlates of sleep in myotonic dystrophy type 1. Accepted in *Neuromuscular Disorders,* January 7, 2022
44. Reasoner, E.E., **van der Plas, E.,** Langbehn, D.R., Conrad, A.L., Koscik, T.R., Epping, E.A, Magnotta, V.A., Nopoulos, P.C. Cortical features in child and adolescent carriers of mutant huntingtin (mHTT). Accepted in *Journal of Huntington's Disease,* March 06, 2022

SUBMITTED MANUSCRIPTS

Under Review

1. Byrne, L.M., Schultz, J.L., Rodrigues, F.B., **van der Plas**, **E.**, Langbehn, D., Nopoulos, P., Wild, E.J. Neurofilament light protein as a blood biomarker for Huntington's Disease in children. Accepted pending minor revisions in *Movement Disorders*, February 21, 2022
2. Reasoner, E.E., **van der Plas, E.,** Al-Kaylani, H.M., Langbenh, D.R., Conrad. A.L., Schultz, J., Epping, E.A., Magnotta, V., Nopoulos. P.C., Behavioral Features of Huntington's Disease and their relationship with striatal volume in children and adolescents. Revisions submitted to *Brain & Behavior,* December 3rd, 2021.
3. Schultz, J.L., Langbehn, D.R., Al-Kaylani, H.M., van der Plas, E., Koscik, T.R., Epping, E.E., Espe-Pfeifer, P.B., Martin, E.M., Magnotta, V.A., Nopoulos, P.C. A longitudinal analysis of clinical and biological characteristics in juvenile-onset Huntington's Disease. Submitted to *Nature Medicine,* January 31, 2022.

EDITORIAL ACTIVITIES

2021 **Guest Associate Editor** for Frontiers of Psychology: Psycho-Oncology. Special issue on Psychosocial aspects of Adolescent and Young Adults with Cancer. Link to website.
Co-Editors: Yin Ting Cheung (The Chinese University of Hong Kong, Hong Kong), Andreas Charalambous (Cyprus University of Technology, Cyprus), and Martha Grootenhuis (Princess Maxima Centrum, The Netherlands)

2021 **Topic editor** for Brain Sciences. Link to website.

AWARDS

2016 Pediatric Oncology Group of Ontario, Poster Award
2016 Garron Family Cancer Centre Research Day, Best Poster Award
2014 Centre of Brain and Mental Health, Best Poster Award
2014 Pediatric Oncology Group of Ontario, Popular Choice Award
2014 Canadian Cancer Society, travel award
2014 University of Toronto, travel award
2013 Harvey Stancer Research Day, Best oral presentation
2010 National Institutes of Health Graduate Student Festival travel award
2010 Dr. Eunice Schuytema Beam Travel Grant Program (University of Iowa)
2010 Biomarkers in Brain Disease travel fellowship (Oxford University)
2007 Mortimer D. Sackler Summer Institute Fellowship (Cornell University)
2006 Outbound Study Grant (Leiden University)

HONORS AND RECOGNITIONS

2017 PI Prepschool finalist, The Hospital for Sick Children
2015 Society of Biological Psychiatry, Top Poster Submission
2015 American Psychological Society, Blue Ribbon Award
2015 Nominated for “Exceptional Trainee Award” by Dr. Russell Schachar
2015 Honored for contributions to SickKids community at “Inspire!” with Chris Hadfield
2015 The Hospital for Sick Children President’s Award (Empowering People and Innovating to Drive Impact)

RESEARCH FUNDING

Pending decisions

2022 National Cancer Institute $3,022,113
Title: Identifying markers of abnormal neurocognitive trajectories during chemotherapy treatment of childhood acute lymphoblastic leukemia
Role: Principal Investigator
Percentile score: 4.0; Impact score: 20

Current research funding

2021-2026 National Institutes of Health ($2,083,212.00)
Title: Brain anatomical imaging and neurocognition in pediatric kidney disease (BRAIN KID)
Role: Co-Investigator

2019-2024 National Institutes of Health ($18,024,261.00)
Title: Growth and development of Striatal-Cerebellum circuitry in subjects at risk for Huntington's Disease
Role: Co-Investigator

Completed

2018-2019 American Cancer Society Institutional Research Grant ($30,000)
Title: Childhood cancer and psychosocial deficits: Prospective assessment of neurodevelopment
Role: Principal Investigator

2018-2019 UIowa Pediatrics Hematology/Oncology and the Monticello chapter of the Lions Club ($16,400)
Title: Risk factors of poor academic achievement among survivors of childhood leukemia
Role: Principal Investigator

2017-2018 The Hospital for Sick Children, Psychiatry Endowment Fund ($30,000)
Title: Childhood cancer and psychopathology: A feasibility study of prospective assessment of chemotherapy-induced developmental changes
Role: Co-Investigator

2015-2018 Canadian Cancer Society, Quality of Life research grants ($300,000) Title: Characterizing the impact of chemotherapy on the developing brain
Role: Co-investigator (contributions listed as *identical* as principal investigator)

2013-2014 The Hospital for Sick Children, Psychiatry Endowment Fund ($30,000)
Title: Long-term effects of Methotrexate Treatment on Brain Development and Associated Function: Pilot Study of the Interaction with Functional Polymorphisms in One-Carbon Metabolism
Role: Principal investigator

AWARDS

2021 Holden Comprehensive Cancer Center Breast Cancer Research Group Award ($2,400)
Title: Psychosocial aspects of breast cancer in young adulthood.
Role: Co-PI

2021 Carver College of Medicine Office of Diversity, Equity and Inclusion ($1,500)
Title: Brain development is pediatric sickle cell disease
Role: PI
Funds to have research documents professionally translated from English to French to reduce barriers for immigrant families.

2017 The Hospital for Sick Children, PI Prepschool seed grant ($15,000)
Role: Principal Investigator

FELLOWSHIP

2015 2018 Ontario Mental Health Foundation fellowship ($35,000 a year)

SYMPOSIA

2018 Iowa DM1 mini-symposium, Organizer & speaker

CAMPUS/DEPARTMENTAL TALKS

2017 Princess Margaret Hospital Supportive Care Research Rounds Title: Neurobiological impact of treatment of childhood cance

2016 Pediatric Oncology Group of Ontario (POGO) Symposium: Leukemia: Successes, Advances, Challenges.
Title: Brain structure, working memory and response inhibition in childhood leukemia survivors

2016 Centre of Brain and Mental Health: White matter and oligodendrocytes in mental health
Title: Brain structure, memory and inhibition in childhood leukemia survivors

2015 SickKids Mental Health Rounds
Title: Beyond survivor - the burden of childhood cancer

INTRAMURAL PRESENTATIONS

1. **van der Plas, E**. & Harshman, L. Understanding the developing brain in pediatric chronic kidney disease: Leveraging interdisciplinary collaboration to improve patient outcomes. Psychiatry Rounds, The University of Iowa Hospital & Clinics (January 2022).
2. Al-Kaylani, H.M., Reasoner, E., Loeffler, B.T., Mott, S. L., Madasu, S., Liu, A., Conrad, A.L., Dickens, D., Grafft, A., Harshman, L., Modi, A.J., **van der Plas, E.** Characterization of academic performance following pediatric acute lymphoblastic leukemia using group-administered achievement tests for grades 3-11. Oral presentation at the 2021 Holden Comprehensive Cancer Center Scientific Virtual Retreat.
3. **van der Plas, E.,** Neurocognitive development in pediatric acute lymphoblastic leukemia. Psychiatry Rounds, The University of Iowa Hospital & Clinics (January 2021).
4. **van der Plas, E.**, Neurodevelopment in children with acute lymphoblastic leukemia (2019). Holden Comprehensive Cancer Center Grand Rounds, The University of Iowa Hospital & Clinics.
5. Lange, M.M., Langbehn, K., Ross, B., Daniels, J., Grafft, A.J., Harshman, L.A., Modi, A.J., **van der Plas, E.** (2019). Exploration of associations between treatment history and cognitive outcomes in survivors of Acute Lymphoblastic Leukemia. Oral presentation at the 2019 Holden Comprehensive Cancer Center Research Retreat. **Top abstract**
6. Lange, M.M., Langbehn, K., Ross, B., Daniels, J., Grafft, A.J., Harshman, L.A., Modi, A.J., **van der Plas, E.** (2019). Exploration of associations between treatment history and cognitive outcomes in survivors of Acute Lymphoblastic Leukemia. Poster presented at the 2019 University of Iowa Health Sciences Research Day.
7. Nopoulos, P.C., **van der Plas, E.**, Schultz, J. (2018). New Concepts in Huntington's Disease – from brain development to autonomic nervous system dysfunction (2018). Grand Rounds Presentation, The University of Iowa Hospital & Clinics
8. **van der Plas, E.**, Schachar, R.J, Hitzler, J., Crosbie, J., Guger, S.L., Spiegler, B.J., Ito, S., & Nieman, B.J. Brain structure, working memory and response inhibition in childhood leukemia

survivors. Poster presented at the 2016 Pediatric Oncology Group of Ontario annual conference. **Best Poster Award**

9. **van der Plas, E.,** Schachar, R., Ito, S., Nieman, B.J. (2016). Brain structure, memory and inhibition in childhood leukemia survivors. Selected for an oral presentation at the University of Toronto Harvey Stancer Research Day.
10. **van der Plas, E.**, Schachar, R., Ito, S., Nieman, B.J. (2016). Effect of chemotherapy on brain and cognition in childhood leukemia survivors. Poster presented at the Garron Family Cancer Centre Cancer Research Day. **Best Poster Award**
11. **van der Plas, E.**, Schachar, R., Ito, S., Nieman, B.J. (2015). The adverse effect of chemotherapy treatment on brain development in survivors of childhood leukemia. Poster presentation at the Annual Brain & Mental Health Day Conference, Toronto, Canada.
12. **van der Plas, E.**, Schachar, R., Nieman, B.J. (2014). Chemotherapy-induced changes in mouse brain development. Poster presentation at the symposium The Adolescent Brain: Exploring Mental Health Research and Treatment, Toronto, Canada. **Best Poster Award**
13. **van der Plas, E.**, Dupuis, A, Crosbie, J., Schachar, R (2014). Autism Spectrum Disorder, response inhibition, ADHD traits, and obsessive compulsive disorder in a community sample. Poster presented at the 40th annual Harvey Stancer Research Day, Toronto, Canada.
14. **van der Plas, E.** (2013). Chemotherapy, genetic risk and brain development. Selected for an oral presentation at the University of Toronto Harvey Stancer Research Day. **Best oral presentation by a fellow**
15. **van der Plas, E.,** Nieman, B.J., & Schachar, R. (2013). Killing cancer, but hurting the brain: Chemotherapy, genetic risk, and brain development. Poster presented at Brain Basics: Applications for Mental Health Practice, Toronto, Canada.

