

AARYANI TIPIRNENI-SAJJA, PHD

The University of Memphis
Department of Biomedical Engineering
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EDUCATION

| | |
|--|-------------|
| PhD, Biomedical Engineering (GPA: 4.0) | 2013 – 2017 |
| University of Memphis & University of Tennessee Health Science Center, TN, USA | |
| M.S, Biomedical Engineering (GPA: 4.0) | 2007 – 2010 |
| University of Memphis & University of Tennessee Health Science Center, TN, USA | |
| B.E, Biomedical Engineering (GPA: 4.0) | 2003 – 2007 |
| Osmania University College of Engineering, Hyderabad, India | |

EXPERIENCE

- **ASSISTANT PROFESSOR** Aug 2018 – present
The University of Memphis, Memphis, TN
- **VISITING SCIENTIST** Sep 2019 – present
St. Jude Children’s Research Hospital
- **POSTDOCTORAL FELLOW** Sep 2017 – Aug 2018
St. Jude Children’s Research Hospital, Memphis, TN
- **PHD RESEARCH ASSISTANT** Sep 2013 – Aug 2017
St. Jude Children’s Research Hospital, Memphis, TN
Dissertation: Towards Accurate Automated MRI based R2* measurements of hepatic iron content
- **RESEARCH ASSOCIATE** Feb 2011 – Aug 2013
Stanford Stroke Center & Department of Radiology, Stanford University, CA
- **IMAGING ANALYST** Nov 2010 – Jan 2011
Stroke Sciences Group, UCSF Medical Center, San Francisco, CA
- **GRADUATE RESEARCH ASSISTANT** May 2008 – Aug 2010
St. Jude Children’s Research Hospital, Memphis, TN
Thesis: Measurement of glomerular filtration rate by dynamic contrast-enhanced (DCE) MRI using a subject-specific two-compartment model
- **UNDERGRADUATE RESEARCH ASSISTANT** Aug 2006 – April 2007
Osmania University College of Engineering, India
Project: Design and development of a microcontroller-based electro-oculography system for measurement of saccadic eye movements

TEACHING

- BIOM 1702 – Biomedical Spatial Visualization
- BIOM 3010 - Introduction to Medical Measurements (Lecture & Lab)
- BIOM 3710 - Physiological Systems & Modeling
- BIOM 4784 – Senior Design Studio
- BIOM 4801/6801 – Introduction to Medical Imaging
- BIOM 7905/8905 - Magnetic Resonance Imaging & Spectroscopy Techniques

HONORS & CERTIFICATIONS

PI Millionaire Award, University of Memphis, 2024
CAREER Award, National Science Foundation, 2023-2028
Trailblazer Award, National Institute of Health, 2021-2023
Herff Outstanding Faculty Research Award, University of Memphis, 2023
Herff Outstanding Faculty Teaching Award, University of Memphis, 2022
First Time PI Award, University of Memphis, 2022
Faculty Summer Institute Mastery Track, UM3D, University of Memphis, 2020
NETI 1B, National Effective Teaching Institute, ASEE, 2019
ISMIRM Merit Award, magna cum laude, ISMIRM 22nd Scientific Meeting, 2014
Educational Stipend, ISMIRM Scientific Meeting, 2009, 2014, 2015, 2017
Graduate Stipend Enhancement Award, University of Memphis, 2013-2014
Award for Merit, Academic excellence, Osmania University, 2007
Best Project Award, Osmania University, 2007
IDEA Pulse Programming Certification, Siemens Healthineers, 2018

GRANT SUPPORT

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|--|--------------------------|--------------------------------|
| NSF CAREER Award CAREER: Open-Access, Real-Time High-Throughput Metabolomics for High-Field and Benchtop NMR for Biological Inquiry Amount: \$730,629 | Role: PI | 05/01/2023 – 04/30/2028 |
| R21 Trailblazer Award, NIBIB, NIH Modeling MRI-based Tissue Relaxation in the Presence of Iron Overload and Steatosis Amount: \$589,413 | Role: PI | 05/01/2021 – 02/28/2024 |
| Research Jump-Start Pilot Northwell Health Automated Assessment of Sarcopenia and Muscle Fatty Infiltration using MRI and Correlation with Liver Frailty Index. Amount: \$50,000 | Role: Subaward PI | 07/01/2022 – 06/30/2023 |
| Integrate Grant, ASPIRED Program, The University of Memphis NMR Metabolomics Amount: \$5,000 | | 07/01/2022 – 06/30/2023 |
| R15, NIA, NIH Mitochondrial Determinants of Monocyte Dysfunction in Aging Amount: \$414,136 | Role: Co-I | 09/01/2022 – 08/31/2025 |
| Gap Funding, The University of Memphis ARMA for Simultaneous and Confounder-Free Quantification of Hepatic Iron Overload and Steatosis by MRI and Validation Against Biopsy. Amount: \$26,530 | Role: PI | 03/01/2020 – 06/30/2020 |
| University of Memphis Faculty Research Grant A 3D Simulation Model of Hepatic Iron Overload and Steatosis for Predicting Tissue Relaxivity by MRI. Amount: \$6,000 | Role: PI | 07/01/2019 – 06/30/2020 |

BOOK CHAPTER

Aaryani Tipirneni-Sajja, Sue C. Kaste, Claudia M. Hillenbrand. Magnetic Resonance Imaging in the Pediatric Patient in Haaga: CT and MRI of the Whole Body Sixth edition.

