

CURRICULUM VITAE (July, 2024)

Yurui Gao (she/her/hers)

Research Assistant Professor
Biomedical Engineering
Vanderbilt University
Vanderbilt University Imaging Institute of Science (VUIIS)
Vanderbilt University Medical Center
yurui.gao@vanderbilt.edu

EDUCATION

- 2008-2013 **Doctor of Philosophy in Biomedical Engineering**, Vanderbilt University
Validation of DTI Measures of Corticocortical Connectivity in the Brain (Advisor: Adam Anderson)
- 2005-2008 **Master of Science in Biomedical Engineering**, Southeast University, China
Research on Diffusion Tensor Imaging (Advisor: Xudong Bao)
- 2001-2005 **Bachelor of Engineering in Biomedical Engineering**, Southeast University, China

ACADEMIC POSITIONS

- 2016-present **Research Assistant Professor**, Department of Biomedical Engineering,
Vanderbilt University
- 2013-2016 **Postdoctoral Fellow**, Department of Biomedical Engineering,
Vanderbilt University (Supervisor: Adam Anderson)

HONORS & AWARDS

- 2024 NIA's Butler-Williams Scholar
- 2022 ISMRM Merit Award: Summa Cum Laude (2nd author, **top 5%**)
- 2019 Human Brain Mapping 2019 Editor's Choice Award (2nd author, **top 1** of all papers in 2019)
- 2018 ISMRM Merit Award: Summa Cum Laude (3rd author, **top 5%**)
- 2017 ISMRM Merit Award: Summa Cum Laude (3rd author, **top 5%**)
- 2015 Two ISMRM Merit Awards: Summa Cum Laude (1st author and 2nd author, **top 5%**)
- 2014 ISMRM Merit Award: Magna Cum Laude (1st author, **top 15%**)
- 2011 [1st Place of ISMRM Poster Award](#) (1st author, **top 1**)
- 2008 Outstanding Master Graduate Student Award
- 2005 Outstanding Undergraduate Student Award
- 2002 Chancellor Scholarship of Southeast University (**top 1** in BME department)

RESEACH FUNDINGS

Primary Investigator (PI)

- 2024-2026 NIH R21 AG083915
'Influence of SM Dysfunctions on White-Gray Matters Functional Connectome in Preclinical AD'
- 2023-2024 Vanderbilt Memory & Alzheimer's Center (VMAC) Pilot & Feasibility Funding Program
'Influence of Motor Dysfunctions on White - Gray Matters Functional Connectome in Preclinical AD'
- 2018-2021 Vanderbilt University Discovery Grant
'New Approaches to Quantifying Brain Functional Architecture in Normal Aging and AD'
- 2016-2017 Vanderbilt Institute for Surgery and Engineering (ViSE) Pilot Grant
'Use of Diffusion MRI in Identifying Targets for Deep Brain Stimulation'

Co-Investigator

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| 2023-2028 | NIH R01NS129855 'Functional Connectome of Brain White Matter' | (PI: Zhaohua Ding) |
| 2020-2025 | NIH R01NS113832 'Biophysical Basis of Functional MRI of White Matter' | (PI: John Gore) |
| 2021-2024 | NIH RF1MH123201 'Secondary Analysis of Functional MRI and Resting State Connectivity in White Matter' | (PI: John Gore & Bennett Landman) |
| 2016-2021 | NIH R01NS093669: 'Resting State Connectivity in White Matter' | (PI: John Gore) |
| 2018-2019 | NIH R21EB024311 'Improved High Field MRI Using Internal Traveling Wave Synthesis' | (PI: Adam Anderson) |

RESEARCH EXPERIENCE

Functional MRI:

- Biophysical Basis of Functional MRI of White Matter (NIH R01: 2021-2025)
- Secondary Analysis of Functional MRI and Resting State Connectivity in White Matter (NIH RF1: 2021-2024)
- Resting State Connectivity in White Matter (NIH R01: 2016-2022)
- New Approaches to Quantifying Brain Functional Architecture in Normal Aging and Alzheimer's Disease (Vanderbilt Discovery Grant: 2018-2020)

Diffusion MRI:

