

RADIOLOGY RESEARCH UPDATE *July 2024, Issue 30*

Department of Diagnostic Radiology and Nuclear Medicine

GRANTS

The ***Maryland Stem Cell Research Fund*** awarded a number of grants to faculty and post docs in the Department of Diagnostic Radiology and Nuclear Medicine:

Mirosław Janowski, MD, PhD, Professor, received a two-year, \$350,000 discovery grant to study “Computational Approach to In Vivo Genome Editing in the Brain.” This project will be conducted in collaboration with Brian Pierce, PhD, Associate Professor, University of Maryland College Park. The aim is to apply a computational approach to stem cell-based strategies to edit classical ALS mutations in the brain.

Chengyan Chu, MD, Research Associate, received a two-year, \$345,000 discovery grant to study, “Human GRPs as Drug Factories for Local Modulation of Neuroinflammation in Cerebral Small Vessel Disease.” The goal is to transplant human glial progenitor cells (hGRPs) engineered with mRNA

encoding P2X7-blocking nanobody as a novel strategy to treat cerebral small vessel disease.

Yajie (Kevin) Liang, MB, PhD, Assistant Professor, received a two-year, \$345,000 discovery grant to study “Smart Intravital Multiphoton Imaging iPSC-derived Cells Grafted into Ischemic Mouse Brain Assisted by Empowered Helper Cells.” The goal is to develop a smart intravital multiphoton imaging method for long-term tracking of neural stem cells for stroke treatment and to advance the understanding about the graft-host interactions in the infarcted brain dynamically at the cellular and molecular level for enhancing the efficacy of neural stem cell therapy of stroke.

Shalini Sharma, PhD, Postdoctoral Fellow, received a two-year, \$130,000 postdoctoral fellowship grant to study “Magnetic and Radioactive Labeling of Human Mesenchymal Stem Cells Secreting P2X7-Blocking Nanobody for their Precise Intra-Arterial Delivery in Stroke.” Her mentor is **Mirosław Janowski, MD, PhD**; this study will help to

develop a stem cell tracking technology in the treatment of stroke.

Jinghui Wang, PhD, Postdoctoral Fellow, received a two-year, \$130,000 postdoctoral fellowship grant to study “Multiphoton Imaging iPSC Derived NPCs Co-Transplanted with Helper Cells Expressing VEGF for Stroke Treatment.” Her mentor is **Yajie (Kevin) Liang, MB, PhD**; this study will delve into the helper-cell strategy by testing another growth factor, VEGF, hypothesizing that the survival and integration of human iPSC-NPC will be significantly improved by co-transplanting helper cells expressing VEGF after stroke through enhanced vascularization of the graft.

UMMC/UMB Innovation Challenge

Michael Toland; Paul H. Yi, MD; **Vishwa Parekh, PhD**; **Florence Doo, MD, MA** and **Peter Kamel, MD** won an Innovation Challenge Award for “Dolphin: Accelerating Medical Insights with a UMMS-Specific Large Language Model Chatbot.”

Other Grants (cont'd from p.1)

Florence Doo, MD was awarded \$50,000 from the Mid-Atlantic Center for Cardiometabolic Health Equity (MACCHE) Scholars Pilot Project Program; Investigator Development Core, Johns Hopkins P50 Center grant, National Institute on Minority Health and Health Disparities (NIH MHHD) to study "Heat Impacts on Radiology Equity and Access for Cardiovascular Health (HI-REACH.)" Dr. Doo's mentor is **Esa M. Davis, MD, MPH**, Professor, Family and Community Medicine, SOM

JOHN M. DENNIS, M.D. MEMORIAL LECTURE & RESEARCH DAY

Dr. Dheeraj Gandhi was the moderator of The John M. Dennis, MD Memorial Lecture and Research Day that was held on June 14. **James Provenzale, MD**, Professor of Radiology from Duke University School of Medicine, spoke about "Civility in the Radiology Work Environment: Keeping Core Values During a Time of Change."