EXTRAMURAL PRESENTATIONS

1. **van der Plas, E.** (2022). COG Long-Term Follow-Up Guidelines for Survivors of Childhood, Adolescent, and Young Adult Cancers. Neurocognitive Silo. Brief Update.
2. Lullman, O, Conrad, A.L, Wilgenbusch, T, **van der Plas, E.**, Harshman, L. Cognitive deficits may not fully resolve following pediatric kidney transplantation. Pediatric Academic Societies. **Abstract accepted for poster presentation.**
3. **van der Plas, E.** (2021). Research update: Behaviors in JOHD. Help4HD International Virtual Symposium 2021.
4. Barrett, L., Goedken, A., **van der Plas, E.,** Steinbach, E.J., Exil, V., Axelrod, D., Harshman, L. (2021). Defining risk factors for subsequent kidney transplant after heart transplant. Midwest Society for Pediatric Research. **Abstract accepted for oral presentation.**
5. **van der Plas, E.** (2019). Brain development in child and adolescent carriers of mutant huntingtin. Oral presentation at the Help 4 HD Vegas Symposium 2019.
6. **van der Plas, E.,** Qiu, W., Nieman, B., Yasui, Y., Liu, Q., Dixon, S., Kadan-Lottick, N., Jacola, L., Gibson, T., Leisenring, W., Oeffinger, K., Huson, M., Robison, I., Armstrong, G.T., Krull, K.R. (2019). Associations between chemotherapy exposures, chronic conditions and neurocognitive impairments in pediatric ALL survivors treated with chemotherapy only vary with sex: A Report from the Childhood Cancer Survivor Study (CCSS). Poster presented at the 2019 National Symposium on Late Complications after Childhood Cancer (NASLCCC), Atlanta, GA.
7. Langbehn, K., Lange, M.M., Ross, B., Daniels, J., Grafft, A.J., Harshman, L.A., Modi, A.J., **van der Plas, E**. (2019). Exploration of associations between treatment history and cognitive outcomes in survivors of Acute Lymphoblastic Leukemia. Poster presented at the 2019 National Symposium on Late Complications after Childhood Cancer (NASLCCC), Atlanta, GA.

8. **van der Plas, E.,** Koscik, T.R., Magnotta, V.A., Monckton, D., Gutmann, L., Nopoulos, P.C. (2019). Brain imaging (MRI) biomarkers of disease progression in DM1. Poster presented at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
9. Guo, Z., Zhang, H., **van der Plas, E**. Gutmann, L., Nopoulos, P. Sonka, M. (2019). Volumetric quantification of calf muscle shape and morphology from 3D MR images: Fully automated Deep LOGISMOS approach. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
10. Gutmann, L., **van de Plas, E.** Koscik, T.R.; Cross, S., Cochran, A.; Johnson, C. Magnotta, V., Shields, R. (2019). Muscle MRI Measures Are Abnormal Early in Disease and Track Disease Progression: Support for Use as Biomarker in Clinical Trials. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
11. **van der Plas, E. & Hamilton, M.J.**, Miller, J.N., Koscik, T.R., Long, J.D., Cumming, S., Povilaikaite, J., Elena Farrugia, M., McLean, J., Jampana, R., Magnotta, V.A., Gutmann, L., Monckton, D.G., Nopoulos, P.C. (2019). Baseline analyses of brain structural features of myotonic dystrophy type 1 and their relationship with CTG repeat length. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden. **Best Poster Presentation**
12. Hamilton, M., **van der Plas, E.**, Koscik, T.R., Magnotta, V., Gutmann, L., Monckton, D., Nopoulos, P.C. (2019). Repeat Interruptions Protect Brain Structure and Function in DM1. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
13. Johnson, C., **van der Plas, E.**, Nopoulos, P.C. (2019). Emotional Problems Among Individuals with Adult-Onset Myotonic Dystrophy Type 1 Are Not Associated with Difficulties in Basic Emotional Processing. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
14. Miller, J., **van der Plas, E.**, Koscik, T.R., Magnotta, V., Gutmann, L., Nopoulos, P.C. (2019). Abnormal amygdala-striatal network relates to apathy in Myotonic Dystrophy 1. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
15. Langbehn, K., Carlson-Stadler Z., **van der Plas, E.,** Hefti, M., Nopoulos, P.C. (2019). DMPK MRNA Expression In Human Brain Throughout The Lifespan. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
16. Langbehn, K., **van der Plas, E.,** Moser, D., Nopoulos, P.C (2019). A Longitudinal Analysis Of Cognitive Flexibility And Value-Based Decision Making In Individuals With DM1. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
17. Langbehn K., Moser, D., Gutmann, L., **van der Plas, E.,** Nopoulos, P.C (2019). Cognitive function in DM1 and its relationship to brain morphology. Poster presentation at the International Myotonic Dystrophy Consortium (IDMC-12), Gothenburg, Sweden.
18. **van der Plas, E.,** Nopoulos, P (November 2018). Abnormal brain development in PreHD Children and Adolescents. Platform presentation at the 2018 Huntington Study Group, Houston, USA
19. **van der Plas, E.,** Mark J. Hamilton, Jacob Miller, Timothy R. Koscik et al. (September 2018). Brain Morphological Features of Myotonic Dystrophy Type 1 and Their Relationship with CTG Repeat Length. Poster presented at the Myotonic Dystrophy Foundation Annual Conference, Nashville, USA

20. Carlson-Stadler, Z., **van der Plas, E.**, Hefti, M., Nopoulos, P.C (September 2018). DMPK mRNA Expression in Human Brain Tissue Throughout the Lifespan. Poster presented at the Myotonic Dystrophy Foundation Annual Conference, Nashville, USA
21. Langbehn, L., **van der Plas, E.,** Moser, D., Nopoulos, P.C. (September 2018). Cognitive Flexibility and Decision Making in DM1: A Longitudinal Analysis. Poster presented at the Myotonic Dystrophy Foundation Annual Conference, Nashville, USA
22. Miller, J., **van der Plas, E.,** Koscik, T., Magnotta, V., Gutmann, L., Nopoulos, P. (September 2018). Abnormal Amygdala-Striatal Network Relates to Apathy in Myotonic Dystrophy 1. Poster presented at the Myotonic Dystrophy Foundation Annual Conference, Nashville, USA
23. Moser, D.van der Plas, E., Nopoulos, P. (September 2018). Cognitive Function in DM1 and its Relationship to Brain Morphology. Poster presented at the Myotonic Dystrophy Foundation Annual Conference, Nashville, USA
24. **van der Plas, E.** (September 2018). Cognitive and Phychosocial Late Effects of childhood cancer. Neurodevelopmental aspects of childhood cancer. Invited talk at the Late Effects Symposium. Toronto, Canada.
25. **van der Plas, E**., Espe-Pfeifer, P., Conrad, A.L., Martin, E., Epping, E., Mathews, K., Nopoulos, P.C. (2018). Cognition and behavior in pre-HD children and adolescents. Poster presented at the Huntington's Disease Therapeutics Conference 2018. Palm Springs, USA
26. Spencer Noakes, L., Przybycien, T., Forwell, A., Zhou, Y.Q., **van der Plas ,E.**, Nieman, B.J. (2018). Combined MRI and ultrasound measurements to assess the impact of systemic chemotherapy on the developing brain and heart. Poster presented at the Joint Annual Meeting ISMRM-ESMRMB 2018 (International Society for Magnetic Resonance in Medicine). Paris, France.
27. **van der Plas, E.**, Wanstall, E., Spiegler, B., Schachar, R.J., Ito, S., Nieman, BJ. Reduced quality of life in long-term survivors of childhood leukemia: Association with cognitive and behavioral abilities (2017). Poster presented at the 15th International Conference on Long-Term Complications of the Treatment of Children and Adolescents for Cancer. Atlanta, USA
28. Pitino, M.A & **van der Plas E.**., Aufreiter, S, Spiegler, B, Guger, S, Schachar, R, Ito, S., O'Connor, D. Folate, vitamin B12 and iron status and cognitive and behavioural late effects in survivors of childhood acute lymphoblastic leukemia (2016). Poster presented at the Canadian Nutrition Society Annual Meeting, Gatineau-Ottawa, Canada
29. **van der Plas, E.,** Ito, S., Schachar R., Nieman, B.J. (2015). Effect of chemotherapy on brain and cognition in childhood leukemia survivors. Poster presented at the Society for Neuroscience annual conference, Chicago, USA.
30. **van der Plas, E.**, Schachar, R., Ito, S., Nieman, B.J.. (2015). The adverse effect of chemotherapy on the developing brain. Poster presented at the Society of Biological Psychiatry. **Top Poster Award**
31. **van der Plas, E.**, Guger, S., Schachar, R., Ito, S., Spiegler, B. (2015). Do survivors of acute lymphoblastic leukemia have acquired ADHD? Poster presented at the American Psychological Society. **Blue Ribbon Award**
32. **van der Plas E.,** Guger S., Schachar R., Ito S., Spiegler B (2015). Cognitive and behavioral impairments in survivors of childhood acute lymphoblastic leukemia. Poster presentation at the American Academy of Clinical Neuropsychology, San Francisco, USA.
33. **van der Plas, E.**, Guger, S., Schachar, R., Ito, S., Spiegler, B. (2014). Do survivors of acute lymphoblastic leukemia have acquired ADHD? Poster presented at the Pediatric Oncology Group of Ontario Cancer Research Day. **Popular choice award**

34. **van der Plas, E.,** Schachar, R.J., Ito, S., Nieman, B.J. (2014). Chemotherapy-induced changes in mouse brain development. Poster presentation at the American Academy of Child and Adolescent Psychiatry 61st Annual Meeting. **van der Plas, E.,** Dupuis, A., Crosbie, J.,Schachar, R. (2014). A test of genetic overlap between ASD, ADHD, OCD, and neurocognitive impairments in the general population. Poster presented at the Canadian ADHD Resource Alliance Research Day
35. **van der Plas, E.**, Dupuis, A., Shan, J., Crosbie, J., & Schachar, R.J. (2014). A test of genetic overlap between ASD, ADHD, OCD, and neurocognitive impairments in the general population. Poster presentation at the American Academy of Child and Adolescent Psychiatry 61st Annual Meeting.
36. **van der Plas, E.,** Caspell, C. J., & Nopoulos, P. (2010). Development of the pituitary in healthy children and children with isolated cleft lip and/or palate. Selected for an oral presentation at the Society for Neuroscience Annual Meeting, San Diego, USA
37. **van der Plas, E.,** Boes, A., & Nopoulos, P. (2009). Amygdala volume correlates positively with fearfulness in normal healthy girls. Poster presented at the Cognitive Neuroscience Society Annual Meeting, San Francisco, USA

TEACHING EXPERIENCE

2021 **Co-director,** University of Iowa: Principles of clinical research. 12-week seminar series.

