

RADIOLOGY RESEARCH UPDATE *April 2024, Issue 29*

Department of Diagnostic Radiology and Nuclear Medicine

GRANTS

VA Maryland Health Care System Grants

Piotr Walczak, MD, PhD received a four-year, \$1,259,544 grant from the VA to study “Image-guided Intra-arterial Delivery of Stem Cells to Repair Brain Damage after TBI.”

Federal Grants

Paul Yi, MD received a three-year, \$263,094 subcontract from Johns Hopkins University for a National Cancer Institute study on “SCH: Quantifying and Mitigating Demographic Biases of Machine Learning in Real World Radiology.”

Yajie (Kevin) Liang, MB, PhD received a one-year, \$88,295 subcontract from SeeTrue Technology, LLC for a National Institute of Mental Health study on “3D Microprinting-Enabled Microinjection Needle Arrays for Enhanced Therapeutics Delivery into the Brain.”

Industry Grants

Adam Fang, MD received

\$185,679 from Instylla, Inc for a two-year clinical trial to study “The HALT Study - A Prospective Multicenter Single-Arm Staged Study to Evaluate the Safety and Effectiveness of Embrace Hydrogel Embolic for Transcatheter Embolization of Arterial Bleeding in Solid Organs and Peripheral Arteries.”

Timothy Miller, MD received \$140,692 from MicroVention, Inc for a five-year clinical trial to study “Post-Approval Study-Post Market Surveillance Study to Evaluate the Long-Term Safety and Effectiveness of the WEB Device.”

Accelerated Translational Incubator Pilot (ATIP) Grants

Two faculty members were awarded 2024 ATIP grants: **Sui-Seng Tee, PhD** received \$50,000 for “Watching Macrophages Eat: Deuterium Labeled Raman Ultraviolet Mapping of Metabolites (DRUMM) in Fatty Liver Disease” and **Ze Wang, PhD**, received \$31,000 for “Machine Learning Enhanced ASL MRI for Non-invasive Glymphatic System

Assessment in Traumatic Brain Injury.”

4TH SIGN CONFERENCE



Miroslaw Janowski, MD, PhD and **Piotr Walczak, MD, PhD**, (shown above wearing scarves given to them during the felicitation ceremony), two of the co-founders of the Society for Image Guided Neurointerventions (SIGN), were part of the organizing committee of the 4th SIGN Conference that took place in person only from January 5-7, 2024, in Ramoji Film City and at KIMS Hospital in Hyderabad, India. **Rao Gullapalli, PhD, MBA** worked on the organizing committee as well until the time of his death last April and was instrumental in having the conference

hosted in India near his hometown of Hyderabad.



The *Gullapalli Young Investigator Awards* were established this year in his honor. Awards were given to up-and-coming researchers, five of whom are affiliated with the Department of Diagnostic Radiology and Nuclear Medicine: research fellows **Lukasz Kalkowski, PhD**, and **Jinghui Wang, PhD**; PhD student **Shriya Madan**; and UMBC undergraduate students **Mikolaj Walczak**, and **Colleen Russel**. The Gullapalli Young Investigator Awards were made possible by a generous donation from Abass Alavi, MD, Professor of Radiology at the University of Pennsylvania, and sponsor of the Alavi-Bradley Symposium that is hosted by the department.

Department members were omnipresent at the event, with **Dheeraj Gandhi, MD**, delivering a keynote lecture on “MR Guided FUS: Next Frontier in Image Guided (Non Surgical) Neurosurgery.” Among the invited speakers, **Linda Chang, MD, MS** presented “Focused Ultrasound to

Enhance Drug Delivery in Humanized NOG-IL34 Mice for Eradication of HIV;” **Dr. Janowski** presented “Multi-Scale Image Guidance for Brain Cancer Treatment;” **Yajie (Kevin) Liang, MB, PhD** presented “NanoSynFAST as a Chemigenetic Indicator of Alpha-Synuclein Aggregation Dynamics in Live Cells;” **Guanda Qiao, MD, PhD**, Research Fellow, presented “Novel Combination of Osmotic Blood Brain Barrier Openers;” **Abdallah Salemdawood, MD**, Research Fellow, presented “CRISPR-Based Base Editing of Tuberous Sclerosis Complex 2 Gene in Human Mesenchymal Stem Cells;” and **David Gulisashvili, MD**, Research Fellow, presented “Image-Guided CD47 Blockade in Conjunction with the Focused Ultrasound-Based Blood-Brain Barrier Opening to Treat Diffuse Intrinsic Pontine Glioma in a Mouse Model.”

Another UMSOM faculty member, **Jung Soo Suk, PhD**, Associate Professor, Department of Neurosurgery, presented “Focused Ultrasound- and Polymeric Nanoparticle-Mediated Nucleic Acid Delivery to the Brain.” Other notable speakers included Michael Lim, MD, Professor and Chair of Neurosurgery at Stanford University; Tim Magnus, Prof Dr Med, Chair of Neurology at the University of

Hamburg, Professor Dirk De Ridder, a neurosurgeon and a pioneer of neuromodulation from the University of Otago in New Zealand, and Jeff Bulte, PhD, MD, Director of Cellular Imaging and Professor of Radiology and Radiological Science at Johns Hopkins University. Overall, 75 speakers presented their research.

The SIGN Conference attracted over 125 participants from all over the world and was well-covered by multilingual Indian media.



Drs. Janowski and Walczak extend an invitation to attend the 5th SIGN conference (SIGN 2025) in Basel, Switzerland.

Photos courtesy of Dr. Janowski.

PODCASTS

Piotr Walczak, MD, PhD, was a featured guest on BackTable’s podcast, discussing [“Intra-arterial Approaches in Brain Tumor Therapy: Overcoming the Blood-Brain Barrier.”](#)

Send your contributions to *Radiology Research Update* to: Brigitte Pocta
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