

Fan Lam, Ph. D.

Assistant Professor of Bioengineering
University of Illinois Urbana-Champaign
405 N. Mathews Ave, Room 4061
Urbana, IL, 61801

Email: fanlam1@illinois.edu

Phone: 217-300-3713

Homepage: <http://lam.bioengineering.illinois.edu/>

ORCID: <https://orcid.org/0000-0002-4124-0663>

EDUCATION

- 2004 – 2008 B.S. Biomedical Engineering (BME)
Tsinghua University (Beijing, China)
- 2008 – 2011 M.S. Electrical and Computer Engineering (ECE)
University of Illinois Urbana-Champaign (UIUC)
- 2011 – 2015 Ph.D. Electrical and Computer Engineering
University of Illinois Urbana-Champaign

POSITIONS

- 2022 – Now Director, MS in Biomedical Image Computing, Department of Bioengineering, UIUC
- 2018 – Now Assistant Professor, Department of Bioengineering, UIUC
Affiliated with ECE, Beckman, IGB, CI-MED, NSP
- 2015 – 2018 Beckman Institute Postdoctoral Fellow, UIUC
- 2010 – 2015 Graduate Research Assistant, Beckman Institute, UIUC
- 2010 Assistant Scientist Intern, Applied Science Lab, GE Healthcare, Waukesha, WI
- 2009 – 2010 Graduate Teaching Assistant, ECE, UIUC
- 2008 – 2009 Graduate Research Assistant, ECE, UIUC

AWARDS AND RECOGNITIONS

- 2023 Scialog Fellow on Advancing BioImaging (ABI)
- 2023 Cozzarelli Prize Finalist, *PNAS*
- 2022 List of Teachers Ranked as Excellent by Students (Fall 2022)
- 2021 NIH-NIGMS Maximizing Investigators' Research Award (MIRA R35)
- 2021 IEEE Senior Membership
- 2020 Distinguished Reviewer Award, IEEE Tran. Med. Imaging (TMI)
- 2020 NIH-NIBIB Trailblazer Award
- 2020 National Science Foundation (NSF) CAREER Award
- 2019,2021 List of Teachers Ranked as Excellent by Students (Fall 2019; Fall 2021)
- 2017 Junior Fellow, International Society of Magnetic Resonance in Medicine (ISMRM)
- 2017, 2018 Summa Cum Laude Abstract Awards, ISMRM
- 2015 – 2019 Distinguish Reviewer Awards, *Magnetic Resonance in Medicine*
- 2015 Beckman Institute Postdoctoral Fellow Award, UIUC
- 2015 Robert T. Chien Memorial Award, ECE, UIUC
- 2015 First Place Abstract Award, MR Spectroscopy Study Group, ISMRM
- 2015 Best Student Paper Award, *International Symposium on Biomedical Imaging*
- 2013 NSF Scholar Travel Award, *International Symposium on Biomedical Imaging*
- 2012 Beckman Institute Graduate Fellow Award, UIUC
- 2010 Computational Science and Engineering Fellowship, UIUC
- 2005 – 2007 Tsinghua University Scholarship for Excellent Academic Performance

CAMPUS SERVICES

- 2022 – Present Director of the MS in Biomedical Image Computing program, Bioengineering
- 2022 – Present Undergraduate Curriculum Committee, Bioengineering
- 2019 -- 2021 Graduate Admission Committee, Bioengineering
- 2019 -- 2022 Beckman Institute Program Advisory Committee, UIUC
- 2019 – Present Working group for the MS Degree in Biomedical Image Computing, Bioengineering
- 2019 -- 2020 Neuroscience Program Admission Committee, UIUC