JOURNAL PUBLICATIONS

PubMed Search: [https://www.ncbi.nlm.nih.gov/pubmed?term=\(\(Aaryani%20Tipirneni%5BAuthor%20-%20Full%5D\)%20OR%20Aaryani%20Tipirneni-Sajja%5BAuthor%20-%20Full%5D\)%20OR%20Aaryani%20Tipirneni%5BAuthor%20-%20Full%5D](https://www.ncbi.nlm.nih.gov/pubmed?term=((Aaryani%20Tipirneni%5BAuthor%20-%20Full%5D)%20OR%20Aaryani%20Tipirneni-Sajja%5BAuthor%20-%20Full%5D)%20OR%20Aaryani%20Tipirneni%5BAuthor%20-%20Full%5D)

1. Neupane P, Shrestha U, Brasher, S, Abramson Z, **Tipirneni-Sajja A***. Simulation of a Virtual Liver Iron-Overload Model and R2* Estimation Using Multispectral Fat-Water Models for GRE and UTE Acquisitions at 1.5T and 3T. NMR in Biomedicine 2023. <https://doi.org/10.1002/nbm.5018>
2. Johnson H, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. Rapid and Automated Lipid Profiling by NMR Spectroscopy Using Neural Networks. NMR in Biomedicine 2023. <https://doi.org/10.1002/nbm.5010>
3. **Tipirneni-Sajja A**, Brasher S, Shrestha U et al. Quantitative MRI of diffuse liver diseases: techniques and tissue-mimicking phantoms. Magn Reson Mater Phy (2022). <https://doi.org/10.1007/s10334-022-01053-z>
4. Esparza J, Shrestha U, Kleiner DE, Crawford JM, Vanatta J, Satapathy S, **Tipirneni-Sajja A***. Automated Segmentation and Morphological Characterization of Hepatic Steatosis and Correlation with Histopathology, Journal of Clinical and Experimental Hepatology 2022. <https://doi.org/10.1016/j.jceh.2022.12.003>
5. Johnson H, Yates T, Leedom G, Ramanathan C, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. Multi-Tissue Time-Domain NMR Metabolomics Investigation of Time-Restricted Feeding in Male and Female Nile Grass Rats. Metabolites. 2022 Jul 16;12(7):657. doi: 10.3390/metabo12070657. PMID: 35888782; PMCID: PMC9321200.
6. Mankel K, Shrestha U, **Tipirneni-Sajja A**, Bidelman GM. Functional plasticity coupled with structural predispositions in auditory cortex shape successful music category learning. Front. Neurosci., 28 June 2022. <https://doi.org/10.3389/fnins.2022.897239>
7. Ramanathan C, Johnson H, Sharma S, Son W, Puppa M, Rohani SN, **Tipirneni-Sajja A***, Bloomer RJ, van der Merwe M. Early Time-Restricted Feeding Amends Circadian Clock Function and Improves Metabolic Health in Male and Female Nile Grass Rats. Medicines (Basel). 2022 Feb 21;9(2):15. doi: 10.3390/medicines9020015. PMID: 35200758; PMCID: PMC8877212.
8. Rohani SC, Morin CE, Zhong X, Kannengiesser S, Shrestha U, Goode C, Holtrop J, Khan A, Loeffler RB, Hankins JS, Hillenbrand CM, **Tipirneni-Sajja A***. Hepatic Iron Quantification Using a Free-Breathing 3D Radial Gradient Echo Technique and Validation With a 2D Biopsy-Calibrated R2* Relaxometry Method. J Magn Reson Imaging. 2021 Sep 20. doi: 10.1002/jmri.27921. Epub ahead of print. PMID: 34545639.
9. **Tipirneni-Sajja A**, Loeffler RB, Hankins JS, Morin C, Hillenbrand CM. Quantitative Susceptibility Mapping Using a Multispectral Autoregressive Moving Average Model to Assess Hepatic Iron Overload. J Magn Reson Imaging. 2021 Sep;54(3):721-727. doi: 10.1002/jmri.27584. Epub 2021 Feb 26. PMID: 33634923.