- The Biological Basis of Diffusion MRI of the Brain (NIH R01: 2009-2020)
- Use of Diffusion MRI in Identifying Targets for Deep Brain Stimulation (VISE pilot Grant: 2016-2017)
- Warrior Resiliency and Recovery Center, Blanchfield Army Community Hospital MRI Study (DOD: 2012-2013)
- Development of Diffusion Tensor Imaging Methods (2006-2008)

Image Reconstruction, Modeling and Processing:

- Improved High Field MRI Using Internal Traveling Wave Synthesis (NIH R21: 2018-2020)
- Quantitative MRI for Predicting Response of Breast Cancer to Neoadjuvant Therapy (NIH R01: 2013-2014)
- Development of DICOM Interface for MR-guide Neurosurgery Workstation (2005-2006)

PROFESSIONAL ORANIZATION MEMBERSHIPS

- International Society for Magnetic Resonance in Medicine (ISMRM)
- International Society for Optics and Photonics (SPIE)

OTHER EXPERIENCE

- Affiliated faculty member of Vanderbilt Memory and Alzheimer's Center (VMAC), 2018-present
- Affiliated faculty member of Vanderbilt Lab for Immersive AI Translation (VALIANT)

SCIENTIFIC COMMUNITY SERVICE

- NIH Early Career Reviewer
- Associate Editor of *Frontiers in Aging Neuroscience* (active)

- Reviewers for > 24 journals (e.g., Acta Biomater., Biol. Psychiatry, Cereb. Cortex, Front. Aging Neurosci., Front. in Neurosci., J. Neurosci., Med Image Anal, Magn. Reason. Imaging, Neuropsychopharmacology, NeuroImage, PLoS ONE, Scientific Reposts)

PUBLICATIONS

Google Scholar: <https://scholar.google.com/citations?user=hOYaXREAAA>

Refereed Journal Papers

39. L Xu, Y Zhao, M Li, KG Schilling, RD Lawless, S Choi, Z Zu, BP Rogers, Z Ding, AW Anderson, BA Landman, JC Gore, **Y Gao***. "Altered White-Gray Matters Functional Connectome in Preclinical Alzheimer's Disease". *Brain*. (Submitted)
38. L Xu, **Y Gao**, M Li, DR Lawless, Y Zhao, KG Schilling, BP Rogers, AW Anderson, Z Ding, BA Landman, JC Gore. "Functional Correlation Tensors in Brain White Matter and the Effects of Normal Aging". *Front Aging Neurosci*. (Under revision)
37. M Li, KG Schilling, F Gao, L Xu, S Choi, **Y Gao**, Z Zu, AW Anderson, Z Ding, BA Landman, JC Gore. "Quantification of Mediation Effects of White Matter Functional Characteristics on Cognitive Decline in Aging". *Cerebral Cortex*. 2024; 34(3): bhae114
36. KG Schilling, JA Chad, M Chamberland, V Nozais, F Rheault, D Archer, M Li, **Y Gao**, L Cai, F Del'Acqua, A Newton, D Moyer, JC Gore, C Lebel, BA Landman. "White Matter Tract Microstructure, Macrostructure, and Associated Cortical Gray Matter Morphology Across the Lifespan". *Imaging Neuroscience*. 2023; 1:1-24
35. Z Zu, S Choi, Y Zhao, **Y Gao**, M Li, Z Ding, JC Gore. "The Missing Third Dimension – Functional Correlations of BOLD Signals Incorporating White Matter". *Science Advances*. 2023; 10(4): eadi0616.
34. L Xu, S Choi, Y Zhao, M Li, BP Rogers, JC Gore, **Y Gao**, and Z Ding. "Seasonal Variations of Functional Connectivity of Human Brains". *Scientific Reports*. 2023; 13, 16898.
33. KG Schilling, M Li, F Rheault, **Y Gao**, Leon Cai, Y Zhao, Z Zu, Z Ding, AW Anderson, BA Landman, JC Gore. "Whole-Brain, Gray and White Matter Time-Locked Functional Signal Changes with Simple Tasks and Model-Free Analysis". *PNAS*. 2023; 120(42): e2219666120.
32. **Y Gao***, Y Zhao, M Li, DR Lawless, KG Schilling, L Xu, AT Shafer, LL Beason-Held, SM Resnick, BP Rogers, Z Ding, AW Anderson, BA Landman, JC Gore. "Functional Alterations in Bipartite Network of White and Grey Matters During Aging". *NeuroImage*. 2023; 278:120277.
31. M Li, **Y Gao**, DR Lawless, L Xu, Y Zhao, KG Schilling, Z Ding, AW Anderson, BA Landman, JC Gore. "Longitudinal Changes in White Matter Functional Networks across Late Adulthood". *Front Aging Neurosci*. 2023; 30(15) 1204301.
30. Y Zhao, **Y Gao**, Z Zu, M Li, KG Schilling, AW Anderson, Z Ding, JC Gore. "Detection of Functional Activity in Brain White Matter Using Fiber Architecture Informed Synchrony Mapping". *Neuroimage*. 2022; 258:119399.
29. Y Zhao, **Y Gao**, M Li, AW Anderson, Z Ding, JC Gore. "Functional Parcellation of Human Brain Using Localized Topo-Connectivity Mapping". *IEEE Trans Med Imaging*: 2022; 41(10):2670-2680.
28. M Li, **Y Gao**, AW Anderson, Z Ding, JC Gore. "Dynamic Variations of Resting-State BOLD Signal Spectra in White Matter". *NeuroImage*. 2022; 250:118972.
27. **Y Gao**, M Li, AS Huang, AW Anderson, Z Ding, SH Heckers, ND Woodward, JC Gore. "Compromised Functional Connectivity of White Matter During Rest and Working Memory Tasks Associates with Cognitive Impairments in Schizophrenia." *Schizophrenia Research*: 2021; 233, 101-110.
26. M Li, **Y Gao**, Z Ding, JC Gore. "Power Spectra Reveal Distinct Time Courses in White Matter During Resting State.". *PNAS*. 2021; 118(44): e2103104118.
25. **Y Gao***, A Sengupta, M Li, Z Zu, BP Rogers, AW Anderson, Z Ding, JC Gore. "Functional Connectivity of White Matter as a Biomarker of Cognitive Decline in Alzheimer's disease". *PLoS ONE*. 2020; 15(10): e0240513.