2021 **Course creator,** University of Iowa: Learning R for statistical analysis. 12-week course.

2020 **Course creator,** University of Iowa: Learning R for statistical analysis. 12-week course.

2017 **Course facilitator,** SickKids Caring Safely: Error Prevention Training

2016, 2017 **Course facilitator,** SickKids Research Training Centre Communication Series: Winning posters and effective abstracts

2016 **Course creator** of "Using Mendeley as a reference manager" workshop
Institute: The Hospital for Sick Children
Number of students: 30

2015 **Course creator** of "Using R for all your Statistical Analyses: A Practical Approach"
Institute: The Hospital for Sick Children
Number of students: 200

2010 **Teaching-assistant** of Fundamental Neurobiology (Course: ACB:6252:0001)
Institute: University of Iowa; Instructor: Dr. Martin Castle
Number of students: 100

RECENT LECTURES

2017 Title: Long-term burden of childhood cancer on neurocognitive and behavioral development
Ontario Institutes for Studies in Education of the University of Toronto, Developmental Neuropsychology
Instructor: Anne-Claude Bedard

2017 Title: Neurobiological impact of treatment of childhood cancer
University of Toronto, Department of Biology (Course: HMB450)
Instructor: Colleen Dockstader

2014, 2015 Title: The Adverse Effect of Chemotherapy on the Developing Brain
University of Toronto, Department of Biology (Course: HMB420)

PUBLIC EDUCATION

2021 Interview with the University of Iowa about research in childhood cancer (link)
2021 News blog for Dutch Huntington's Disease Advocacy Group 'Huntington KennisNet Nederland'.
2020 Interviews with local media about making MRIs more fun for kids: link to TV appearance;
2019 Podcast for Help4HD Live
2018 Interview for Cancer Knowledge Network about neurological side effects of childhood cancer
2017 Children's Mental Health Week, Centre of Brain and Mental Health, SickKids
2017 Canadian Cancer Society Toronto Research Information Outreach Team (RIOT)
2016 Creating content for public website about our research in childhood leukemia survivors www.sickkids.ca/research/QoL
2015 Neuroscience career event for high school students, Toronto Brain Bee, Speaker

PROFESSIONAL DEVELOPMENT

2020 Entering mentoring
Completion of 8 hours of evidence-based research mentor training at the University of Iowa. Curriculum Reference: Pfund, C., Handelsman, J., & Branchaw, J. (2014). Entering mentoring. WH Freeman.
2019 Write Winning Grant Proposals
Institute: University of Iowa Research Development Office
Instructor: Dr. John Robertson from Grant Writer's Seminars and Workshops (GWSW)
2017 Leadership 101 workshop to develop and improve managerial and leadership skills
Institute: The Hospital for Sick Children Research Institute
Instructor: Christine Miners
2016 Art of teaching workshop (2-month certification program)
Institute: The Hospital for Sick Children Research Institute
Instructor: Tony Key, PhD
2015 Graduate Professional Development course to develop strategic communications and self-marketing skills.
Institute: University of Toronto
Instructors: Nana Lee, Reinhart Reithmeyer

RESEARCH SUPERVISION

12/2020- Research project supervisor,
Kellen Gandy, PhD, Postdoctoral Research Associate St Jude Children's Research Hospital: Functional brain imaging outcomes in pediatric acute lymphoblastic leukemia
01/2021- PostBac supervisor,
Erin Reasoner: Neurocognitive development in leukemia patients

03/2020-09/2020	Summer student supervisor, Erin Reasoner: Tractography in DM1 Gabrielle Bierlein-De La Rosa: Cortical thickness in DM1 Lucia Wagner: Cortical thickness in child and adolescent carriers of mutant HTT
03/2020-	Undergraduate research supervisor, Hend Al-Kaylani: Characterizing academic performance in pediatric acute lymphoblastic leukemia with population-based achievement tests.
01/2019-03/2020	Volunteer supervisor, Maddison Lange: Cognitive outcomes after childhood leukemia.
05/2018-08/2018	Summer student supervisor, Anne Roche & Cole Toovey: Cortical thickness analyses in DM1 Zoe Carlson-Stadler: DMPK expression patterns across the human lifespan Mickey Sloat: Schizotypal features associated with DM1
05/2018-08/2020	Research assistant mentor, Kathleen Langbehn, Ashley Cochran, Claire Johnson, Stephen Cross, University of Iowa Hospital & Clinics. Projects: Kids-HD, DM1
01/2018-03/2018	Rotation graduate student supervisor, Darcy Waller, University of Iowa Hospital & Clinics. Project: Cortical thickness in children carrying gene-expansion for Huntington's Disease
01/2018	Internship supervisor, Kathleen Langbehn, University of Iowa Hospital & Clinics. Project: Finger-tapping in children carrying gene-expansion for Huntington's Disease
2016-2017	Student supervisor, Laura Galin-Corini, Physiology & Experimental Medicine, SickKids, Bachelor's thesis project: Do survivors of childhood leukemia have acquired attention deficit/hyperactivity disorder?
2015-2017	Student supervisor, Elizabeth Wanstall, Department of Psychology, SickKids Bachelor's thesis project: Reduced quality of life and the association with cognitive and behavioral abilities in long-term survivors of childhood leukemia. *Student accepted in Clinical Psychology program at York University (2017).*
2015-2017	Science rounds facilitator, Department of Psychiatry, SickKids
2014-2017	Volunteer supervisor, 6 students (undergraduate and master's level), Department of Psychiatry, SickKids, Projects: "Long-term effects of Methotrexate Treatment on Brain Development and Associated Function", "Quality of Life Project in Leukemia Survivors". *One student received Registered Nurses Foundation of Ontario Undergraduate Scholarship (2017)* *One student accepted in Master of Biotechnology Program at UofT Mississauga (2016)*
2013-2017	Research coordinator supervision, 6 clinical research staff members Projects: "NPhenoGENICS", "Quality of Life Project in Leukemia Survivors"

SERVICE TO INSTITUTE

2021	**Chair,** Recruitment & Admission Committee of the Neuroscience Graduate Program, University of Iowa
2020	**Member,** Recruitment & Admission Committee of the Neuroscience Graduate Program, University of Iowa

2017	**Member,** search committee for Program Head of the Neurosciences & Mental Health Program, SickKids Research Institute
2016-present	**Member,** Women in STEM initiative, SickKids
2015-2016	**Chair,** Career Development Committee, Research Institute, SickKids *CDC received SickKids President's Team Award in December 2015*
2014-2015	**Co-chair,** Career Development Committee, Research Institute, SickKids
2015-present	**Member,** Management Committee, Research Training Centre, SickKids
2015-2016	**Member,** Toronto Brain Bee, Collaborative Program in Neuroscience, UofT
2014	**Member,** Career Development Committee at SickKids
2009-2010	**Member,** Brain Awareness, University of Iowa

SERVICE TO PROFESSION

2020	**Member** of the International Neuropsychological Society
2021	**Silo Leader**, Children's Oncology Group Long Term Follow Up Neurocognitive/Psychosocial Task Force *2021: Reviewed over 600 papers to determine changes in clinical follow-up guidelines for neurocognitive deficits in childhood cancer survivors.*
2019	**Working group leader** for the International Late Effects of Childhood Cancer Guideline Harmonization Group
2019	**Member** of the Childhood Cancer Survivor Study (CCSS) Psychology Advisory Group

PhD thesis review

2019	External examiner, A multi-method study of neuropsychological functioning following treatment for acute lymphoblastic leukemia (ALL) by Blair Aronovitch, Carleton University, Ottawa, Canada

Grant and fellowship reviews

2015	University of Iowa Graduate Women in Science Fellowship
2012	SickKids Psychiatry Endowment Fund

Abstract review for conferences

2021	Guest reviewer in Neuroscience, abstracts submitted for the 2022 Annual Meeting of the American Cleft Palate-Craniofacial Association

Journal article reviews

Title	Number of reviews
American Journal of Medical Genetics: Part A	1
BMC Neurology	2
Brain and Behavior	2
Brain Imaging and Behavior	1
Brain Sciences	1

Cancer Epidemiology, Biomarkers & Prevention	1
Current Cancer Drug Targets	1
Developmental Cognitive Neuroscience	1
Developmental Rehabilitation	2
Drug & Alcohol Dependence	2
JAMA Psychiatry	2
Journal of Adolescent and Young Adult Oncology	1
Journal of Clinical & Experimental Neuropsychology	3
Journal of the International Neuropsychological Society	2
Journal of Pediatric Neurology	1
Lancet Haemotology	1
Pediatric Blood & Cancer	6
Pediatrics	1
PLOS-ONE	2
Tijdschrift voor Psychiatrie (DUTCH; Journal of Psychiatry)	1

ACADEMIC REFERENCES

Russell Schachar, MD (postdoctoral research mentor)
Department of Psychiatry, The Hospital for Sick Children 555 University Avenue, Toronto, ON, M5G 1X8;
Phone: (416) 813 6564;
russell.schachar@sickkids.ca

