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Colonel Robert R. McCormick Professor
of Diagnostic Imaging



Advancement of Medicine

As chairperson of the Department of Diagnostic Radiology and Nuclear Medicine, my aim is to continue supporting Rush's tripartite missions of clinical service, education and research.

As a neuroradiologist, I continue to be involved in several scholarly activities and remain focused on advancing the field to benefit our patients. In 2025, *Diagnostic Imaging Brain, 5th edition*, was published. I served as one of the lead authors and editors. Covering the entire spectrum of this fast-changing field, this book is an invaluable resource for neuroradiologists, general radiologists and trainees — anyone who requires an easily accessible, highly visual reference on today's brain imaging. I collaborated with **Karen L. Salzman, MD**, professor of radiology at University of Utah Health, and a diverse group of neuroimaging experts to provide updated information on more than 300 brain and central nervous system conditions to support informed decisions at the point of care. The text is lavishly illustrated, delineated, and referenced, making it a useful learning tool as well as a handy reference for daily practice.

In addition, I was a co-author on five indexed publications in high-impact journals such as *Radiology*, *Neuroradiology* and *Current Problems in Diagnostic Radiology*. I was an invited speaker at the "Kranzler Chicago Review Course in Neurosurgery" for adult brain and spine neuroradiology case review.

I worked with our physicists and information technology teams to launch Icometrix, a volumetric artificial intelligence, or AI, platform to evaluate MRI brain scans of patients with multiple sclerosis and dementia. The addition of this software has greatly helped our patients and neurologists with volumetric information to guide therapy.



Research

The department recruited Associate Research Physicist Jayse Weaver. Jayse joined the department in June 2025 and bolstered research and clinical activities. He is the primary investigator for two research studies:

- CT Dose Retrospective (ORA#13081204): Performed a 10-year retrospective analysis of CT dose index trends across Rush sites, finding dose reductions for several routine protocols. Manuscript written and submitted, expected publication in 2026. Co-authors: Afrouz Ataei, Nicole Murphy, Daniel L'Heureux, Mark Supanich
- Viz.ai Algorithm Analysis (ORA#25071407): Conducting a retrospective analysis of radiologist concurrence of Viz.ai findings (ICH, aneurysm, LVO, PE). Designed study, received data from vendor, and obtained Internal Review Board approval in 2025. Analysis ongoing. Collaborators: Mark Supanich, David Payne, Paul Won, Abhinav Bansal

Jayse is also the co-investigator for two studies listed below:

- Brain Connectivity and Thrombectomy Outcomes (ORA#23070504): Developed a diffusion MRI processing pipeline to obtain tractography-derived connectivity metrics from pilot data. Results will be used to submit the project for Rush Imaging Research Core funding. Collaborators: Stephan Munich, Christina Sammet, et al
- Predictors of High Patient Dose In IR (ORA#25080405): Extracted and organized dose information from dose monitoring software. Collaborators: Michael Chen, Mark Supanich

Clinical Advancements

Jayse has also supported MRI imaging at Rush, as detailed below.

- Functional Magnetic Resonance Imaging, or fMRI, Diffusion MRI Acquisition and Processing: Created new fMRI paradigms in Nordic Aktiva software under the direction of **Sudeep H. Bhabad, MD**, for pre-surgical evaluation and assisted in training technologists to use paradigms. Assisted Dr. Bhabad in the reading of acquired fMRI and diffusion data in syngo.via, an AI-powered imaging software, and performed necessary troubleshooting with Siemens Healthineers.



- MRI Safety: Collaborating with **Christina Sammet, PhD**, and MRI technologists to modify existing patient and employee screening checklists. Modifications to REDCap for employee screening are underway and are expected to be deployed before fiscal year 2027.

Additionally, the department launched a 3D printing and Augmented Reality Lab with support from the endowed fund. This new service line includes a medical 3D printer, research monitors and supplies, which were purchased to provide 3D printing services for the Rush system. 3D-printed models from imaging data help our clinicians with patient education before complex surgery and reduce their surgical planning time.

Education

The McCormick fund supports subscription to STATdx for the entire clinical faculty in the department. STATdx is a comprehensive, evidence-based diagnostic decision support system specifically designed for radiologists. Owned by Elsevier, it serves as a digital reference to help medical professionals differentiate diagnoses and analyze complex imaging cases across 16 radiology specialties.

The Year Ahead: 2026 and Beyond

Looking toward the future, I plan to build on our research physicist's work and expand the service from the 3D printing lab to several clinical service lines.

With Gratitude

As the Colonel Robert R. McCormick Professor of Diagnostic Radiology, I am sincerely grateful to the McCormick family for their generosity and vision. Their enduring commitment to advancing medical education and research enables continued innovation in diagnostic imaging, with a meaningful and lasting impact on patient care. The McCormick fund provides an exceptional opportunity to advance research in advanced MRI, AI and 3D printing, while mentoring future radiologists.