10. Shrestha U, van der Merwe M, Kumar N, Jacobs E, Satapathy SK, Morin C, **Tipirneni-Sajja A***. Morphological characterization of hepatic steatosis and MonteCarlo modeling of MRI signal for accurate quantification of fat fraction and relaxivity. *NMR in Biomedicine*. 2021; e4489. <https://doi.org/10.1002/nbm.4489>
11. Johnson H, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. CRAFT for NMR lipidomics: Targeting lipid metabolism in leucine-supplemented tumor-bearing mice. *Magn Reson Chem*. 2020;1–9. <https://doi.org/10.1002/mrc.5092>
12. Puri L, Flanagan JM, Kang G, Ding J, Bi W, McCarville BM, Loeffler RB, **Tipirneni-Sajja A**, Villavicencio M, Crews KR, Hillenbrand CM, Hankins JS. GSTM1 and Liver Iron Content in Children with Sickle Cell Anemia and Iron Overload. *J Clin Med*. 2019 Nov 5;8(11). pii: E1878. doi: 10.3390/jcm8111878.
13. **Tipirneni-Sajja A**, Krafft AJ, Loeffler RB, Song R, Bahrami A, Hankins JS, Hillenbrand CM. Autoregressive Moving Average Modeling for Hepatic Iron Quantification in the Presence of Fat. *J Magn Reson Imaging*. 2019 Nov;50(5):1620-1632. doi: 10.1002/jmri.26682.
14. **Tipirneni-Sajja A**, Loeffler RB, Krafft AJ, Sajewski AN, Ogg RJ, Hankins JS, Hillenbrand CM. Ultrashort Echo Time Imaging for Quantification of Hepatic Iron Overload: Comparison of Acquisition and Fitting Methods via Simulations, Phantoms, and In-vivo Data. *J Magn Reson Imaging*. 2019 May;49(5):1475-1488. doi: 10.1002/jmri.26325.
15. **Tipirneni-Sajja A**, Song R, McCarville MB, Loeffler RB, Hankins JS, Hillenbrand CM. Automated Vessel Exclusion Technique for Quantitative Assessment of Hepatic Iron Overload by R2*-MRI. *J Magn Reson Imaging* 2018 Jun;47(6):1542-1551.
16. **Tipirneni-Sajja A**, Krafft AJ, McCarville MB, Loeffler RB, Song R, Hankins JS, Hillenbrand CM. Radial UTE Imaging Removes the Need for Breath-holding in Hepatic Iron Overload Quantification by R2*-MRI. *American Journal of Roentgenology* 2017 Jul; 209(1):187-194.
17. Krafft AJ, Loeffler RB, Song R, **Tipirneni-Sajja A**, McCarville MB, Robson MD, Hankins JS, Hillenbrand CM. Quantitative Ultrashort Echo Time Imaging for Assessment of Massive Iron Overload at 1.5 and 3 Tesla. *Magn Reson Med* 2017; 78(5):1839-1851.
18. **Tipirneni-Sajja A**, Christensen S, Straka M, Inoue M, Lansberg MG, Mlynash M, Bammer R, Parsons MW, Donnan GA, Davis SM, Albers GW. Prediction of Final Infarct Volume on Subacute MRI by Quantifying Cerebral Edema in Ischemic Stroke. *J Cereb Blood Flow Metab*. 2017; 37(8):3077-3084.
19. **Tipirneni-Sajja A**, Loeffler RB, Oesingmann N, Bissler J, Song R, McCarville B, Jones DP, Hudson M, Spunt SL, Hillenbrand CM. Measurement of glomerular filtration rate by dynamic contrast-enhanced magnetic resonance imaging using a subject-specific two-compartment model. *Physiol Rep*. 2016 Apr; 4(7).
20. Wheeler HM, Mlynash M, Inoue M, **Tipirneni A**, Liggins J, Bammer R, Lansberg MG, Kemp S, Zaharchuk G, Straka M, Albers GW; DEFUSE 2 Investigators. The growth rate of early DWI lesions is highly variable and associated with penumbral salvage and clinical outcomes following endovascular reperfusion. *Int J Stroke* 2015; 10(5):723-9.
21. Inoue M, Mlynash M, Christensen S, Wheeler HM, Straka M, **Tipirneni A**, Kemp SM, Zaharchuk G, Olivot JM, Bammer R, Lansberg MG, Albers GW; DEFUSE 2 Investigators. Early diffusion-weighted imaging reversal after endovascular reperfusion is typically transient in patients imaged 3 to 6 hours after onset. *Stroke*. 2014 Apr; 45(4):1024-8.

22. Inoue M, Mlynash M, Straka M, Kemp S, Jovin TG, **Tipirneni A**, Hamilton SA, Marks MP, Bammer R, Lansberg MG, Albers GW, et al. Clinical outcomes strongly associated with the degree of reperfusion achieved in target mismatch patients: pooled data from the Diffusion and Perfusion Imaging Evaluation for Understanding Stroke Evolution studies. *Stroke*. 2013 Jul; 44(7):1885-90.
23. Wheeler HM, Mlynash M, Inoue M, **Tipirneni A**, Liggins J, Zaharchuk G, Straka M, Kemp S, Bammer R, Lansberg MG, Albers GW, et al. Early diffusion-weighted imaging and perfusion-weighted imaging lesion volumes forecast final infarct size in DEFUSE 2. *Stroke*. 2013 Mar;44(3):681-5
24. Lansberg MG, Straka M, Kemp S, Mlynash M, Wechsler LR, Jovin TG, Wilder MJ, Lutsep HL, Czartoski TJ, Bernstein RA, Chang CW, Warach S, Fazekas F, Inoue M, **Tipirneni A**, Hamilton SA, Zaharchuk G, Marks MP, Bammer R, Albers GW; for the DEFUSE 2 study investigators. MRI profile and response to endovascular reperfusion after stroke (DEFUSE 2): a prospective cohort study. *Lancet Neurol.*, 2012 Oct; 11:860:867
25. Song R, **Tipirneni A**, Loeffler RB, Hillenbrand CM. Evaluation of respiratory liver and kidney movements for MRI navigator gating. *J Magn Reson Imaging* 2011; 33:143–148.