Brian Nieman, PhD (postdoctoral research mentor)
Mouse Imaging Centre, The Hospital for Sick Children
25 Orde Street, Toronto, Ontario M5T 3H7;
Phone: (416) 813-7654 ext. 309536;
brian.nieman@sickkids.ca

Peggy Nopoulos, MD (current mentor)
Chair & DEO, Department of Psychiatry, The University of Iowa Hospital and Clinics 200 Hawkins Dr., Iowa City, IA 52242;
Phone: (319) 353 4233;
peggy-nopoulos@uiowa.edu

APPENDIX C

Curricula Vitae of Oncology Clinical Faculty

CIANI ELLISON, MD

414-630-2867 · cellison@mcw.edu · linkedin/com/in/ciani-ellison-md-a13409bb

RESIDENT PHYSICIAN, DEPARTMENT OF RADIATION ONCOLOGY

EDUCATION

Medical College of Wisconsin (MCW), Milwaukee, WI — July 2019-present
Residency Training, Department of Radiation Oncology

Medical College of Wisconsin (MCW), Milwaukee, WI — July 2018-June 2019
Internship, Department of Internal Medicine

Medical College of Wisconsin (MCW), Milwaukee, WI — May 2018
Doctor of Medicine

United States Air Force Academy (USAFA), Colorado Springs, CO — May 2014
Bachelor of Science, Biology, Distinguished Graduate

AWARDS, CERTIFICATIONS, & TRAINING

DEA, United States Government, 12/10/2020

Optune Certification Training, 3/2021
-Registered as certified prescriber within Novocure database

The Maurice Greenberg Memorial Award, 2018
-Award given to medical student with most promise in clinical oncology, exemplary patient care, compassion, and dedication to research.

Medical College of Wisconsin Department of Surgery Travel Award, 2015

U.S. Air Force Academy Distinguished Graduate, 2014 -
Civilian university Magna Cum Laude equivalent

U.S. Air Force Academy Superintendent's List 8/8 Semesters
-Top 10% of class for overall GPA, physical fitness, and military performance

Top Student in U.S. Air Force Academy Biology Coursework, 2011, 2012, 2014

Cadet Summer Research Scholarship Recipient, 2013

Outstanding Cadet of the Quarter, 98FTS, Wings of Blue Parachute Team, 2012

PROFESSIONAL MEMBERSHIPS

International Association for Study of Lung Cancer
American Society for Radiation Oncology
American College of Physicians
American Medical Association
American Medical Women's Association
American Medical Student Association

EXPERIENCE & ACHIEVEMENTS

Medical College of Wisconsin, Senior Resident
-Mentor medical students on a daily basis that rotated through the department. Coordinate and organize monthly resident grand rounds speakers. As a senior resident, I mentor and teach junior residents, facilitate resident teaching curriculum, and organize weekly didactic schedules.

MCWAH Health and Housestaff Quality and Safety Committee, Resident Physician Representative
-Participate in monthly meetings that review prior health/safety events and work, in a collaborative, multi-disciplinary group to formulate solutions.
-Lead departmental quality improvement project involving dental health/care in H&N cancer patients.

MCW Radiation Oncology Patient Safety & Quality Improvement, Resident Physician Representative & Liaison
-Serve as a resident representative on the Department of Radiation Oncology's monthly Patient Safety & Quality Improvement meetings as a resident liaison for safety issues pertaining to residents.

MCW Radiation Therapy Student Instructor
-Instruct radiation therapy students on various disease sites multiple times per year as part of their teaching curriculum with focus on basiv oncologic principles, patient set-up techniques at time of simulation, radiation treatment planning, and potential acute toxicities.

MCW Radiation Oncology, Chief Resident (rising)
-*To serve as chief resident for the 2022-2023 Academic year:* Will directly mentor junior residents on a 1:1 basis to meet individual personal and professional goals.
-Serve and advocate for the entire residency cohort and act as a liaison between the residents, faculty resident leadership, and other faculty.
-Will implement, for the first time in our department, a formalized "Resident Wellness & Camaraderie" program that involves 2 scheduled and department sponsored events per year along with resident social/bonding events throughout the academic year.

MCW Radiation Oncology, Resident "Social & Events Chair"
-Planned, coordinated, and organized numerous resident get togethers including Christmas parties, gingerbread house decorating, hiking excursions, cabin trips, socially distanced game nights during the height of the COVID-19 pandemic,
-Served as the "Event Chair" for the graduating chiefs graduation ceremony for the 2019-2020 and 2020-2021 academic years that involved planning, coordinating with department finance department, and executing the events.

MCW Department of Radiation Oncology Stronger than Sarcoma Fundraiser, Volunteer & Philanthropy Chair
-Educate local business owners on the importance of sarcoma research and coordinate donations for Stronger than Sarcoma Soiree silent auction.
-Coordinate & organize other volunteers in preparation for annual Stronger than Sarcoma Soiree for 2019 and upcoming 2022 event.

WISCONSIN ATHLETIC CLUB, GROUP FITNESS INSTRUCTOR
-PLAN AND TEACH 1-2 SPIN CLASSES PER WEEK WITH EMPHASIS ON MOTIVATING CLUB MEMBERS TO ACHIEVE THEIR HEALTH AND FITNESS GOALS.

TECHNICAL EXPERIENCE

External Beam Radiation Therapy
-Three-dimensional conformal radiation therapy (3D-CRT)
-Intensity modulated radiation therapy (IMRT)
-Volumetric arc therapy (VMAT)
-Helical IMRT (Radixact ®)

Linac-Based Stereotactic Body Radiotherapy (SBRT):
-Lung, liver, pancreas, and spine

Stereotactic Radiosurgery (SRS):
-Gamma Knife ® Icon ™

Brachytherapy:
-Low dose rate (LDR) prostate seed implant
-High dose rate (HDR) intracavitary and interstitial treatment for gynecologic malignancies
-LDR ocular plaque brachytherapy

Radiopharmaceuticals:
-Radium-223
-Iodine-131

Simulation:
-CT-based and MR-based

Image-Guidance Systems and Motion Management:
-Cone-beam CT (CBCT)
-CT-on rails (CTOR)
-Four-dimensional CT (4DCT) for gated and non-gated treatment planning

---

ABSTRACTS, PUBLICATIONS, AND PRESENTATIONS

Manuscripts:

1. **Ellison C,** King D, Neilson J, Wooldridge A, Charlson J, Hackbarth D, Johnston C, Bedi M. Pre-Operative Radiation Performed at a Non-Sarcoma Center May Lead to Increased Wound Complications Following Resection in Patients with Soft Tissue Sarcomas. *American Journal of Clinical Oncology.* December 2021.
2. Ristow J, **Ellison C** Mickschl D, Grindel S (Ellison, C.M., Ristow, J. J., Mickschl, D. J., & Grindel, S. I). Clinical Assessment and Treatment of Humeral Head Avascular Necrosis and Outcomes of Intervention. Journal Shoulder and Elbow Surgery. 2019.
3. **Ellison C**, Lyndon S. Staying Topical: An Unusual Case of Serotonin Syndrome. Letter to the Editors-Case Reports; *Journal of Clinical Psychopharmacology*. October 2017.

Abstracts/Presentations:

1. **Ellison C,** Griffiths C, Thompson J, Arapi I, Martens M, Gore E. Immunotherapy Toxicity in Lung Cancer & The Impact of Thoracic Radiation Therapy. *Presented at 2021 World Conference on Lung Cancer via poster presentation*
2. **Ellison C**, Johnstone C, King D, Bedi M. Pre-Operative Radiation Performed at a Non-Sarcoma Center May Lead to Increased Wound Complications Following Resection in Patients with Soft Tissue Sarcomas. *Presented at ASTRO's 59th Annual Meeting 2017 via Oral Presentation & Publication in abstract form in the The International Journal of Radiation Oncology*
3. Bedi M, Charlson J**, Ellison C**, Johnstone C, Turaga K. The Impact of Increasing Time to Pre-Operative Radiation on Outcomes in Patients with Soft Tissue Sarcomas. *Presented at ASTRO's 59th Annual Meeting 2017 for poster presentation & Publication in The International Journal of Radiation Oncology*
4. **Ellison C** & Lyndon, S. An Unusual Case of Serotonin Syndrome from Topical Amitriptyline. *Presented at APM's 2017 Annual Meeting via poster presentation*
5. **Ellison C**, Ristow J, Mickschl D, Grindel S. Clinical Assessment and Treatment of Humeral Head Avascular Necrosis. *Presented at the Medical College of Wisconsin Medical Student Summer Research Program Research Day, October 2015; American Medical Student Association's 21st Annual Project, Research, and Experience Exhibition, April 2016 in poster form*
6. **Ellison C**, Dunn B, Schuman O. USAFA Vector-Borne Disease Analysis. *Presented at the USAFA Cadet Summer Research Symposium 2013 via oral presentation*
7. **Ellison C,** Maresh R. Effect of Diminished PRR15 Expression on Selected Genes. *Presented at the Colorado Springs Undergraduate Research Forum, April 2013 via poster presentation*

PROFESSIONAL REFERENCES

Dr. Adam Currey
Associate Professor, Medical Residency Program Director
Email: acurrey@mcw.edu
Phone: (414)-805-4472 (work)

Dr. Meena Bedi
Associate Professor, Research & Residency Mentor
Email: mbedi@mcwedu
Phone: (414)-805-4488 (work)
(319)-594-8915 (cell)

Dr. Colleen Lawton
Professor, Vice Chair, Clinical Director of Radiation Oncology
Email: clawton@mcw.edu
Phone: (414)- 805-4471 (work)

Dr. Selim Firat
Associate Professor, Director of Pediatric Radiation Oncology at Children's Hospital, Medical Director of Radiation Oncology, Drexel Town Square Health Center
Email: sfirat@mcw.edu
Phone: (414)-805-4454

Dr. Elizabeth Gore
Professor, Medical Director of Radiation Oncology, Zablocki VA Medical Center
Email: egore@mcw.edu
Phone: (414)-805-4493 (work)

Dr. Beth Erickson-Wittmann
Professor
Email: berickson@mw.edu
Phone: (414)-805-4462 (work)

Dr. William Hall
Associate Professor
Email: whall@mcw.edu
Phone: (414)-805-4477 (work)