PROFESSIONAL SOCIETY ACTIVITIES

Member	ISMRM, IEEE, OHBM (Organization for Human Brain Mapping)
Committee	Young Scholars Committee Co-Chair, WACBE (World Association for Chinese Biomedical Engineers), 2020 - Present Program Committee for International Symposium on Biomedical Imaging (2020) ISMRM Annual Meeting Program Committee (2018, Junior Fellow Observer) ISMRM Trainee Advisory Working Group (2017-2018)
Session Chair	ISMRM 2022 ISMRM 2018, Member Initiated Symposium IEEE EMBC 2014
Journal Editor	Associate Editor, <i>IEEE Transactions on Medical Imaging</i> (2019 - Present) Invited Topic Editor, Brain Imaging Methods, <i>Frontiers in Neuroscience</i> Invited Topic Editor, <i>Sensors</i> (Declined)
Reviewer	<i>IEEE Transactions on Biomedical Engineering</i> <i>IEEE Transactions on Medical Imaging</i> <i>IEEE Journal of Biomedical and Health Informatics</i> <i>IEEE Signal Processing Magazine</i> <i>Proceedings of the IEEE</i> <i>Signal Processing Letters</i> <i>Magnetic Resonance in Medicine</i> <i>NMR in Biomedicine</i> <i>Magnetic Resonance Imaging</i> <i>Medical Physics</i> <i>NeuroImage</i> <i>Medical Image Analysis</i> <i>Science Advances</i> <i>Analytical Chemistry</i>

PEER-REVIEWED PUBLICATIONS (SELECTED)**Selected Journal Papers (+ Co-correspondence; * Equal contributions)**

1. Z. Wang, Y. Li, C. Cao, A. Anderson, G. Huesmann, **F. Lam**, Multi-parametric molecular imaging of the brain using optimized J-resolved subspace MRSI, *IEEE TBME*, Under review.
2. R. Zhao, X. Peng, V. A. Kelkar, M. A. Anastasio, **F. Lam**, High-dimensional MR reconstruction integrating subspace and adaptive generative models, arXiv, 2023.
<https://doi.org/10.48550/arXiv.2306.08630>
3. Y. R. Xie, D. C. Castro, S. S. Rubakhin, J. V. Sweedler⁺, **F. Lam**⁺, Integrative multiscale biochemical mapping of the brain via deep-learning-enhanced high-throughput mass spectrometry, BioRxiv, 2023. <https://doi.org/10.1101/2023.05.31.543144> (Under external review at Nature Methods).
4. **F. Lam**, X. Peng, Z.-P. Liang, High-dimensional MR spatio-spectral imaging by integrating physics-based modeling and data-driven machine learning, *IEEE Sig. Proc. Mag.*, 40:101-115, 2023.
5. A. Shaffer, S.S. Kwok, A. Naik, A. T. Anderson, **F. Lam**, T. Wszalek, P. M. Arnold, W. Hassaneen. Ultra-high-field MRI in the diagnosis and management of gliomas: A systematic review. *Front. Neurol.* vol. 13, 2022.
6. Y. Xie, D. C. Castro, S. S. Rubakhin, J. V. Sweedler⁺, **F. Lam**⁺, Enhancing the throughput of FT mass spectrometry imaging using compressed sensing and subspace modeling. *Anal. Chem.*, 94:5335–5343, 2022.
7. **F. Lam**, J. Chu, J. S. Choi, C. Cao, T. K. Hitchens, S. K. Silverman, Z.-P. Liang, R. N. Dilger, G. E. Robinson, K. C. Li, Epigenetic MRI: Noninvasive imaging of DNA methylation in the brain. *Proc. Natl. Acad. Sci.* 119:e2119891119, 2022.
8. Y. Li, Z. Wang, **F. Lam**, SNR enhancement for multi-TE MRSI using joint low-dimensional model and spatial constraints, *IEEE Trans. Biomed. Eng.*, 69:3087-3097, 2022.