CONFERENCE PUBLICATIONS

1. Shrestha U, Satapathy S, Vanatta J, **Tipirneni-Sajja A***. Evaluation of Concomitant Presence of Iron Overload and Hepatic Steatosis using Monte Carlo Simulations at 0.75 T. *Proc Intl Soc Mag Reson Med* 2024.
2. Shrestha U, Morin CM, Abramson ZR, **Tipirneni-Sajja A***. Single Generalized Convolutional Neural Network for Automatic Liver Extraction and R2* Estimation for Iron Overload Assessment. *Proc Intl Soc Mag Reson Med* 2024.
3. Esparza J, Shrestha U, Makhani S, Satapathy SK, Tipirneni-Sajja A*. CNN for Automatic Estimation of Paraspinal Skeletal Muscle Index for Assessment of Sarcopenia and Correlation with Liver Frailty. *Proc Intl Soc Mag Reson Med* 2024.
4. Shrestha U, Esparza J, Satapathy S, Vanatta J, **Tipirneni-Sajja A***. Comparing the Accuracy of Single- and Dual-R2* Fat-water models for Assessing Hepatic Steatosis and Iron Overload using Monte Carlo Simulations. *Proc Intl Soc Mag Reson Med* 2023.
5. Shrestha U, Morin C, Loeffler RB, Abramson Z, Hankins JS, Hillenbrand CM, **Tipirneni-Sajja A***. Automatic Extraction of Liver Parenchyma and R2* Estimation using Deep Learning for UTE Imaging for Assessment of Hepatic Iron Overload. *Proc Intl Soc Mag Reson Med* 2023.
6. Brasher S, Chan A, Khan A, Abramson Z, Morin C, **Tipirneni-Sajja A***. Impact of Iron Particle Sizes on R2* Estimation in Phantoms Mimicking Hepatic Iron Overload and Steatosis Using MRI. *Proc Intl Soc Mag Reson Med* 2023.
7. Neupane P, Shrestha U, **Tipirneni-Sajja A***. R2* Estimation by Multispectral Fat-Water Models for GRE and UTE Acquisitions Using Virtual Liver Iron Overload Model and Monte Carlo Simulations. *Proc Intl Soc Mag Reson Med* 2023.
8. Esparza J, Morin C, Goode C, Abramson Z, **Tipirneni-Sajja A***. Comparison of Single-Slice Liver R2* Estimation with FerriSmart for Assessment of Hepatic Iron overload. *Proc Intl Soc Mag Reson Med* 2023.
9. Johnson H, **Tipirneni-Sajja A***. NMR Metabolite Quantification by Neural Networks Using Explainable AI Approach. *Experimental Nuclear Magnetic Resonance Conference* 2023.