SRI J OBULAREDDY, MD
Yakima Valley Memorial
North Star Lodge Cancer Center
4505 Fechter Rd, Yakima, AW 98908
: (248) 202-6035
✉: sriobulareddy@yvmh.org

PROFESSIONAL/WORK EXPERIENCE

- **Physician – Hematology/Oncology** Dec 2017 - Current
  Yakima Valley Memorial
  North Star Lodge Cancer Center, Yakima,
  WA 70% Oncology and 30% Hematology
  PI for all Clinical Trials at the clinic

- **Physician – Hematology/Oncology** July 2016 – Dec 2017
  Sanford Health, Dickinson, ND
  Practice areas - Medical Oncology and Hematology
  Instrumental in setting up and maintaining a standalone Heme/Onc Practice

EDUCATION & TRAINING

- **Medical Oncology, Fellowship** 2014 – 2016
  The University of Texas Medical Branch, Galveston, TX

- **Internal Medicine, Residency** 2011 – 2014
  The University of Texas Medical Branch, Galveston, TX

- **Junior Resident in Hematology and Oncology** 2004 – 2006
  Yashoda Cancer and Multispecialty Center, Hyderabad, India

- **Internship** 2003 – 2004
  King George Hospital and Andhra Medical College
  associated Hospitals, Visakhapatnam, India

- **Bachelor of Medicine and Bachelor of Surgery (M.B.B.S)** 1999 – 2004
  Andhra Medical College, Dr. NTR University of Health Sciences, AP, India

BOARD CERTIFICATIONS – AMERICAN BOARD OF INTERNAL MEDICINE

- Internal Medicine – ABIM 2014
- Medical Oncology – ABIM 2016

OTHER EDUCAITON

- **Master of Science in Occupational and Environmental Health** 2006 – 2009
  Stephen F. Austin State University, Nacogdoches, TX

SRI J OBULAREDDY, MD
Yakima Valley Memorial
North Star Lodge Cancer Center
4505 Fechter Rd, Yakima, AW 98908
: (248) 202-6035
✉: sriobulareddy@yvmh.org

CURRENT MEDICAL LICENSURE

- **Washington Medical Quality Assurance Commission** Sept 2017 – Current

ACADEMIC DISTINCTIONS

- **Best overall clinical research award** 2012 - 2013
  The University of Texas Medical Branch, Galveston, TX

PUBLICATIONS:

- Phase 1 study of Pazopanib and Ixabepilone in Patients with Solid Tumors: To determine the optimal tolerated regimen (OTR) of combination Pazopanib and Ixabepilone during the first cycle of therapy for the treatment of advanced, previously treated solid tumor malignancies. Ganesan C, Obulareddy SJ, Fischer J, Pharm D, Antonysamy M, Jha G, Bliss R, Dudek A. American Journal of Clinical Oncology. 2016 June; 39(3):280-287.

- Trends of MRI use to Evaluate Breast Cancer in the Texas Medicare Population: Washington TM, Chedid SS, Zhang W, Chao C, Obulareddy S, et al. Journal of Cancer Prevention and Current Research. 2016 October; 6 (1): 00188.

- Metanephric Adenoma of the kidney: an usual diagnostic challenge. Obulareddy SJ, Junqing Xin, Truskinovsky A, Anderson J, Franklin M, Dudek A. Journal of Rare Tumors. 2010 May; 2(3): 103-105.

PRESENTATIONS:

- Phase 1 study of Pazopanib and Ixabepilone in Patients with Solid Tumors: To determine the optimal tolerated regimen (OTR) of combination Pazopanib and Ixabepilone during the first cycle of therapy for the treatment of advanced, previously treated solid tumor malignancies.

  Presented at the American Association of Cancer Research, Annual Conference, Washington. April 2013

  Presented at the annual quality and research forum, University of Texas Medical Branch, Galveston, TX. May 2013

SRI J OBULAREDDY, MD
Yakima Valley Memorial
North Star Lodge Cancer Center
4505 Fechter Rd, Yakima, AW 98908
: (248) 202-6035
✉: sriobulareddy@yvmh.org

PROFESSIONAL MEMBERSHIPS

- American Society of Clinical Oncology
- American Society of Hematology
- American Association of Cancer Research
- American College of Physicians

REFERENCES:

Dr. Siva Mannem, MD
Physician - Division of
Hematology/Oncology Virginia Mason
Memorial
North Star Lodge Cancer Center, Yakima,
WA Phone: (980) 253 - 9172
Email: sivamannem@yvmh.org

Additional References provided upon request

Maria Paula Ruiz, D.O., M.S.
(651) 331-9139
10460 SW27th Place, Gainesville FL 32608
mariapruiz00@gmail.com

Education

Gynecologic Oncology Fellowship
July 2017 - June 2020
Gynecologic Oncology Division
Department of Obstetrics & Gynecology
Columbia University Medical Center and Weill Cornell Medical College
New York Presbyterian Hospital
New York, NY

Gynecologic Oncology Felix Rutledge Fellowship
December 2015
Department of Gynecologic Oncology and Reproductive Medicine
The University of Texas M.D. Anderson Cancer Center
Houston, TX

Obstetrics & Gynecology Residency
July 2013 - June 2017
Department of Obstetrics & Gynecology
Truman Medical Center and St Luke's Hospital
University of Missouri Kansas City
Kansas City, MO

Doctor of Osteopathic Medicine
Medical School
July 2009 - May 2013
Des Moines University College of Osteopathic Medicine
Des Moines, IA

Master of Science in Anatomy
Graduate School
July 2008 - July 2010
Des Moines University College of Osteopathic Medicine
Des Moines, IA

Bachelor of Science in Biology
Undergraduate School
July 2002 - August 2006
College of Biological Sciences
University of Minnesota-Twin Cities
St Paul, MN

Awards

Roy M Pitkin Award 2018 Obstetrics & Gynecology Green Journal (May 2019)
Article "Outcomes of hysterectomy performed by very low-volume surgeons"

Recognition of Excellence in Minimally Invasive Gynecology Award 2017
American Association of Gynecologic Laparoscopists

Glanton Scholarship recipient (2009-2013)
Des Moines University College of Osteopathic Medicine

Maria Paula Ruiz, D.O., M.S.
(651) 331-9139
10460 SW27th Place, Gainesville FL 32608
mariapruiz00@gmail.com

Board Certification

Gynecologic Oncology - American Board of Obstetrics & Gynecology (2022)
Obstetrics and Gynecology - American Board of Obstetrics & Gynecology (2019)

Memberships

Society of Gynecologic Oncology (SGO)
American Society of Clinical Oncology (ASCO)
American Association of Gynecologic Laparoscopists

Experiences

Clinical

Gynecologic Oncologist
August 2020 - Present; Gainesville Gyn Oncology
HCA Florida - North Florida Hospital

Leadership

Administrative Chief Resident
July 2016 - June 2017; Department of Obstetrics and Gynecology
University of Missouri Kansas City

Research

Journal Articles

Ruiz MP, Chen L, Hou JY, Tergas AI, St Clair CM, Ananth CV, Neugut AI, Hershman DL, Wright JD. Effect of Minimum-Volume Standards on Patient Outcomes and Surgical Practice Patterns for Hysterectomy. Obstet Gynecol. 2018; 132: 1229-1237. PMID: 30303921.

Wright JD, **Ruiz MP**, Chen L, Gabor LR, Tergas AI, St Clair CM, Hou JY, Ananth CV, Neugut AI, Hershman DL. Changes in Surgical Volume and Outcomes Over Time for Women Undergoing Hysterectomy for Endometrial Cancer. Obstet Gynecol. 2018; 132: 59-69. PMID:29889759.

Ruiz MP, Chen L, Hou JY, Tergas AI, St Clair CM, Ananth CV, Neugut AI, Hershman DL, Wright JD. Outcomes of Hysterectomy Performed by Very Low-Volume Surgeons. Obstet Gynecol. 2018; 131(6): 981-990. PMID: 29742669.

Ruiz MP, Huang Y, Ananth CV, Wright JD. Reply. Reference Title: All-Cause Mortality in Young Women with Endometrial Cancer Receiving Progesterone Therapy. Am J Obstet Gynecol. 2018; Mar 9; PMID: 29530676.

Ruiz MP, Wright JD. Reply. Reference Title: All-Cause Mortality in Young Women with Endometrial Cancer Receiving Progesterone Therapy. Am J Obstet Gynecol. 2018; 218 (3):363-364; PMID: 29175246.

Ruiz MP, Huang Y, Hou JY, Tergas AI, Burke WM, Ananth CV, Neugut AI, Hershman DL, Wright JD. All-Cause Mortality in Young Women with Endometrial Cancer Receiving Progesterone Therapy. Am J Obstet Gynecol. 2017; 217(6): 669.e1-669.e13. DOI: 10.1016/j.ajog.2017.08.007; PMID: 28844824.

Ruiz MP, Williams EM, Markey CM, Johnson AM, Morales-Ramirez PB. Can Surgery be Avoided? Exclusive Antibiotic Treatment for Pelvic Actinomycosis. Case Rep Obstet Gynecol. 2017; PMID: 28299218

Schrufer-Poland TL*, **Ruiz MP***, Kassar S, Tomassian C, Algren SD, Yeast JD. Incidence of Wound Complications in Cesarean Deliveries Following Closure with Absorbable Subcuticular Staples versus Conventional Skin Closure Techniques. Eur J Obstet Gynecol Reprod Biol. 2016; 206: 53-56. PMID: 27632411. ***co-first authors, contributed equally**

Ruiz MP, Morales-Ramirez PB, Dziadek OL, Algren SD. Epithelial Ovarian Cancer and Type of Peritoneal Insult: A Case-Control Study. Eur J Obstet Gynecol Reprod Biol. 2016; 205: 170-3. PMID: 27614171.

Ruiz MP, Dziadek OL, Algren SD. Nonsurgical Management of Neuroendocrine Cancer of the Cervix: Brief Report**.** Int J Gynecol Cancer. 2016; 26: 1290-92. PMID: 27362749.