24. M Li, **Y Gao**, F Gao, AW Anderson, Z Ding, JC Gore. "Functional Engagement of White Matter in Resting-State Brain Networks". *NeuroImage*. 2020; 220: 117096.
23. V Nath, KG Schilling, P Parvathaneni, CB Hansen, AE Hainline, Y Huo, JA Blaber, I Lyu, VA Janve, **Y Gao**, I Stepniewska, AW Anderson, BA Landman. "Deep Learning Reveals Untapped Information for Local White-Matter Fiber Reconstruction in Diffusion-Weighted MRI". *Magn Reson Imaging*. 2019; 62: 220-227.
22. JC Gore, M Li, **Y Gao**, TL Wu, KG Schilling, Y Huang, AT Newton, BP Rogers, LM Chen, AW Anderson, Z Ding. "Functional MRI and Resting State Connectivity in White Matter—a Mini-Review." *Magn Reson Imaging*. 2019; 63: 1-11.
21. KG Schilling, V Nath, C Hansen, P Parvathaneni, J Blaber, **Y Gao**, P Neher, *et al.* "Limits to Anatomical Accuracy of Diffusion Tractography using Modern Approaches". *NeuroImage*. 2019; 185: 1-11.
20. TL Wu, F Wang, M Li, KG Schilling, **Y Gao**, AW Anderson, LM Chen, Z Ding, JC Gore. "Resting-State White Matter-Cortical Connectivity in Non-human Primate Brain". *NeuroImage*. 2019; 184:45-55.
19. KG Schilling, **Y Gao**, I Stepniewska, VA Janve, BA Landman, AW Anderson. "Anatomical Accuracy of Standard-Practice Tractography Algorithms in the Motor System - A Histological Validation in the Squirrel Monkey Brain." *Magn Reson Imaging*. 2019; 55: 7-25.
18. KG Schilling, **Y Gao**, I Stepniewska, VA Janve, BA Landman, AW Anderson. "Histologically Derived Fiber Response Functions for Diffusion MRI Vary Across White Matter Fibers – an Ex Vivo Validation Study in the Squirrel Monkey brain." *NMR in Biomedicine*. 2019; 32(6) e4090.
17. KG Schilling, **Y Gao**, M Li, TL Wu, J Blaber, BA Landman, AW Anderson, Z Ding, JC Gore. "Functional Tractography of White Matter by High Angular Resolution Functional Correlation Imaging (HARFI)." *Magn Reson Med*. 2018; 81(3): 2011-2014.
16. Z Ding, Y Huang, SK Bailey, **Y Gao**, LE Cutting, BP Rogers, AT Newton, JC Gore. "Detection of Synchronous Brain Activity in White Matter Tracts At Rest and Under Functional Loading." *PNAS*. 2018;115(3): 595 -600.
15. KG Schilling, **Y Gao**, M Christian, VA Janve, I Stepniewska, BA Landman, AW Anderson. "A Web-Based Atlas Combining MRI and Histology of the Squirrel Monkey Brain." *Neuroinformatics*. 2018. 1-15.
14. KG Schilling, VA Janve, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Histological Validation of Diffusion MRI Fiber Orientation Distributions and Dispersion." *NeuroImage*. 2018;165:200-221.
13. **Y Gao***, KG Schilling, I Stepniewska, AJ Plassard, AS Choe, X Li, BA Landman, AW Anderson. "Tests of Cortical Parcellation Based on White Matter Connectivity using Diffusion Tensor Imaging." *NeuroImage*. 2018; 170: 321-331.
12. KG Schilling, **Y Gao**, VA Janve, I Stepniewska, BA Landman, AW Anderson. "Confirmation of a Gyral Bias in Diffusion MRI Fiber Tractography." *Human Brain Mapp*. 2018; 39(3): 1449 -1466.
HBM 2019 Editors' Choice Award (Top 1)
11. KG Schilling, **Y Gao**, VA Janve, I Stepniewska, BA Landman, AW Anderson. "Can Increased Spatial Resolution Solve the Crossing Fiber Problem for Diffusion MRI?" *NMR Biomed*. 2017;30(12):e3787.
Selected as Cover Image
10. KG Schilling, **Y Gao**, I Stepniewska, TL Wu, F Wang, BA Landman, JC Gore, LM Chen, AW Anderson. "The VALiDATe29 MRI Based Multi-Channel Atlas of the Squirrel Monkey Brain." *Neuroinformatics*. 2017; 15(4): 321-331.
9. KG Schilling, **Y Gao**, I Stepniewska, AS Choe, BA Landman, AW Anderson. "Reproducibility and Variation in Diffusion Measures in the Squirrel Monkey Brain, In Vivo and Ex Vivo." *Magn Reson Imaging*. 2017; 35: 29-38.
8. KG Schilling, Vaibhav A. Janve, **Y Gao**, Iwona Stepniewska, BA Landman, AW Anderson. "Comparison of 3D Orientation Distribution Functions Measured with Confocal Microscopy and Diffusion MRI." *NeuroImage*. 2016; 129: 185-197.
7. RL Harrigan, BC Yvernault, BD Boyd, SM Damon, KD Gibney, BN Conrad, NS Phillips, BP Rogers, **Y Gao**, BA Landman. "Vanderbilt University Institute of Imaging Science Center for Computational Imaging XNAT: A Multimodal Data Archive and Processing Environment." *NeuroImage*. 2016; 124: 1097-1101.

