

Justin Yu

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Education

Georgia Institute of Technology August 2024

M.S. Medical Physics (CAMPEP accredited)

Thesis: Brain Necrosis Prediction Using a Dose-LET Volume Histogram (DLVH)

Committee Chairs: Wei Liu, PhD and CK Wang, PhD

University of California, San Francisco August 2017

M.S. Biomedical Imaging

Thesis: Optimization of pH imaging methodology for hyperpolarized ^{13}C MRI

Committee Chair: Robert Flavell, MD, PhD

University of North Carolina, Chapel Hill August 2015

B.S. Biochemistry

Certifications

American Board of Radiology (ABR)

Part 1 Medical Physics Jan 2023

American Board of Medical Physics (ABMP)

Part 2 Magnetic Resonance Imaging Physics Oct 2024

American Board of Magnetic Resonance Safety (ABMRS)

MRI Safety Expert (MRSE) March 2022

Professional Societies

American Association of Physicists in Medicine (AAPM) 2020 - present

Radiological Society of North America (RSNA) 2024 - present

International Society for Magnetic Resonance in Medicine 2024 - present

Committee Memberships

AAPM Pediatric Imaging Subcommittee (PISC)

Guest Member 2025 - present

Awards and Scholarships

2025 AAPM Summer School Scholarship

Denver, CO June 2025

Work Experience

Henry Ford Health

Imaging Physics Resident

July 2024 - present

Detroit, MI

- Two year CAMPEP-accredited clinical residency program in diagnostic physics.
- Program completion estimated in June 2026.

Mayo Clinic in Arizona

Diagnostic Physics Supervisor

March 2023 - June 2024

Phoenix, AZ

- Position duties included both management tasks and clinical physics projects.
- Managed team of allied health diagnostic physics personnel (diagnostic physicists, physics assistants, programmers).
- Led hiring and training of new allied health staff on physics team.
- Managed MR safety call schedules for physics assistants and continued to cover MR safety cases.
- Coordinated work assignments and load balancing for physics staff in conjunction with faculty physicists.
- Ensure compliance with all institutional training requirements for physics staff.
- Supported department with physics equipment procurement and maintenance.
- Continued to provide clinical physics support to MRI practice (see below).

Mayo Clinic in Arizona

Diagnostic Imaging Physics Specialist

July 2018 - March 2023

Phoenix, AZ

- Contributed to MR protocol development in conjunction with diagnostic physicist and MR technologists.
- Assist QMP with QC/QA on diagnostic imaging equipment, particularly MR scanners.
- Provide safety coverage assistance with physicist on MRI scans for active implanted device patients.
- Create and maintain databases of MR protocols, pulse sequences, and post processing for radiologist and physicist reference.
- Collect and process DICOM header data from clinical MR scans to fulfill radiologist data requests regarding protocol time and patient volumes.
- Performed process improvement in clinical workflows (protocol backups, documentation, MR safety).
- Maintained documentation of work in progress (WIP) MR sequences and equipment inventory.
- Performed research in quantitative MR post processing (e.g MR elastography, T1/T2 mapping, DWI). Acquired and analyzed data, and prepared abstracts for conference submission.

University of California, San Francisco
Staff Research Associate II

December 2017 - June 2018
San Francisco, CA

- Investigated effects of dietary intervention on liver fat fraction and fibrosis in non-alcoholic fatty liver disease (NAFLD).
- Evaluated MR based biomarkers (diffusion, elastography, fat-water imaging) on progression of liver disease in NAFLD patients.
- Maintained databases of MRI data from clinical patient studies.
- Assisted with coordinating research MRI scans for study volunteers.
- Developed MR image processing software, including automatic image segmentation, using MATLAB.

Oral Presentations

- **Yu J**, Yang Y, Shen J, Patel S, Ma D, Brown P, Mahajan A, Laack N, Foote R, Liu W. Brain Radionecrosis Characterization In Cancer Patients Treated With Proton Therapy Using Dose-Linear Energy Transfer (LET) Volume Histogram (DLVH). Oral presentation at AAPM 2024 Annual Meeting; July 21-25; Los Angeles, CA.
- **Yu J**. Three Years of Active Implanted Device MRI Scan Volumes: Strategies for Scanning Safely. Oral presentation at AAPM 2024 Spring Clinical Meeting, March 23-26, St. Louis, MO.
- **Yu J**. Safety Coverage For Active Implanted Device MRI Exams: Pandemic To Present. Oral presentation at AZ AAPM Annual Meeting; November 4, 2023; Phoenix, AZ.
- **Yu J**, Panda A, Tung-Smith K, Nelson R, Kawashima A, Yang M, Lin C, McGirr A, Fasani S, Flicek K, Singh S, Silva A. Multi-vendor Phantom and Intra-individual Comparison of Liver Stiffness Using Various MR Elastography Sequences at 1.5T & 3T. Oral presentation at: 2020 ISMRM Annual Meeting; August 8-14, 2020.
- Tung-Smith K, Silva A, Flug J, **Yu J**, Panda A. Implementation of Liver MR Elastography Tutorial Module to Improve Exam Quality and Reduce Patient Callback Rate. Oral presentation at: SAR 2020 Annual Scientific Meeting; March 1-6, 2020; Maui, HI.