9. X. Peng, B. Sutton, **F. Lam**, Z.-P. Liang, DeepSENSE: Learning coil sensitivity functions for SENSE reconstruction using deep learning. *Magn Reson Med.* 87:1894-1902, 2022.
10. Z. Wang, Y. Li, **F. Lam**, High-resolution, 3D multi-TE ¹H-MRSI using fast spatio-spectral encoding and subspace imaging, *Magn. Reson. Med.*, 87:1103-1118, 2022.
11. Y. Li, Z. Wang, R. Sun, **F. Lam**, Separation of metabolites and macromolecules for short-TE ¹H-MRSI using learned component-specific representations, *IEEE Trans. Med. Imaging*, 40:1157-1167, 2021. DOI: 10.1109/TMI.2020.3048933.
12. Y. R. Xie, D. C. Castro, **F. Lam**⁺, J. Sweedler⁺, Accelerating Fourier Transform - Ion Cyclotron Resonance mass spectrometry imaging using a subspace approach. *J. Am. Soc. Mass Spectrom.*, 31:2338-2347, 2020. (⁺Co-corresponding author)
13. R. A. Hamideh, B. Akbari, P. Fathi, S. K. Misra, A. Sutrisno, **F. Lam**, D. Pan, Biodegradable MRI visible drug eluting stent reinforced by metal organic frameworks. *Adv. Healthcare Mater.*, 9:2000136, 2020.
14. B. Clifford, Y. Gu, Y. Liu, K. Kim, S. Huang, Y. Li, **F. Lam**, Z.-P. Liang, X. Yu, High-resolution dynamic ³¹P-MR spectroscopic imaging for mapping mitochondrial function, *IEEE Trans. Biomed. Eng.*, 67:2745-2753, 2020 (**TBME Highlight Article**).
15. **F. Lam**, B. P. Sutton, Intravoxel B₀ inhomogeneity corrected reconstruction using a low-rank encoding operator, *Magn. Reson. Med.*, 84:885-894, 2020.
16. **F. Lam**, Y. Li, X. Peng, Constrained magnetic resonance spectroscopic imaging by learning nonlinear low-dimensional models, *IEEE Trans. Med. Imaging*, 39:545-555, 2020. (*Corresponding Author*)
17. **F. Lam**, Y. Li, R. Guo, Y. Zhao, B. Clifford, Z.-P. Liang, Ultrafast magnetic resonance spectroscopic imaging using SPICE with learned subspaces, *Magn. Reson. Med.*, 83:377-390, 2020.
18. X. Peng^{*}, **F. Lam**^{*}, Y. Li, B. Clifford, Z.-P. Liang, Simultaneous QSM and metabolic imaging of the brain using SPICE, *Magn. Reson. Med.*, 79:13-21, 2018.
19. **F. Lam**, Y. Li, B. Clifford, Z.-P. Liang, Macromolecule mapping of the brain using ultrashort-TE acquisition and reference-based metabolite removal, *Magn. Reson. Med.*, 79:2460-2469, 2018.