10. Johnson H, **Tipirneni-Sajja A***. Real-Time, High-throughput Lipid Quantification for NMR Metabolomics Using a Neural Network Approach. Metabolomics Association of North America 2022.
11. Yates T, Johnson H, **Tipirneni-Sajja A***. Examining the Renal Lipidomic Effects of High-fat Diet and Sex in Nile Grass Rats using NMR Spectroscopy. Metabolomics Association of North America 2022.
12. Shrestha U, Esparza J, Satapathy S, Vanatta J, **Tipirneni-Sajja A***. Comparison of Single- and Dual-R2* Relaxivity and Estimation of Fat Fraction Using Steatosis Modeling and Monte Carlo Simulations. Proc Intl Soc Mag Reson Med 2022.
13. Brasher S, Morin C, **Tipirneni-Sajja A***. Impact of Fat Droplet Sizes on R2* in Fat-Iron phantoms for Accurate Assessment of Hepatic Steatosis and Iron Overload Using MRI. Proc Intl Soc Mag Reson Med 2022.
14. Neupane P, Shrestha U, **Tipirneni-Sajja A***. Simulation of a Virtual Liver Iron-overload Model and Estimation of R2* Using Complex Fat-Water Models. Proc Intl Soc Mag Reson Med 2022.
15. Shrestha U, Esparza J, Satapathy S, Vanatta J, **Tipirneni-Sajja A***. Combined Effect of Iron Overload and Steatosis on Liver R2* Using Morphological Modeling and MRI Signal Synthesis via Monte Carlo Simulations. Proc Intl Soc Mag Reson Med 2022.
16. Johnson H, Yates T, Ramanathan C, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. Time-domain NMR lipid profiling for Investigating time-restricted feeding and metabolic sexual dimorphism in Nile grass rats. Proc Intl Soc Mag Reson Med 2022.
17. Johnson H, **Tipirneni-Sajja A***. Neural Network for Lipid Profile Determination from Time-domain NMR Data. Experimental Nuclear Magnetic Resonance Conference 2022.
18. Johnson H, Ramanathan C, Puppa M, Rohani SN, van der Merwe M, **Tipirneni-Sajja A***. Robust and reproducible time-domain NMR metabolomics of hepatic tissues using CRAFT. Metabolomics Association of North America 2021.
19. Johnson H, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. CRAFT for Time-Domain Quantification of Aqueous Hepatic Metabolites. Experimental Nuclear Magnetic Resonance Conference 2021.
20. Shrestha U, van der Merwe M, Kumar N, Jacobs E, Satapathy SK, Morin C, **Tipirneni-Sajja A***. Stereological Modeling of Hepatic Steatosis and Estimating Independent R2* for Water and Fat using Monte Carlo Simulations. Proc Intl Soc Mag Reson Med 2021.
21. Rohani SC, Morin C, Kannengiesser S, Holtrop J, Khan A, Loeffler R, Hillenbrand C, Hankins J, **Tipirneni-Sajja A***. Hepatic iron quantification Using a Free-breathing 3D Radial Dixon Technique and Validation with a 2D GRE Biopsy Calibration. Proc Intl Soc Mag Reson Med 2021.
22. Shrestha U, van der Merwe M, Kumar N, **Tipirneni-Sajja A***. Modeling Hepatic Steatosis and Predicting MRI-based Tissue Relaxation Using Monte Carlo Simulations. Biomedical Engineering Society Meeting 2020.
23. Yunis O, Kazmi S, Courtney J, **Tipirneni-Sajja A**, Wilson T, Gray R, Goodin G. Effect of Thinner Slice Reconstruction on Detectability of Small, Low-contrast Targets in Heterogeneous Anthropomorphic Pediatric CT Head Phantom. Biomedical Engineering Society Meeting 2020.
24. Johnson H, Puppa M, van der Merwe M, **Tipirneni-Sajja A***. CRAFT for NMR lipidomics: Targeting lipid metabolism in leucine-supplemented tumor-bearing mice. Metabolomics Association of North America 2020.
25. **Tipirneni-Sajja A**, Loeffler RB, Hankins JS, Hillenbrand CM. Quantitative Susceptibility Mapping using a Multi-spectral ARMA Model for Assessment of Hepatic Iron Overload. Proc Intl Soc Mag Reson Med 2020.

26. Loeffler RB, McCarville MB, **Tipirneni-Sajja A**, Hankins JS, Hillenbrand CM. Automated MR HIC Determination using Deep Learning and Frangi Filters. Proc Intl Soc Mag Reson Med 2020.
27. Guyton WC, Jacobs E, **Tipirneni-Sajja A***. Hepatic Iron Modeling Using Monte Carlo Simulations. Proceedings of the National Conferences on Undergraduate Research 2020.
28. Shrestha U, van der Merwe M, Kumar N, **Tipirneni-Sajja A***. Automated Segmentation and Characterization of Lipid Droplets in Hepatic Steatosis. 36th Southern Biomedical Engineering Conference 2020.
29. Johnson H, Pham T, Puppa M, **Tipirneni-Sajja A***. Examining the Lipidomic Effects of Leucine Supplementation in Mice Inoculated with Lewis Lung Carcinoma. Metabolomics Association of North America 2019.
30. Thamizharasan G, Russell A, Beinkampen J, Holtrop J, Williams J, **Tipirneni-Sajja A***. Magnetic Resonance Elastography Phantoms to Mimic Liver Tissue Stiffness and Validation with Uniaxial Compression Test. Biomedical Engineering Society Meeting 2019.
31. **Tipirneni-Sajja A**, Hillenbrand CM. Quantitative Susceptibility Mapping Using ARMA Field Map for Assessment of Hepatic Iron Overload. Biomedical Engineering Society Meeting 2018.
32. **Tipirneni-Sajja A**, Song R, McCarville MB, Loeffler RB, Hankins JS, Hillenbrand CM. Automated Vessel Exclusion on Free-Breathing Ultrashort Echo Time Imaging For Assessment of Hepatic Iron Overload By R2*-MRI. International Pediatric Radiology Conjoint Meeting 2018.
33. **Tipirneni-Sajja A**, Loeffler RB, Sajewski AN, Hankins JS, Hillenbrand CM. Ultra-short Echo Time Imaging for Quantification of Hepatic Iron Overload: Comparison of Current Acquisition and Fitting Methods via Simulations and Phantom Data. Proc Intl Soc Mag Reson Med 2018.
34. **Tipirneni-Sajja A**, Song R, McCarville MB, Loeffler RB, Hankins JS, Hillenbrand CM. Assessment of Hepatic Iron Content by an Automatic Vessel Exclusion Technique in Patients with Iron Overload. Proc Intl Soc Mag Reson Med 2017.
35. **Tipirneni-Sajja A**, Kercher EM, Loeffler RB, Song R, Robson MD, McCarville MB, Hankins JS, Hillenbrand CM. Does T1 Mapping Provide Additional Information in the Context of Hepatic Iron Overload? Proc Intl Soc Mag Reson Med 2017.
36. **Tipirneni-Sajja A**, Krafft AJ, Taylor B, Loeffler RB, Song R, Artz N, Hankins JS, Hillenbrand CM. Simultaneous Iron and Fat Quantification Using an Auto Regressive Moving Average Model at 1.5T and 3T. Proc Intl Soc Mag Reson Med 2017.
37. Puri L, Hankins JS, Hillenbrand CM, Flanagan J, Kang G, Bi W, **Tipirneni-Sajja A**, Villavicencio M, Loeffler RB. Genetic Modifiers of Iron Overload in Sickle Cell Disease. The American Society of Pediatric Hematology/Oncology (ASPHO) 2017.
38. **Tipirneni-Sajja A**, McCarville MB, Krafft AJ, Loeffler RB, Song R, Goode C, Fortner G, Hankins JS, Hillenbrand CM. Assessment of Free-breathing R2*-UTE for Hepatic Iron Content Quantification in a Sedated Pediatric Cohort. International Pediatric Radiology Conjoint Meeting 2016.
39. **Tipirneni-Sajja A**, Loeffler RB, Oesingmann N, Duan Y, Winchell AM, Song R, McCarville MB, Hudson M, Spunt SL, Hillenbrand CM. A two-compartment model with automatic time interval selection for estimation of GFR using DCE-MRI in cohort of 28 survivors of unilateral Wilms' tumor. Proc Intl Soc Mag Reson Med 2014.
40. Song R, Loeffler RB, **Tipirneni-Sajja A**, Winchell AM, McCarville MB, Hudson M, Spunt SL, Hillenbrand CM. Renal Perfusion by ASL Is Associated with GFR in Long-Term Survivors of Wilms' Tumor. Proc Intl Soc Mag Reson Med 2014.