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6. **Y Gao***, AS Choe, I Stepniewska, X Li, AW Anderson. "Validation of DTI-Tractography-Based Measures of Primary Motor Area Connectivity in Squirrel Monkey Brain." *PLoS ONE*. 2013; 8(10):475065.
5. CB Lauzon, AJ Asman, ML Esparza, SS Burns, Q Fan, **Y Gao**, AW Anderson, N Davis, LE Cutting, BA Landman. "Simultaneous Analysis and Quality Assurance for Diffusion Tensor Imaging." *PLoS ONE*. 2013; 8(4): e61737.
4. AS Choe, **Y Gao**, X Li, KB Compton, I Stepniewska, AW Anderson. "Accuracy of Image Registration between MRI and Light Microscopy in the Ex Vivo Brain." *Magn Reson Imaging*. 2011; 29:683-692.
3. H Bai, **Y Gao**, Z Zhang, L Luo. "Frequency Domain Filtering Method for DTI Tensor-Valued Images." *J Data Acquis Process*. 2007.
2. H Bai, **Y Gao**, S Wang, L Luo. "A Robust Diffusion Tensor Estimation Method for DTI." *J Comput Res Dev*. 2007.
1. **Y Gao**, H Bai, X Bao. "Advanced Fiber Tracking Algorithm by Vector Selection Criterion in DTI Images." *J Biomed Eng Research*. 2007.