20. Y. Li, **F. Lam**, B. Clifford, Z.-P. Liang, A subspace approach to spectral quantification for MR spectroscopic imaging, *IEEE Trans. Biomed. Eng.*, 64:2486-2489, 2017 (**TBME Highlight Article**).
21. C. Ma, **F. Lam**, Q. Ning, C. L. Johnson, Z.-P. Liang. High-resolution ¹H-MRSI of the brain using short-TE SPICE. *Magn. Reson. Med.*, 77:467-479, 2017.
22. Q. Ning, C. Ma, **F. Lam**, Z.-P. Liang. Spectral quantification for high-resolution MR spectroscopic imaging with spatio-spectral constraints, *IEEE Trans. Biomed. Eng.*, 64:1178-1186, 2016.
23. **F. Lam**, C. Ma, B. Clifford, C. L. Johnson, Z.-P. Liang. High-resolution ¹H-MRSI of the brain using SPICE: Data Acquisition and Image Reconstruction, *Magn. Reson. Med.*, 76:1059-1070, 2017. (**Cover Feature Article**).
24. **F. Lam** and Z.-P. Liang. A subspace approach to high-resolution spectroscopic imaging. *Magn. Reson. Med.*, 71:1349-1357, 2014.
25. J. He, Q. Liu, A. Christodoulou, C. Ma, **F. Lam**, Z.-P. Liang. Accelerated high-dimensional MR imaging with sparse sampling using low-rank tensors, *IEEE Trans. Med. Imaging*, 35:2119-2129, 2016.
26. **F. Lam**, D. Liu, Z. Song, N. Schuff, Z.-P. Liang. A fast algorithm for rank and edge constrained denoising of magnitude diffusion-weighted images. *Magn. Reson. Med.*, 75:433-440, 2016.
27. B. Zhao, **F. Lam**, Z.-P. Liang. Model-based MR parameter mapping with sparsity constraints: Parameter estimation and performance bounds. *IEEE Trans. Med. Imaging*, 33:1832-1844, 2014.
28. **F. Lam**, S. D. Babacan, J. P. Haldar, M. W. Weiner, N. Schuff, Z.-P. Liang. Denoising diffusion-weighted magnitude MR images using rank and edge constraints. *Magn. Reson. Med.*, 71:1272-1284, 2014.
29. X. Qu, Y. Hou, **F. Lam**, D. Guo, J. Zhong, Z. Chen. Magnetic resonance image reconstruction from undersampled measurements using a patch-based nonlocal operator. *Medical Image Analysis*, 18:843-856, 2014.
30. A. T. Mudd, J. E. Fil, L. C. Knight, **F. Lam**, Z.-P. Liang, R. N. Dilger, Early-life iron deficiency reduces brain iron content and alters brain tissue composition despite iron repletion: A neuroimaging assessment, *Nutrients*, 10:135, 2018.