41. Brost A, Gupta N, Seeger C, **Tipirneni A**, Han Z, Vos SB, Maclaren JR, Straka M, Fischbein NJ, Bammer R. Automatic Alignment for Tumor Assessment. Proc Intl Soc Mag Reson Med 2013.
42. Inoue M, Wheeler HM, Mlynash M, **Tipirneni A**, Straka M, Kemp SM, Zaharchuk G, Bammer R, Lansberg MG, Albers GW; DEFUSE 2 investigators. Early DWI Reversal Following Endovascular Reperfusion Is Typically Transient. Stroke 2013.
43. Inoue M, Lansberg MG, Mlynash M, Straka M, Kemp SM, **Tipirneni A**, Bammer R, Marks MP, Albers GW. Clinical Outcome Strongly Associated with the Degree of Endovascular Reperfusion Achieved in Target Mismatch. Stroke 2013.
44. Marks MP, Lansberg MG, Mlynash M, Straka M, Kemp SM, Inoue M, **Tipirneni A**, McTaggart R, Zaharchuk G, Bammer R, Albers GW. Correlation of AOL recanalization, TIMI reperfusion and TICI reperfusion with infarct growth and clinical outcome in the DEFUSE 2 Trial. Stroke 2013.
45. Marks MP, Lansberg MG, Mlynash M, Olivot J, Straka M, Kemp S, McTaggart R, Inoue M, **Tipirneni A**, Zaharchuk G, Bammer R, Albers GW. Impact of Collateral Blood Flow on Clinical Presentation, Diffusion and Perfusion Imaging, Infarct Growth and Clinical Outcome in the DEFUSE 2 Trial. Stroke 2013.
46. Wheeler HM, Mlynash M, Inoue M, **Tipirneni A**, Liggins J, Mishra NK, Zaharchuk G, Straka M, Kemp S, Bammer R, Lansberg MG, Albers GW. The Growth Rate of Early DWI Lesions is Highly Variable and Associated with Penumbra Salvage and Clinical Outcomes Following Endovascular Reperfusion. Stroke 2013.
47. **Tipirneni A**, Straka M, Lansberg MG, Mlynash M, Bammer R, Albers GW. A Novel Method for Quantification of Brain Edema in Ischemic Stroke. Stroke 2012.
48. Albers G, Straka M, Kemp S, Mlynash M, Jovin T, Wechsler L, Wilder M, Lutsep H, Keogh B, Bernstein R, Chang C, Warach S, Fazekas F, Thai D, Inoue M, **Tipirneni A**, Hamilton S, Zaharchuk G, Marks M, Bammer R, Lansberg MG. Results of DEFUSE 2: imaging endpoints. Stroke 2012.
49. Mlynash M, Lansberg MG, Straka M, Kemp S, Wechsler LR, Jovin TG, Wilder MJ, Lutsep HL, Czartoski T, Bernstein RA, Chang CW, Warach S, Fazekas F, Thai D, Inoue M, **Tipirneni A**, Hamilton SA, Zaharchuk G, Marks MP, Bammer R, Albers GW. The DEFUSE 2 Investigators. The Malignant MRI profile: Implications for Endovascular Therapy. Stroke 2012.
50. Duan Y, Loeffler RB, Song R, **Tipirneni A**, Spunt S, Oesingmann N, Viano A, Hillenbrand CM. A Robust Method for Reducing Inflow Artifacts in the Arterial Input Function of Dynamic Contrast Enhanced Data Sets. Proc Intl Soc Mag Reson Med 2011.
51. **Tipirneni A**, Song R, Loeffler RB, Hillenbrand CM. Evaluation of the relationship between respiratory hepatic and renal motion using real-time MRI. Proc Intl Soc Mag Reson Med 2009.