Maria Paula Ruiz, D.O., M.S.
(651) 331-9139
10460 SW27th Place, Gainesville FL 32608
mariapruiz00@gmail.com

Ruiz MP, Wallace DL, Connell MT. Transformation of Abdominal Wall Endometriosis to Clear Cell Carcinoma. Case Rep Obstet Gynecol. 2015; PMID: 26457213

Book Chapter

Chapman-Davis E, **Ruiz MP**. Cervical Cancer; Gynecologic Oncology. Scientific American Obstetrics and Gynecology. 2017; Decker Intellectual Properties Inc. https://www.deckerip.com/products/scientific-american-obstetrics-and-gynecology/table-of-contents/

Poster Presentations

Ruiz MP, Ling C, Hou JY, Tergas AI, St. Clair CM, Ananth CV, Wright JD. Trends in Regionalization of Care and Outcomes for Uterine Cancer. Poster session to be presented at: Society of Gynecologic Oncology; 2018 March; New Orleans, LA

Ruiz MP, Ling C, Hou JY, Tergas AI, St. Clair CM, Ananth CV, Hershman DL, Wright JD. Performance of Hysterectomy by Very Low-Volume Surgeons and Their Outcomes. Poster session to be presented at: Society of Gynecologic Oncology; 2018 March; New Orleans, LA

Ruiz MP, Huang Y, Hou JY, Tergas AI, Burke WM, Hershman DL, Wright JD. Safety of Progestational Therapy in Young Women with Endometrial Cancer. Featured Poster session presented at: Society of Gynecologic Oncology; 2017 March 11-15; National Harbor, MD

Ruiz MP, Schrufer-Poland TL, Kassar S, Tomassian C, Algren SD, Yeast JD. Incidence of wound complications in cesarean deliveries following closure with absorbable subcuticular staples versus conventional skin closure techniques. Poster session presented at: *Society for Reproductive Investigation's 63rd Annual Scientific Meeting*; 2016 Mar 16-19; Montreal, Canada.

Folabo DY, **Ruiz MP**, Crawford T. Variation of the Chorda Tympani in the Infratemporal Fossa. Poster session presented at: *Experimental Biology Conference*; 2010 Apr 24-28; Anaheim, CA.

Oral Presentation

Outcomes of Hysterectomy Performed by Very Low-Volume Surgeons. Oral presentation at *OncLive National Fellows Forum: Gyn-Onc*. Miami, FL, *April 26-28, 2018.*

Epithelial Ovarian Cancer and Type of Peritoneal Insult: A Case-Control Study. Oral presentation at *Kansas City Gynecological Society Meeting,* Kansas City, MO, *May 19, 2016.*

Corporate Research Experience

Research Assistant
July 2006-April 2007
Principal Investigator: 3M Medical Toxicologist, Dr. John L. Butenhoff
Medical Toxicology Department, 3M Headquarter Center, Saint Paul, MN

Languages

English and Spanish

VIVEK YADALA
CURRICULUM VITAE

PERSONAL INFORMATION

Name: Vivek Yadala
Address: 401 10th Street, Apt. 1004, Huntington, WV 25701
Email: yadalavivek.dr@gmail.com
Phone: 501-400 -2977
Alternate Phone: 859- 948- 8883

Citizenship: India

Current Visa status: H1b

GRADUATE EDUCATION

Year of graduation - 2012, Bachelor of Medicine and Surgery (M.B.B.S)
BLDE University's Sri B. M. Patil Medical College, Bijapur, India

ECFMG: Certified

American Board of Internal Medicine Certified - 2020

U.S CLINICAL AND RESEARCH EXPERIENCE:

Fellowship:
Hematology/Oncology Fellowship at Marshall University School of Medicine
Huntington, WV
Start Date: July 1, 2020
Expected Completion Date: 6/30/2023

Residency:
Internal Medicine (PGY 2,3) at Marshall University School of Medicine: July 2018 – June 2020
Huntington, WV

Residency:
Preliminary Year IM (PGY-1) at University of Arkansas for Medical Sciences:
Little Rock, AR July 2017 – June 2018

Research:

University of Kentucky, Lexington, KY May 2016 – August 2016

Vascular Neuroscience Laboratory Mar 2015 – April 2016
New York Medical College, Valhalla, NY

Observerships:

University of Kentucky, Lexington, KY May - Aug 2016

Eastern Maine Medical Center, Bangor, Maine	Jan - Feb 2015
Maria-Fareri Children's Hospital, NY	July - Oct 2015

Clerkships:

Shafa Medical Center (Primary Care Center), CT	May - Jul 2014
Weill Cornell Medical College/Cornell University, NYC	Feb - Apr 2011

PUBLICATIONS:

Poster/Oral Presentations:

1.Breast cancer in a patient with Birt-Hogg-Dubé syndrome (BHDS) with dramatic response to neoadjuvant chemotherapy- **ACP West Virginia Chapter 2019, Received Best Poster Award for West Virginia.**

2.A case of Listeria Rhombencephalitis: Emphasizing good outcome with awareness and prompt treatment- **American Academy of Neurology**, April 2018.

3. Tropical Cephalalgia-A new clinical entity: At 54th Annual Scientific Meeting, **American Headache Society**, Los Angeles, California held in June 2012.

4. Recurrent Strokes in Giant Cell Arteritis: Treatment Dilemma: At 68th **Annual American Academy of Neurology (AAN)** meeting held in Vancouver, Canada in April 2016.

5.Immunotherapy induced sarcoid like granulomatosis in the treatment of metastatic Melanoma (Sarcoidosis: shrewd imitator) – **ACP West Virginia Chapter 2019**

6. Pembrolizumab Induced Myositis, Myocarditis and Complete Heart Block in The Setting of Squamous Cell Lung Carcinoma: **ACP West Virginia Chapter 2021**

7. COVID-19 vaccination associated severe Immune thrombocytopenic purpura - **ACP West Virginia Chapter 2021**

Peer Reviewed Journal Articles/Abstracts:

8. **Yadala V**, Jafri H, Legenza MT, Tirona M. Breast cancer in a patient with Birt-Hogg-Dubé syndrome (BHDS) with dramatic response to neoadjuvant chemotherapy. BMJ Case Reports CP. 2020 Feb 1;13(2).

9. Yasin, Hassaan, **Vivek Yadala**, Noman Ahmed Jang Khan, Vincent Graffeo, Krista Denning, and Yehuda Lebowicz. "Immunotherapy-Induced Sarcoid-Like Reaction: A Shrewd Imitator." *Journal of Investigative Medicine High-Impact Case Reports* 9 (2021): 23247096211009400.

10. Nalini, Yadala, **Vivek Yadala**, Sunil Devika, and Swamy S. Thirumalai. "Rapid ARC Radiotherapy in a Patient with Bilateral Breast Carcinoma-10 Year Follow UP." *Journal of Contemporary Medical Research* 6, no. 12 (2019): L1-L4.

11**. Yadala, Vivek** , Singh, Davinder; Deol, Amar; Dotson, Jennifer: "Pembrolizumab Induced Myositis, Myocarditis and Complete Heart Block in The Setting of Squamous Cell Lung Carcinoma"

12. Jafri, Hassaan Raza, Isna Batool Khan, Ahmad Abu-Hashyeh, **Vivek Yadala**, Hassaan Yasin, Todd Gress, and Maria Tirona. "CLO20-040: Factors Influencing Survival of Patients Treated for Spinal Metastases at a Regional Cancer Center in Appalachia." *Journal of the National Comprehensive Cancer Network* 18, no. 3.5 (2020): CLO20-040.

13. Shenouda, Mina, **Vivek Yadala**, Jennifer Dotson, and Toni Pacioles. "QIM20-134: Genetic Testing for At-Risk Patients With Colorectal and/or Pancreatic Cancer at Our Institution, a Quality Improvement Project." *Journal of the National Comprehensive Cancer Network* 18, no. 3.5 (2020): QIM20-134.

14. Dohare, Preeti, Muhammad T. Zia, Ehsan Ahmed, Asad Ahmed, **Vivek Yadala**, Alexandra L. Schober, Juan Alberto Ortega et al. "AMPA-Kainate Receptor Inhibition Promotes Neurologic Recovery in Premature Rabbits with Intraventricular Hemorrhage." **The Journal of Neuroscience** 36, no. 11 (2016): 3363-3377.

15. Dohare, Preeti, Bokun Cheng, Ehsan Ahmed, Vivek Yadala, Pranav Singla, Sunisha Thomas, Robert Kayton, Zoltan Ungvari, and Praveen Ballabh. "Glycogen synthase kinase-3β inhibition enhances myelination in preterm newborns with intraventricular hemorrhage, but not recombinant Wnt3A." *Neurobiology of disease* 118 (2018): 22-39.

16. Ganesh Y, **Yadala V**, Nalini Y. Tropical Cephalalgia-A new clinical entity. **Headache**-The journal of face and pain / American Headache Society. 2012 Jun; 52(6): 1054.

17. Ganesh Y, **Yadala V**, Nalini Y, Dal A, Raju AD. Huge mediastinal mass with minimum symptoms-Thymolipoma. British Medical Journal-Case Reports. 2011 Mar; 10(1136): 2984. Cited in PubMed; PMID: 22699472.

18. Ganesh, Y., **Yadala, V**., Reddy, I. S., & De Padua, M. (2015). A rare case of fever of unknown origin: subcutaneous panniculitis-like T-cell lymphoma (SPTCL). *BMJ case reports*, *2015*, bcr2015211355.

19. Ganesh, Y., **Yadala, V**., Vemula, B., Kammela, N. (2015). Multiple aneurysms and Rosai-Dorfman's disease - Association or coincidence? *BMJ Case Reports* 2015; doi:10.1136/bcr-2015-212189

20. **Yadala, Vivek**, Parvinder Kaur, Ramandeep Sahni, and Paul Eugene Lleva. "Recurrent Strokes in Giant Cell Arteritis: Treatment Dilemma (P4. 374)."*Neurology* 86, no. 16 Supplement (2016): P4-374.

21. Is octreotide the answer to resistant Hepatic Hydrothorax? – **Society of Critical Care** Medicine's 46th Critical Care Annual Congress, January 2017

INDIA, CLINICAL EXPERIENCE:
House Staff Physician – Dept. of Internal Medicine and Dept. of Neurology Jan 2012 – May 2014

Hobbies and Interests:
Running, playing tennis, cricket, table tennis/ping pong. Watching Formula 1, and movies.