31. C. Ma, B. Clifford, Y. Liu, Y. Gu, **F. Lam**, X. Yu, Z.-P. Liang, High-resolution dynamic ^{31}P -MRSI using a low-rank tensor Model, *Magn. Reson. Med.*, 78:419-428, 2017.

Selected Conference Papers/Abstracts

- Y. Li, Z. Wang, A. Anderson, R. Zhao, P. Arnold, G. Huesmann, **F. Lam**, Fast MRSI reconstruction combining linear and nonlinear manifold models, Proc. of ISMRM, 2023, p.0870.
- Y. Wang, S. S. Rubakhin, **F. Lam**, High-resolution 1H-MRSI of the brain at 9.4T integrating relaxation enhancement and subspace imaging, Proc. of ISMRM, 2023, p.3691.
- R. Zhao, X. Peng, **F. Lam**, Integrating Adaptive Generative Network and Subspace Models for Accelerated MR Parameter Mapping, Proc. of ISMRM, 2023, p.1628.
- R. Zhao, Y. Li, Z. Wang, A. Anderson, P. Arnold, G. Huesmann, **F. Lam**, MR spatiospectral reconstruction using plug&play denoiser with self-supervised training, Proc. of ISMRM, 2023, p.0955.
- Z. Wang, Y. Li, **F. Lam**, Whole-brain multi-parametric molecular imaging using accelerated J-resolved subspace 1H-MRSI, In Proc. of ISMRM, 2023, p.3682.
- **F. Lam**, Y. Li, Y. Zhao, J. Haldar, Improving lipid suppression for 1H-MRSI using region-optimized virtual coils, In Proc. of ISMRM 2022, p. 2621.
- Z. Wang, Y. Li, **F. Lam**, High-Resolution brain metabolite T2 mapping using optimized multi-TE MRSI, In Proc. of ISMRM 2022, p. 4998.
- Z. Wang, **F. Lam**, Fast volumetric diffusion-weighted MRSI: improved acquisition and data processing, In Proc. of ISMRM 2022, p. 3524.
- X. Ye, Z. Wang, **F. Lam**, Improved nuisance signal removal for 1H-MRSI using a low-rank plus sparse model with learned subspaces, In Proc. of ISMRM 2022, p. 4315.
- R. Zhao, Z. Wang, **F. Lam**, Generative image prior constrained subspace reconstruction for high-resolution MRSI, In Proc. of ISMRM 2022, p. 3500.
- Y. Li, L. Ruhm, A. Henning, **F. Lam**, LeaRning nonlineAr representatlon and projectlon for faSt constrained MRSI rEconstruction (RAISE), In Proc. of ISMRM 2022, p. 4808.
- Y. Li, Z. Wang, **F. Lam**, High-SNR J-Resolved MRSI by jointly learning nonlinear representation and projection, In Proc. of ISMRM 2022, p. 3560.
- Z. Wang, **F. Lam**, High resolution volumetric diffusion-weighted MRSI using a subspace approach, In Proc. of ISMRM 2021, p. 37.
- **F. Lam**, H. Hetherington, J. Pan, Rapid MRSI of the brain on 7T using subspace-based processing, In Proc. of ISMRM 2021, p. 2206.
- Z. Wang, Y. Li, **F. Lam**, Optimized subspace-based J-resolved MRSI for simultaneous metabolite and neurotransmitter mapping, In Proc. of ISMRM 2021, p. 72.
- Y. Li, Z. Wang, **F. Lam**, SNR-enhancing reconstruction for multi-TE MRSI using a learned nonlinear low-dimensional model, In Proc. of ISMRM 2021, p. 1998.
- Z. Wang, **F. Lam**, B_0 inhomogeneity corrected reconstruction for low-resolution J-resolved MRSI using low-rank and spatial constraints, In Proc. of ISMRM, 2020, p. 2911.
- Y. Li, Z. Wang, **F. Lam**, Separation of metabolites and macromolecules for short-TE ^1H -MRSI using learned nonlinear models, In Proc. of ISMRM, 2020, p. 2854.
- R.-J. Ho, **F. Lam**, High-resolution 3D spin-echo MRSI using interleaved water navigators, sparse sampling and subspace-based processing, In Proc. of IEEE-EMBC, 2020, pp. 1465-1468.
- Y. Li, Z. Wang, **F. Lam**, Separation of metabolite and macromolecule signals for ^1H -MRSI using learned nonlinear models, In Proc. of IEEE International Symposium on Biomedical Imaging (ISBI), 2020, pp. 1725-1728.
- Y. Li, X. Peng, **F. Lam**, Learning nonlinear low-dimensional models for MR spectroscopic imaging using neural networks, In Proc. of ISMRM, 2019, p. 0947.
- **F. Lam** and B. Sutton, Efficient intravoxel B_0 inhomogeneity corrected reconstruction of multi-gradient-echo images using a low-rank encoding operator, In Proc. of ISMRM, 2019, p. 1257.
- **F. Lam**, Y. Li, Bryan Clifford, X. Peng, Z.-P. Liang, Simultaneous mapping of brain metabolites, macromolecules and tissue susceptibility using SPICE, 2017 Annual Meeting of International Society for Magnetic Resonance in Medicine, Honolulu, p. 1249.
- **F. Lam**, Y. Li, B. Clifford, Z.-P. Liang, Macromolecule mapping with ultrashort-TE acquisition and metabolite spectral prior, 2017 Annual Meeting of International Society for Magnetic Resonance

in Medicine, Honolulu, p. 5518.