Poster Presentations

- **Yu J**, Maloney B, Rubinstein A, Schaeffer C. A Retrospective Analysis of Automatic Exposure Control (AEC) Tracking Failure Rates in Radiographic Systems. Poster presentation at AAPM 2025 Annual Meeting; July 27-30th; Washington DC.
- **Yu J**, Xiao J, Panda A. Comparison of ADC Measurement from Different DWI Sequences Using a Standardized Diffusion MR Phantom. Poster presented at AAPM 2023 Annual Meeting; July 23-27; Houston, TX.

- **Yu J**, Panda A, Silva A, Doan M, Silva, A. A Statistical Analysis of ROI Weighting By Area for MRE Derived Liver Stiffness Measurements. Poster presented at ISMRM 2023 Annual Meeting; June 3-8; Toronto, Canada.
- Panda A, **Yu J**, Silva, A, Doan, M, Silva, A. MR Elastography Quantitative Liver Stiffness Comparison: Weighted vs Unweighted Mean. Poster presented at ARRS 2023 Annual Meeting; April 16-20; Honolulu, HI.
- **Yu J**, Silva A, Zhou Y, Panda A. Effects of DWI Pulse Sequence Parameters and Type On ADC Map Calculation at 3T in a Quantitative MRI Phantom. Poster presented at AAPM 2022 Annual Meeting; July 10-14; Washington, DC.
- Panda A, Fahrenholtz S, Zhou Y, Rand E, **Yu J**, Hines J, Sensakovic W. Time Cost of Off-Label MR Scanning of Patients with Active Implants. Poster presented at AAPM 2022 Annual Meeting; July 10-14; Washington, DC.
- Panda A, Zhou Y, Fahrenholtz S, **Yu J**, Rand E, Hines J, Sensakovic W. Distribution of MR Safety Conditions Across Active Implanted Devices. Poster presented at AAPM 2022 Annual Meeting; July 10-14; Washington, DC.
- Sensakovic W, Panda A, Fahrenholtz S, Zhou Y, **Yu J**, Rand E, Hines J, Sill A. MR Scanning of Complex Active Implants: Unreimbursed Work and A Barrier to Access. Poster presented at ACR 2022 Annual Meeting; April 24-27; Washington, DC.
- **Yu J**, Rand E, Jackson P, Hoxworth J, Hu L, Swanson K, Zhou Y. Intraplatform Repeatability and Interplatform Reproducibility of T1 and T2 Mapping Using a NIST System Phantom. Poster presented at: 2022 ISMRM Annual Meeting; May 7 - 12, 2022; London, UK.
- **Yu J**, Panda A, Silva A, Berger S, Silva A. Body MRI Optimization: Quantitative MRI Pitfalls And How To Avoid Them. Poster presented at: RNSA 2021 Annual Meeting; Nov 28 - Dec 2, 2021; Chicago, IL.
- **Yu J**, Panda A. Quantitative Inter-Vendor Evaluation of PDFFF and R2* Mapping Accuracy for 3T MRI Scanners. Poster presented at: AAPM 2021 Annual Meeting; July 25-29, 2021.
- **Yu J**, Panda A, Silva A. Inter-vendor 3T R2* mapping evaluation on a standardized R2* phantom with and without a human subject. Poster presented at: ISMRM 2021 Annual Meeting; May 15-20, 2021.
- **Yu J**, Fahrenholtz S, Zhou Y, Sensakovic W, Panda A. Inter-scanner T1 and T2 mapping evaluation using multiple MRI phantoms at 3T. Poster presented at: 2020 AAPM/COMP Joint Annual Meeting; July 12-16, 2020.
- Taglang C, Korenchan D, von Morze C, Najac C, Blecha J, **Yu J**, Subramaniam S, Bok R, VanBrocklin H, Sriram R, Kurhanewicz J, Wilson D, Flavell R. A Late-Stage Deuteration Method for T1 Prolongation and Enhanced In Vivo Signal to Noise Ratio of Hyperpolarized ¹³C Substrates. Poster presented at: ISMRM 2018 Annual Meeting; June 16-21, 2018; Paris, France.

Publications

- Taglang C, Korenchan DE, Von Morze C, **Yu J**, Najac C, Wang S, Blecha JE, Subramaniam S, Bok R, VanBrocklin H, Vigneron D, Ronen S, Sriram R, Kurhanewicz J, Wilson DM, and Flavell RR. Late-stage Deuteration of ^{13}C -enriched Substrates for T_1 Prolongation in Hyperpolarized ^{13}C MRI. *Chemical Communications*. 2018;54(41):5233-5236. doi:10.1039/c8cc02246a

Technical Skills

Programming Intermediate MATLAB, beginner Python