APPENDIX D

2022 Winthrop P. Rockefeller Cancer Institute External Advisory Board Bios

2022 Winthrop P. Rockefeller Cancer Institute EAB 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. Odubsi pioneered the development of antigen-specific vaccine therapy and “next generation” adoptive T-cell immunotherapies to prolong remission rates in women with ovarian cancer. Dr. Odunsi received his medical degree from the University of Ife and his doctoral degree from the Imperial Cancer Research Fund Laboratories, MRC Weatherall Institute of Molecular Medicine, John Radcliffe Hospital, in Oxford, United Kingdom. He completed his residencies in obstetrics and gynecology at the Rosie Maternity and Addenbrooke’s Hospitals, University of Cambridge, and Yale University School of Medicine. His fellowship in gynecologic oncology was at Roswell Park Comprehensive Cancer Center, in Buffalo, New York, where he joined the faculty in 2001 and remains. Dr. Odunsi’s research interests focus on understanding the mechanisms of immune recognition and tolerance in human ovarian cancer, and the translation of the findings to clinical immunotherapy trials.

Marcela G. del Carmen, MD, MPH
Professor of Obstetrics, Gynecology and Reproductive Biology
Executive Vice President at Mass General Brigham
President of the Massachusetts General Physicians Organization
Division of Gynecologic Oncology
Massachusetts General Hospital
Boston, MA

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

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

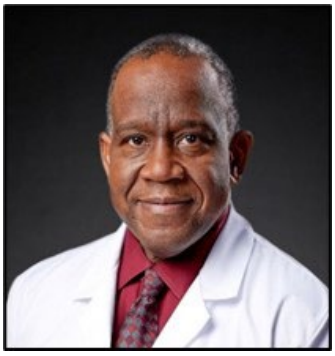
Edward Chu, MD, MMS, received his undergraduate, graduate, and medical degrees from the Brown University Program in Liberal Medical Education and continued at Brown to complete his internal medicine residency. Dr. Chu currently serves as the Deputy Director of the University of Pittsburgh Medical Center's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

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

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

Chad A. Ellis, PhD
Deputy Director, Research Administration
Hillman Cancer Center
University of Pittsburg Medical Center
Pittsburgh, PA

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



John Farley, MD, COL (ret), FACOG, FACS
Division of Gynecologic Oncology
Center for Women's Health
Dignity Health Cancer Institute
Phoenix, AZ

John Farley, MD, COL (ret), is a board-certified gynecologic oncologist at Dignity Health – Cancer Institute and the Division of Gynecologic Oncology at the Center for Women's Health at Dignity Health St. Joseph's Hospital and Medical Center. He is dual board certified in obstetrics and gynecology. Dr. Farley's expertise includes clinical trial design, new drug development, and treatment of complex gynecologic malignancies. He is a member of NRG Oncology, American Association of Cancer Research, Society of Gynecologic Oncologists, American Society of Clinical Oncology, and is a Fellow of the American Congress of Obstetricians and Gynecologists. In 2020, he received the Uniformed Services University of the Health Sciences Distinguished Alumni Award and the Society of Gynecologic Oncology Ambassador Award. Dr. Farley is a highly decorated Colonel in the 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.

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.

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

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

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

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

APPENDIX E

2022 Winthrop P. Rockefeller Cancer Institute External Advisory Board Comments

Winthrop P. Rockefeller Cancer Institute (WPRCI)
External Advisory Board (EAB)
Meeting Date: August 2, 2022

Director's Overview

Comments

- EAB impressed with Chancellor's commitment to cancer as a priority at UAMS and NCI designation goal: merger of Myeloma Institute with Cancer Institute, championed allocation of medical marijuana tax revenues solely to WPRCI, promoted digital health initiative, views WPRCI as serving 3M Arkansas residents
- EAB pleased with appointment of Michael Birrer as WPRCI Director; exceptionally qualified: internationally recognized clinical scientist, track record of sustained impact on cancer research, previous leadership roles nationally and as former director of NCI-designated O'Neal University of Alabama Cancer Center
- Dr. Birrer has already created the foundation for WPRCI to achieve NCI-designation and developed a strategic plan. The EAB would like to see the completed plan and how it is driving priorities. Faculty recruitment should align with the strategic plan and priorities.
- Dr. Birrer has clear authority of entire cancer enterprise (research, cancer service line, education and training, community outreach and engagement).
- Significant package given to the Director by the institution in 2020 to be used to direct and support WPRCI activities, including discretionary dollars and the annual operating budget. Dr. Birrer has been an excellent steward of these resources and has allocated them transparently with direction from the strategic plan. Important to continue to invest in recruiting faculty and track ROI with respect to research productivity, clinical volumes, trial accrual, and leading national trials. Important to develop the leadership team so that Dr. Birrer is not over-committed.
- Impressive recruitment success during the pandemic.
- Dr. Birrer and WPRCI leadership have been fully and actively engaged in molding WPRCI not only towards NCI designation but to have increased local, regional, and national impact.
- Large rural population is unique characteristic of AR and Marshallese population offers opportunity for WPRCI to create a niche for itself. Opportunity for WPRCI to lead the nation in how to bring rural patients to clinical trials, treatments, and navigation programs. Possibility to truly integrate network sites in standard clinical practice and clinical trials.
- Noted accomplishments: 1) reorganization of CTO is already leading to an expanded portfolio and reduction is the start-up timeline; 2) appointment of new leaders; 3) consolidation of cancer service line under WPRCI; 4) new $10M breast center, $4M Phase 1 unit, $3M infusion center; 5) $19M in philanthropic gifts since 2019; 6) development of statewide navigator program. Must begin to develop metrics of success and their impact.
- Number R01/R01-equivalent awards is adequate for Cancer Biology, but needs to be improved for other programs, particularly DDHR. Consider merging some of the programs.
- WPRCI is a small center with a large number of members and modest peer-reviewed funding. Reconsider membership criteria to be more rigorous with a significant reduction in members.
- Physical Space and Organizational Capabilities appear strong. Significant ongoing efforts to catalyze transdisciplinary collaborations (seminars, seed funding, mentoring, and relationship with CTSA). EAB expects these efforts to bear fruit in the near future.

Suggestions

1. Leverage unique features and strengths. There is a desert of NCI Cancer Center Catchment (CCC) Areas in this area.
2. Define priorities and metrics of success.

3. Explain relationship between UAMS, WPRCI, and Baptist network. What does it mean to supply their cancer services and how will that translate into clinical research?
4. Explain the relationship with the Myeloma Center and how it was integrated with the CI; highlight this strength.
5. Explain how research programs were chosen. Consider the number and overlap. Could address via strategic planning process.
6. Since there is not a designated clinical research program, think about which program claims accruals and make sure to report per year or per 5 years and not the life of the trial. Might be a good idea to have a co-leader of each program who is a clinical investigator.
7. How can navigators improve access and accrual to clinical trials? Need to show link between COE and clinical trials.
8. What does it look like to have rural decentralized clinical trials or a rural research network? Could WPRCI be well-suited to define this? Do you want to take this on? Is this a nexus for clinical research and COE?
9. Play up Phase 1 unit in one of the research programs (maybe DT) and what trials have come out of that.
10. Great institutional support for centralized regulatory and IND support. Be sure to explain how cancer trials are prioritized so there is no bottleneck.
11. Not much presentation about investigators and trials from ACH, GYN ONC, and radiation oncology groups. Highlight those supported by the CTO.

Community Outreach and Engagement

Comments

- Built on strong foundation of COE, population-focused research, and community education and screening
- Team is highly experienced and well-qualified (Dr. McElfish has fitting expertise; lead staff Ms. Wilson and Dr. German as well); activities are positioned to be successful in the develop of activities for CCSG proposal
- Logic model shows appropriate outcomes, CAB is highly engaged, impressive network of CHWs and navigators, noted collaborations with schools and UAMS' CTSA
- Unique opportunities to address disparities in the catchment area
- Questions regarding the degree to which COE is driving the cancer center's research and community agendas:
    - What are priority cancer-related research needs in the catchment area? COE should mine data for cancer mortality, selected behaviors, incidence, prevalence, SDOHs, and trends over time, ideally broken out by sub-populations to justify foci; some concern that planned.
    - What is infrastructure and process for how CAB and other stakeholders inform the selection of priority areas to address through the center's research? Should involve bidirectional discussion from stakeholders, buy-in from cancer center members, and an alignment with existing strengths
- Some concern primary data collection will not be completed until Spring 2023 – recommend initiating data collection now with refinements to follow as local data collection is completed
- Description of catchment area needs in the current form is generic; all cancer centers focus on the "biggies" like lung and breast
- Unclear how COE is informing clinical trials education and recruitment among minority populations and/or for priority cancer concerns
- Would be helpful for COE to describe the infrastructure to communicate community needs to WPRCI leadership and researchers, catalyze research, and facilitate clinical trials accruals. Example of Marshallese population is promising but need to describe how it is being scaled up to catalyze research in all four programs. Justification of focus on Marshallese population was not clear.

- Need to describe how CHWs and navigators are being trained and deployed to address cancer control needs in the catchment area. What is the alignment of mobile screenings with where priority populations reside? How is COE addressing SDOH and/or other barriers across the cancer care continuum?

Suggestions

1. Consider reorganizing specific aims such that assessment of cancer burdens in catchment area precede or align better with community and stakeholder engagement.
2. Clarify the metrics being used to measure short- and mid-term outcomes. Specify outcome metrics or process metrics.
3. Describe how COE is collaborating with other CCSG components to build pipeline of programs and trainees from rural and minority communities.
4. COE should focus on aligning efforts to demonstrate impacts in catalyzed research, dissemination of evidence-based inventions, and public health advocacy.

Clinical Research

Comments and Suggestions

- Important and unique feature of catchment area is that it is very rural and poor; should be highlighted and leveraged in a COE/clinical research joint effort that would improve care and trials access across these populations.
- Specific aims are strong but need to link to other efforts (like COE and rural health efforts) and the strategic plan.
- Need to think about pipelines of staff to CTO office from UAMS and other regional community colleagues (i.e., data tech program at U of A Ft. Smith). Career ladders are helpful.
- How does this core related to the programs?
- Slide #51 confusing as it combines early phase clinical trials with mobile vans.
- Need to lead presentation with accrual data and types of trials and link this data to areas of focus in the catchment area.
- DSMC needs to be a standing committee with a charter.
- Presentation showed great amount of reorganization and growth; comment raised on hiring 90 staff to support 120 accruals.
- Portfolio: Prioritizing IITs is good and suggest >30%. Need clinical trialists to collaborate with basic scientists and design and run trials. Need to be sure that clinical trialists recruited have time to design and run trials.
- Data Table 4 has many cooperative group trials listed but relatively few PIs.
- Since there is not a dedicated clinical research program, need to think about which program claims accruals and report per year or 5 years (not the life of the trial).