- **F. Lam**, B. Cheng, Z.-P. Liang, Accelerated J-resolved MRSI using joint subspace and sparsity constraints, 2017 Annual Meeting of International Society for Magnetic Resonance in Medicine, Honolulu, p. 1202.
- **F. Lam**, Q. Ning, C. Ma, B. Clifford, and Z.-P. Liang. 3D Metabolite and neurotransmitter mapping using multiple-TE encoding with sparse sampling. Annual Meeting of International Society for Magnetic Resonance in Medicine, Singapore, 2016, p. 3182.
- **F. Lam**, H. Lu, Y. Yang, B. Clifford, C. Ma, G. E. Robinson, and Z.-P. Liang. Ultrahigh-resolution metabolic imaging at 9.4 Tesla. Annual Meeting of International Society for Magnetic Resonance in Medicine, Singapore, 2016, p. 385.
- **F. Lam**, C. Ma, Q. Liu, B. Clifford, and Z.-P. Liang. Achieving high spatiotemporal resolution for 1H-MRSI of the brain. Annual Meeting of International Society for Magnetic Resonance in Medicine, Singapore, 2016, p. 2356.
- **F. Lam**, B. Zhao, and Z.-P. Liang. Joint estimation of spherical harmonic coefficients from magnitude diffusion-weighted images with sparsity constraints. IEEE International Symposium on Biomedical Imaging, New York, pp. 947-950, 2015.
- **F. Lam**, B. Clifford, C. Ma, C. L. Johnson, and Z.-P. Liang. Ultra-high resolution 3D 1H-MRSI of the brain: Subspace-based data acquisitions and processing. In Proc. International Society for Magnetic Resonance in Medicine, Toronto, 2015.
- **F. Lam**, C. Ma, B. Clifford, C. Johnson, and Z.-P. Liang. High-resolution MR spectroscopic imaging. Abstract Book, Proc. IEEE Engineering in Medicine and Biology Society, 2014.
- **F. Lam**, C. Ma, T. K. Hitchens, C. Johnson, C. Ho, and Z.-P. Liang. A subspace approach to high-resolution spectroscopic imaging: In vivo experimental results. International Society for Magnetic Resonance in Medicine, Milan, Italy, p. 2894, 2014.
- **F. Lam**, D. Liu, Z. Song, M. Weiner, N. Schuff, and Z.-P. Liang. A fast algorithm for rank and edge constrained denoising of magnitude diffusion-weighted images. International Society for Magnetic Resonance in Medicine, Milan, Italy, p. 410, 2014.
- **F. Lam**, B. Zhao, Y. Liu, Z.-P. Liang, M. Weiner, and N. Schuff. Accelerated fMRI using low-rank model and sparsity constraints. International Society for Magnetic Resonance in Medicine, Salt Lake City, p. 2417, 2013.
- **F. Lam**, B. Zhao, M. Weiner, N. Schuff, and Z.-P. Liang. Denoising image sequences: Algorithm and application to quantitative MR imaging. International Society for Magnetic Resonance in Medicine, Salt Lake City, p. 2471, 2013. (Magna Cum Laude)
- **F. Lam**, C. Ma, and Z.-P. Liang. Performance analysis of denoising with low-rank and sparsity constraints. IEEE International Symposium on Biomedical Imaging: From Nano to Macro, San Francisco, pp. 1211-1214, 2013.
- **F. Lam**, S. D. Babacan, J. P. Haldar, N. Schuff, and Z.-P. Liang. Denoising diffusion-weighted MR magnitude image sequences using low rank and edge constraints. IEEE International Symposium on Biomedical Imaging: From Nano to Macro, pp. 1401-1404, 2012.
- **F. Lam**, S. D. Babacan, N. Schuff, and Z.-P. Liang. Denoising diffusion-weighted MR Images using low rank structure and edge constraints. International Society for Magnetic Resonance in Medicine, p. 4308, 2012.
- **F. Lam**, J. P. Haldar, and Z.-P. Liang. Motion compensation for reference-constrained image reconstruction from limited data. IEEE International Symposium on Biomedical Imaging: From Nano to Macro, pp. 73-76, 2011.
- **F. Lam**, R. Subramanian, D. Xu, and K. F. King. Incorporating support constraints for sparse regularization reconstruction. International Society for Magnetic Resonance in Medicine, p. 2843, 2011.
- **F. Lam**, D. Hernando, K. F. King, and Z.-P. Liang. Compressed sensing reconstruction in the presence of a reference image. International Society for Magnetic Resonance in Medicine, Stockholm, Sweden, p. 4861. 2010.

Patents

- Z.-P. Liang, **F. Lam**, C. Ma, System and method for high-resolution spectroscopic imaging, US20160202336A1, US Patent.
- Z.-P. Liang and **F. Lam**, System and method for ultrafast magnetic resonance spectroscopic

imaging using learned spectral features, US11079453B2, US Patent.