(Drs. Provenzale and Melhem)

Congratulations to the Research Day award winners:

*Reuben S. Mezrich Research Prize: **Dheeraj Gandhi***



(Drs. Melhem and Gandhi)

*The Bruce Roberts Line Prize: **Prashant Raghavan***



(Drs. Raghavan and Melhem)

*RSNA Resident Research Prize: **Luke Miller***



(Drs. Resnik, Miller, and Melhem)

KUDOS



Jean Jeudy, MD and **Linda Chang, MD, MS** were chosen

to present at the prestigious "In Vivo Magnetic Resonance Gordon Research Conference" that was held July 14-19 in Andover, New Hampshire. Drs. Jeudy and Chang were the only presenters in the session on "MRI in the Pandemic." Dr. Jeudy presented on cardiac effects of COVID and Dr. Chang on brain effects of COVID. Their presentations were received extremely well and resulted in a lively half hour discussion. For more details on the Conference: [2024 In Vivo Magnetic Resonance Conference GRC](#)

Kudos (cont'd from p. 2)

Omer A. Awan, MD, MPH, has been named Associate Chief of the musculoskeletal course for the American College of Radiology's Institute for Radiologic Pathology.

(Content and photo provided by Thomas Ernst, PhD and Omer Awan, MD.)

PIGN 2024 SUMMER INTERNSHIP SEMINAR

The Program in Image Guided Neurointerventions (PIGN), co-directed by Drs. Miroslaw Janowski and Piotr Walczak, celebrated their Program's STEM-promoting activities by highlighting the research the interns conducted in a seminar on July 26. Six interns, five university students and two high school students, presented their research and talked about their experiences as summer interns: **Alexander Walczak** (UMCP), **Shylah Healy** (Johns Hopkins), **Anjika Singh** (UMCP), **Maria Brzezinski** (Elizabethtown), **Arezu Fayyazi** (Georgetown), **Dawei Gao** (Marriotts Ridge High School) and **Hailey Wang** (Centennial High School). Congratulations to these young scientists! See photos on p. 4.

(Content and photos provided by Yajie Kevin Liang, MB, PhD)

AI QA

By Jean Jeudy, MD

The University of Maryland's Department of Radiology has been officially recognized as an American College of Radiology (ACR) Recognized Center for Healthcare-AI (ARCH-AI).

ARCH-AI is the first national artificial intelligence quality assurance program explicitly designed for radiology facilities. This program, founded on best practices, outlines the expert consensus-based building blocks of infrastructure, processes, and governance in AI implementation in real-world practice. ARCH-AI aims to ensure that radiology facilities use AI safely and effectively, setting the guidelines for AI use in imaging interpretation. We are particularly proud to be one of the pilot designees of this program and look to align our local practices with ACR best practices for acquiring, deploying, maintaining, utilizing, and monitoring clinical AI. This recognition not only underscores our dedication to adopting cutting-edge technologies but also highlights our role in leading the way for AI use in radiology.

Furthermore, we are currently in discussions to be part of the ACR's ASSESS-AI Registry. This registry includes select, high-profile sites that are actively

assessing the clinical implementation of AI and algorithm monitoring. By capturing real-world data during clinical use in a clinical data registry, ASSESS-AI provides institutions (and developers) longitudinal algorithm performance data. The combination of ARCH-AI recognition and prospective participation in the ASSESS-AI Registry positions us at the forefront of AI developments in radiology. These achievements are made possible through our collective hard work, dedication, and unwavering commitment to excellence in patient care.

Read the press release [here](#).

OPEN ACCESS PUBLISHING FUND

The Health Sciences and Human Services Library's (HSHSL) Open Access Publishing Fund is designed to improve access to research produced at the University of Maryland, Baltimore and promote publishing by early-career researchers, enable authors to retain their copyrights, accelerate the online availability of peer-reviewed scholarly journal articles generated by UMB researchers, and raise campus awareness about the benefits of open access. The fund will reimburse 50 percent of the cost of article processing charges for Open Access (OA) journals up to a

Open Access (cont'd from p. 3)

maximum of \$3,000 for early-career researchers. The fund has a limited budget.

Details are provided [here](#).

(Source: HSHSL)



2024 Summer Intern Seminar @PIGN, July 26th, 2024



SAVE THE DATE!
The 3rd Annual Alavi-Bradley Symposium on Molecular Imaging and Theranostics
September 19, 2024
UMC Campus Center
To submit an abstract and/or register, visit:
<https://www.medschool.umaryland.edu/alavi-bradleysymposium/>

Send your contributions to
Radiology Research Update to:
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