Cancer Prevention and Populations Sciences

Comments and Suggestions

- Program represents strong foundation to support obtaining NCI designation.
- Focus to define actionable cancer etiology and risk factors underlying health disparities across urban-rural continuum in AR" too limited to cover type of impact program should strive for. Statement is not consistent with aims that also include interventions and immunology. Consider broader statement that includes reducing cancer burden, interventions, translational impact, or other high-level goals as opposed to etiology only. Consider type of malignancies that uniquely pose a high level of public health burden in AR.
- Example provided for Aim 1 is not an etiological study but an intervention. Study is strong, but aim itself may need restating to reflect work in etiology and interventions.

- Not clear why behavioral and cancer control research not more prominent in the program, given Dr. Fagan's exceptional reputation and work in this area. If scope of work not adequate to highlight as a full aim, it could be made more visible in the description of the aims (Aim 2).
- Example for Aim 2 very important and valuable, but goal of aim 2 is to address state-wide cancer disparities. Example does not mention disparities or cancer, although there is implication and the grant is from NCI.
- Needs to be a clear alignment of stated aims, catchment area priorities, and work highlighted.
- Should be clear that scope of Aim 3 is adequately broad and it goes beyond the work of a few investigators or grants; should have a population science appeal. Example presented could be population sciences, but could be seen as translational or a clinical project. Additional breadth of studies needs to be shown for this to be a full program aim.
- Concern whether aim 3 is being driven by strong existing science rather than larger vision for what population science should do more broadly. Larger vision should be driven by catchment area needs and overall cancer center priorities.
- Program metrics suggest this is a developing program: small # investigators with NCI funding and funding levels small. NCI has rough minimum standards for members and funding, but programs must exceed minimal expectations to be competitive for NCI designation. Program should review current and existing funding to ensure funding levels are adequate. Investment by institution or center may be required to aid existing investigators to obtain funding and/or recruit additional faculty that can add to the funding base of program.
- Number of high impact papers low. Not clear what metric was used to define high impact. Helpful if program leader can guide the science to fund potential high impact work through pilot grants.
- Use of shared resources is uneven. Expansion of use by program members into other cores would be helpful. Examples presented suggested shared resources were being used but overall slide said 0%. These details will be heavily scrutinized by CCSG reviewers. Processes needs to be in place to ensure shared resources serve all programs and that usage is appropriately counted and consistently presented throughout.
- Statements of catchment area impact are strong and compelling, although study of menthol cigarettes and prostate cancer is not clear since smoking is not thought to impact prostate cancer risk or outcomes. Strong statements about high lung and cervical cancer rates in AR; should be presented sooner and more prominently to show central impact of the program's research on catchment area priorities.

Cancer Biology

Comments and Suggestions

- Committee thought this to be the strongest of the programs and has the greatest potential.
- Membership needs to be clearly presented; director's overview listed 175 active members (full and associate) yet programs list only full members (76).
- Right-sizing membership is advisable to reflect NCI and total NIH funding; more is not always better. CB program listed 26 funded projects across 28 members ($236,176/member) but NCI funding is limited ($1.4M) and over half the active grants are scheduled to end in 2023 (potential concern).
- Did not provide information regarding how often CB program members meet and if Dr. Post had a role in recruiting new faculty to UAMS.
- Not clear the role of Dr. Post in advocating for cancer center supported pilot funds for CB members. Director should consider providing funds to co-leaders to help support initiative to strengthen their programs through scientific retreats or targeted pilot grant awards.
- Issues to be considered: 1) CB program should better incorporate multiple myeloma group and cancer center director should consider appointing someone from myeloma group as co-leader of CB program; 2) Director should consider merging DDHR with CB, or at least move members with synergy to CB. EAB

impressed with Dr. Boerma's presentation but program is small and is at risk of being reviewed poorly; 3) Director should consider 3 co-leaders for the CB program.

DNA Damage and Host Response

Comments and Suggestions

- EAB was extremely impressed with Dr. Boerma: gave a clear, succinct, and thoughtful presentation; has appropriate expertise to lead program
- Good usage of shared resources
- # publications modest, but members are highly collaborative; noted only 1 pub was high impact
- Critical issue is this is a small program with modest funding; also overlap with research being done in CB and DT
- EAB recommends to sunset program and reassign pieces to CB and DT

Developmental Therapeutics

Comments and Suggestions

- Dr. Li has appropriate expertise to serve a program leader, especially with respect to first 2 aims; recommend identifying a physician-scientist/clinical investigator to serve as co-leader with specific oversight of 3rd aim
- Good usage of shared resources
- Members are highly collaborative
- Clinical trials accruals with respect to treatment, interventional, and non-interventional studies is very impressive for a center of relatively small size
- First two scientific vignettes presented were impressive and align nicely with first 2 aims; third vignette fell short of the mark as this should have been an example of bench-to-bedside translation of science either coming from DT or another program into an early phase investigator-initiated clinical trial with incorporation of biomarker studies; third vignette highlights importance of having a co-leader with expertise in clinical and translational research
- Majority of WPRCI disease teams and clinical investigators should be imbedded in this program; important for clinical investigators to focus on both early stage trials as well as later stage phase II and III trials; important clinical research is not captured in third aim
- Program Leader and Director may consider broadening the clinical research scope of the program and consider Cancer Therapeutics as an alternative name, which would cover entire spectrum of pre-clinical studies to early- and late-phase clinical trials
- DT program ay many NCI centers is viewed as the major bridge program within the center to stimulate and facilitate drug development research efforts at pre-clinical and clinical/translational levels; important for other programs to work closely with DT program to take the most interesting science and discoveries and translate them to early-phase clinical trials with incorporation of correlative biomarker science
- Issue to consider for aim 2: DT is a program that should be solely focused on therapeutics; recommend dropping the detection piece
- DT would benefit from incorporation of members from DDHR, especially those focused on identification of potential novel DNA targets and treatment effect

Cancer Center Administration

Comments and Suggestions

- Ms. Jenkins' specific background in clinical trials operations along with administrative and operational experience and institutional knowledge are great assets to the Cancer Center and will the Director well for the CCSG application
- Admin not presented during meeting but evidence of impact and added value were displayed throughout the day; virtual meeting was well-organized with relevant materials arriving to EAB members in advance
- Recommend documenting membership criteria along with process for determining cancer relevant grants; have tangible evidence readily available to substantiate decision for each grant <100% cancer relevance
- Process by which trials and accruals are assigned to research programs should be delineated and documented
- Prepare member rosters and data tables 2A, 2B, and 4 for each research program and make them available in advance of future meetings
- Program leaders mentioned investigators from UAF and ACH several times, not as collaborators but as members, and suggest UAMS is presenting as a consortia center. Listing program members and their grants may help to minimize confusion
- Advise beginning to create an outline that follows the CCSG PAR guide and is responsive to the review criteria; advise drafting annual reports to minimize burden of drafting the actual application in 3 (or 5) years

NCI Designation

- Desire by institution to submit application by 2025 is potentially aggressive and could be influenced by many factors provided by the EAB review.
- Solid foundation has been laid by Dr. Birrer is short space of 2 years; several necessary components must be developed under his leadership, some of which are already at different stages:

    1. Dedicated and experienced CTO team reflective of the clinical infrastructure. CTO must work collaborative with physicians to assure continuity, efficiency, cohesiveness, and accountability and should prioritize trials most relevant to patient population.
    2. Robust portfolio of clinical trials. Choose trails that have significant recruitment and meet needs of catchment area. Regular reassessment with respective teams is necessary as portfolios are developed and expanded.
    3. Trial designs should consider needs or URM and rural populations and include necessary resources for recruitment of these populations. Training navigators who are known to the specific communities has been shown an effective resource for enhancing recruitment.
    4. Trial portfolio should allowed ~10% of analytic number equivalents to be recruited to therapeutic trials.
    5. Development of IITs with a focus on translation and advancement of WPRCI science into the clinic.
    6. Integration of clinical researchers with scientists to advance more clinically focused grants (P01's, SPOREs, and multi-PI R01's). Keep in mind scientific discoveries that have led to the trial but also incorporating relevant biology/science
    7. Develop a vision statement and strategic plan including metrics for growth and sustainability.
    8. Consider early detection and prevention as a major opportunity for WPRCI to differentiate itself from other NCI designated centers, given the rural population. Possibility one of the best opportunities to become the leading site in the country.

- EAB extremely enthusiastic about the promise of WPRCI to become NCI designated; there are challenges but the can be successfully resolved.

- Significant continued recruitment of clinical and research faculty required to effectively scale up clinical research.
- Not clear if WPRCI has access to academically inclined residents and postdoctoral fellows to drive translational advancement; EAB would like to hear more about this and plans for developing training grants.
- EAB would like to hear more about infrastructure for sample collection and biobanking, data science/machine learning on clinical data and multi-omics, and work on health care/clinical trials in rural populations.
- Impressive breadth of ongoing work at WPRCI; commitment to deliver outstanding oncology care to diverse and underserved rural communities is inspiring
- Dr. Birrer's accomplishments in short period of his tenure are remarkable.
- Next meeting would benefit from focused discussion of stepwise process WPRCI will implement to achieve NCI designation.

APPENDIX F

Act 181

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

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

For An Act To Be Entitled

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

Subtitle

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

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

SECTION 1. DO NOT CODIFY. Legislative findings.

The General Assembly finds that:

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

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

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

diagnosis rates in Arkansas are:

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

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

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

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

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

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

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

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

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

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

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

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

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

(13) National Cancer Institute-Designated Cancer Centers have

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

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

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

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

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

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

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

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

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

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

University of Arkansas for Medical Sciences will need to recruit:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(b) The fund shall consist of:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

/s/Irvin

APPROVED: 2/19/19