- K. C. Li, G. E. Robinson, Z.-P. Liang, **F. Lam**, S. K. Silverman, Magnetic resonance spectroscopic imaging of brain DNA methylation, Appl. ID: 62587042, US Provisional Patent.
- **F. Lam**, J. V. Sweedler, Y. Xie, Subspace approach to accelerate Fourier transform mass spectrometry imaging, Appl. ID: 17705979, US Patent Pending.

Complete List of Publications at: <https://scholar.google.com/citations?user=UzCv-rwAAAAJ&hl=en>

RESEARCH SUPPORT

Active

NIA, NIH **2022 – 2027**

R01: High-Throughput 3D Multiscale Mass Spectrometry Imaging for Understanding Neurochemical Heterogeneity in Alzheimer's Disease (Contact PI: **Lam**; MPI: Sweedler, Lazarov)

NIGMS, NIH **2021 – 2026**

MIRA R35: Towards In Vivo Imaging of Tissue Metabolomics (PI: **Lam**)

National Science Foundation **2020 – 2025**

CAREER: Ultrahigh-Resolution Magnetic Resonance Spectroscopic Imaging for Label-Free Molecular Imaging of the Brain (PI: **Lam**)

NIBIB, NIH **2020 – 2023**

Trailblazer: A New J-Resolved MRSI Framework for Whole-Brain Simultaneous Metabolite and Neurotransmitter Mapping (PI: **Lam**)

Completed

Chez Veterans Center Seed Grant, UIUC (Completed) **2020 – 2021**

Investigating the Neurochemical Nature of Tinnitus and Hearing Loss using Magnetic Resonance Spectroscopy (PI: Husain) Role: Co-I

MENTORSHIP

Postdoctoral Fellows/Associates

James Chu, PhD

Carle-Illinois College of Medicine Postdoctoral Fellow, 2018 – 2021

Chang Cao, PhD

Beckman Postdoctoral Fellow, 2022 – Present

Timothy Trinklein, PhD

Postdoctoral Associate, 2023 – Present

Graduate Students

Yahang Li, PhD in Bioengineering, 2023

Thesis title: High-Dimensional MR Spectroscopic Imaging Integrating Physics-Based Modeling and Machine Learning

Yuxuan Richard Xie, PhD in Bioengineering, 2023

Thesis title: Multiscale Biochemical Mapping of the Brain through Data-Driven and Machine Learning Enabled Mass Spectrometry

Zepeng Wang, PhD in Bioengineering, Expected 2024

Thesis title (Tentative): Quantitative, Multiparametric Molecular Imaging of the Brain

Ruiyang Zhao, PhD in Electrical and Computer Engineering, Expected 2025

Thesis title (Tentative): Integrating Low-Dimensional Model Learning and Generative Priors for

High-Dimensional Imaging

Yizun Wang, PhD in Bioengineering, Expected 2026

Thesis title: TBD

Xinyu Li, PhD in Bioengineering, Expected 2027

Thesis title: TBD

Jiachen Tu, PhD in Electrical and Computer Engineering, Expected 2027

Thesis title: TBD

INVITED TALKS

- **Quantitative, multidimensional MRSI by integrating spin physics and machine learning**
UT Southwestern Medical Center, 2023
- **Multiscale, multiparametric biochemical imaging of the brain**
University of Delaware, BME Department Seminar, 2023
- **Towards multiplexed, multiparametric molecular imaging of the brain**
Vanderbilt University Institute of Imaging Science, 2023
- **Quantitative, multidimensional MRSI of the brain by integrating spin physics and machine learning**
IEEE Brain Space Initiative, 2023
- **Multiplexed, quantitative molecular imaging of the brain via MR spectroscopic imaging,**
Cedar-Sinai Biomedical Imaging Research Institute (UCLA), 2022
- **MRSI Using Spatial-Spectral Prior Knowledge**
Annual Meeting of the International Society of Magnetic Resonance in Medicine (ISMRM), 2019
- **Ultrafast Magnetic Resonance Spectroscopic Imaging of the Brain**
Center for Biomedical Imaging Research, Tsinghua University, Aug. 2018