MEDIA

Memphis Daily News: www.memphisdailynews.com/news/2017/nov/3/biopsy-breakthrough/

PROFESSIONAL SERVICE

Grant Reviewer

NIH Image Guided Interventions and Surgery Study Section
National Science Foundation Panels

2021, 2022
2021 – present

National Defense Science and Engineering Graduate Fellowship 2021, 2022
Department of Defense Peer Reviewed Medical Research Program 2020

Editorial Board Member 2017 - 2020
Magnetic Resonance Section, European Radiology

Journal Reviewer

European Radiology, Pediatric Radiology, Journal of Cerebral Blood Flow & Metabolism, Journal of Magnetic Resonance Imaging, BMC Medical Imaging, Diagnostic and Interventional Radiology, Frontiers in Neurology, Journal of Visualized Experiments, Magnetic Resonance Materials in Physics, Biology and Medicine, Journal of Clinical and Experimental Hepatology, Magnetic Resonance in Medicine, Scientific Reports, Quantitative Imaging in Medicine and Surgery, NMR in Biomedicine, Journal of Lipid Research

Abstract Reviewer

International Society for Magnetic Resonance in Medicine
Biomedical Engineering Society
Student Research Symposium, University of Memphis

PROFESSIONAL SOCIETIES

International Society for Magnetic Resonance in Medicine 2009, 2014 - present
Metabolomics Association of North America 2019– present
Biomedical Engineering Society 2018 – 2019

INVITED TALKS

- IVAN Workshop “FT and TD-NMR are Complementary for Metabolomics”, Jan 2023.
- Quantitative Liver MRI. B.V. Raju Institute of Technology, Hyderabad, India, June 2022
- Panelist, Memphis DATA Conference, March 2022
- Quantitative Metabolomics Using NMR, College of Health Sciences, University of Memphis, 2021
- BMES Graduate School Panel, University of Memphis, 2021
- Advances in Quantitative Liver MRI for Assessment of Iron Overload and Steatosis. International e–Conference on Evolution of Scientific Technology in Medical Imaging and Instrumentation (CESMI) 2020.

OUTREACH

- **St Jude DI Internship Coordinator** 2019 –
Initiated and leading an internship program between the Department of Diagnostic Imaging at St. Jude Children's Research Hospital and the Biomedical Engineering Program at the University of Memphis for undergraduate students interested in pursuing biomedical imaging research.
- **K-12 Outreach Chair, Society of Women Engineers** 2021 –
 - Planning, organizing, conducting, and assisting K-12 STEM outreach activities
- **Steering Committee Member for West TN STEM Hub** 2020 –
 - Serving as a steering committee member of West TN STEM Hub for promoting support programs for K-12 Shelby County Schools.
- **GradSWE mentor**

- Mentoring undergraduate women in engineering by sharing experiences and guiding them professionally to become successful engineers.
- **High School Summer Internships** 2022 –
 - Mentored 2 high-school students to pursue IB Physics Projects related to NMR metabolomics.
- **Museum of Science & History** 2021, 2022
 - Organized booth at STEAM Fest for K-12 to conduct outreach activities on biomedical imaging.
 - Organized booth at Fossil Fest for K-12 students and families
- **STEM Invited Talks**
Delivered STEM talks to students across Shelby County K-12 schools
 - **West TN STEM Hub** Jan-2021
Title: ‘The Science of Seeing Inside the Body from Outside Using Medical Imaging’
 - **Grahamwood Elementary, 5th Grade** Feb-2021
 - Invited to deliver STEM education to students by the class teacher.
 - **Hutchison SWENext Club** Sep-2021
 - Invited to deliver a short presentation on MRI research performed at the University of Memphis and in collaboration with St. Jude Children’s Research Hospital.
 - **Germantown High School, IB Physics** Jan-2022
 - Delivered seminar on NMR metabolomics and about the summer internship opportunities
- **Ecybermission STEM Competition, US Army Outreach Program** 2022 –
 - Mentored a middle school team on a scientific hypothesis testing project that won as State Winners and selected as Regional Finalists (2022)
 - Mentored a middle school team on an engineering design & testing project that won as State and Regional Winners and selected as Nationalist Finalists (2023)

ADVISING/MENTORING

Graduate level

- Sarah Brasher — MS June 2021 – April 2023
 - 2nd author journal publication
 - Presented research at ISMRM 2022, 2023 conferences
 - 2nd place in Engineering, UofM Student Research Forum
- Prasiddhi Neupane — MS July 2021 – April 2023
 - Presented research at ISMRM 2022, 2023 conferences
- Utsav Shrestha — PhD candidate August 2020 –
 - Received College Herff Fellowship for PhD
 - MS thesis Research Mentee
 - 2 first-author, 1 co-author manuscript publications
 - Presented research at BMES, SBEC & ISMRM conferences
 - Received educational stipend for ISMRM conference
- Hayden Johnson — MS & PhD candidate August 2019 –
 - Published 3 first-authored manuscripts
 - Presented research at MANA, ENC, ISMRM conferences

- Completed MS in Spring 2022
- Juan Esparza — MS candidate July 2022 –
 - First-author abstract selected for ISMRM conference

Undergraduate level

- Juan Esparza 2021-2022
 - 1st author journal publication
 - Honors Summer Research Fellowship 2021
 - Presented research at Posters at Capitol, WIPS
 - BME Honors Thesis
- Annie Chan 2022
 - Pursued research studies
- Beida Segura 2022
 - Pursued research studies
- Lara van Heerden 2022
 - Assisted with MRI phantom project
- Thomas Yates 2021-
 - Presented research at WIPS
 - Co-author of a journal article
- Gary Leedom 2021
 - Presented research at WIPS
 - Co-author of a journal article
- William Chase Guyton 2019
 - Honors Summer Research Fellowship 2019
 - Selected for Oral Presentation at National Conference on Undergraduate Research 2020
- Gautam Thamizharasan, Alexandra Russell, Jack Beinkampen 2019
 - Mentored Senior Design Project
 - Presented poster at BMES 2019
- Shawyon Chase Rohani 2020 – 2021
 - 1 first-author manuscript publication
 - St. Jude Diagnostic Imaging Internship
 - Accepted at UTHSC for Medical School
- Omar Yunis, Shehroz Kazmi, James Courtney 2020 – 2021
 - Mentored Senior Design Project
 - Presented poster at BMES 2020

Graduate Committee Service

Committee Chair

- Hayden Johnson, Biomedical Engineering
 - Multi-tissue Time-domain NMR Metabolomics for Robust and Accurate Assessment of Dietary Effects. MS Thesis. Spring 2022
- Sarah Brasher, Biomedical Engineering
 - Impact of Particle Sizes on Signal Relaxation in Phantoms for Assessment of Hepatic Steatosis and Iron Overload. MS Thesis. Spring 2023
- Prasiddhi Neupane, Biomedical Engineering

- Simulation of a Virtual Iron-overload Model and R2* Estimation Using Multispectral Fat-water Models For GRE And UTE Acquisitions Using MRI. MS Thesis. Spring 2023

Committee Member

- Utsav Shrestha, MS, Computer Science
 - Quantitative Analysis and Monte Carlo Modeling of Fat-Mediated MRI Relaxation. MS Thesis. August 2020.
- Abdullah Bahour, MS, Biomedical Engineering
 - Modeling the Shear Strength of the Pig Proximal Femoral Epiphyseal Plate. MS Project. August 2020.
- Haatef Pourmotabbed, MS, Biomedical Engineering
 - Reliability of Graph Measures Derived from Resting-State MEG Data Using Source Space Functional Connectivity Analysis. MS Thesis. October 2020.
- Masumeh Kazemi, PhD, Biomedical Engineering
 - Experimental and Computational Studies of the Growth Plate Reserve Zone and Chondro-Osseous Junctions. PhD defense. Jan 2021.
- Ali Salehi, PhD, Electrical & Computer Engineering
 - Learning Motion Estimation. PhD defense. Summer 2021.
- Ronald Peronne, PhD, Biomedical Engineering
 - The morphogenesis of porcine femoral head mammillary processes. A structural mechanism of biomechanical stability. PhD defense. Summer 2022
- Jabia Mostofa Chowdhury, PhD, Electrical & Computer Engineering
 - Multiphysics based Computational Modeling of Ocular Therapeutics, PhD defense. Fall 2022
- Omar Yunis, MS, Biomedical Engineering
 - Development and Characterization of a Lateral Localization Post-processing Algorithm Using Multiple Receive Apodizations. MS Thesis. Spring 2022
- Kashta Dozier-Muhammad, MS, Biomedical Engineering
 - Improved Image Uniformity Using Optimized Diverging-Wave Acquisition Sequence for High Frame Rate Pulse-Echo Ultrasound. MS Thesis. Spring 2023
- Solomon Haileab Mesfin, MS, Biomedical Engineering
 - MS Project. Spring 2023
- Lydia Ross, MS, Biomedical Engineering
 - MS Thesis. Summer 2023

DEPARTMENT COMMITTEE SERVICE

- Faculty Search Committee, Biomedical Engineering 2023
- St Jude DI Internship Coordinator
- Postdoctoral Hiring Committee, Biomedical Engineering, October 2019
- Administrative Associate Hiring Committee, Biomedical Engineering, December 2020, July 2021

UNIVERSITY COMMITTEE SERVICE

- Faculty Search Committee, Civil Engineering 2022

- First Generation PhD Fellowship Committee 2020, 2022
- Works-in-progress Symposium Judge, 2020 - present
- Research Forum Judge 2021- present
- Quaesitum: UofM Undergraduate Research Journal Reviewer