Papers in Conference Proceedings (Total: 11, Oral presentations: 8)

11. AL Eby, LW Remedios, ME Kim, M Li, **Y Gao**, JC Gore, KG Schilling, BA Landman. "Identification of functional white matter networks in BOLD fMRI." *Proc SPIE Medical Imaging*. 2024. **(Oral)**
10. **Y Gao**, DR Lawless, M Li, Y Zhao, KG Schilling, L Xu, AT Shafer, LL Beason-Held, SM Resnick, BP Rogers, Z Ding, AW Anderson, BA Landman, JC Gore. "Automatic preprocessing pipeline for white matter functional analyses of large-scale databases." *Proc SPIE Medical Imaging*. 2023; 12464:124640U. **(Oral)**
9. KG Schilling, V Nath, S Remedios, RG Bayrak, **Y Gao**, JA Blaber, Y Huo, BA Landman, AW Anderson. "Learning 3D White Matter Microstructure from 2D Histology." *Proc IEEE International Symposium on Biomedical Imaging (ISBI)*. 2019; 2019:186-190. (Poster)
8. V Nath, S Remedios, P Parvathaneni, CB Hansen, RG Bayrak, CB Bermudez, JA Blaber, KG Schilling, VA Janve, **Y Gao**, Y Huo, I Lyu, OA Williams, SM Resnick, LL Beason-Held, BP Rogers, I Stepniewska, AW Anderson and BA Landman. "Harmonizing 1.5T/3T diffusion weighted MRI through development of deep learning stabilized microarchitecture estimators." *Proc SPIE Medical Imaging*. 2019; 10949: 10.1117/12.2512902. **(Oral)**
7. **Y Gao**, M Li, Z Zu, BP Rogers, AW Anderson, Z Ding, JC Gore. "Progressive degeneration of white matter functional connectivity in Alzheimer's Disease." *Proc SPIE Medical Imaging*. 2019; 109530C. **(Oral)**
6. **Y Gao**, KG Schilling, I Stepniewska, G Luo, BA Landman, H Yu, DO Classen, BM Dawant, AW Anderson. "Quantitative assessment of dMRI-based dentate-rubro-thalamiactography in squirrel monkey." *Proc SPIE Medical Imaging*. 2019; 109530F. **(Oral)**
5. **Y Gao**, KG Schilling, I Stepniewska, J Xu, BA Landman, DM Benoit, AW Anderson. "Tests of clustering thalamic nuclei based on various dMRI models in the squirrel monkey brain." *Proc SPIE Medical Imaging*. 2018; 1057805. **(Oral)**
4. **Y Gao**, P Parvathaneni, KG Schilling, F Wang, I Stepniewska, Z Xu, AS Choe, Z Ding, JC Gore, LM Chen, BA Landman, AW Anderson. "A 3D high resolution ex vivo white matter atlas of the common squirrel monkey (*Saimiri sciureus*) based on diffusion tensor imaging." *Proc SPIE Medical Imaging*. 2016; 9784:97843K. (Poster)
3. P Sun, P Parvathaneni, BA Landman, AW Anderson, KG Schilling, **Y Gao**, VA Janve. "Integrating histology and MRI in the first digital brain atlas of the common squirrel monkey, *Saimiri sciureus*." *Proc SPIE Medical Imaging*. 2015; 9417:94171T. (Poster)
2. **Y Gao**, KG Schilling, SP Khare, S Panda, AS Choe, I Stepniewska, X Li, Z Ding, AW Anderson, BA Landman. "A brain MRI atlas of the common squirrel monkey, *Saimiri sciureus*." *Proc SPIE Medical Imaging*. 2014; 9038:90380C. **(Oral)**
1. **Y Gao**, SS Burns, CB Lauzon, AE Fong, TA James, JF Lubar, RW Thatcher, DA Twillie, MD Wirt, MA Zola, BW Logan, AW Anderson, BA Landman. "Integration of XNAT/PACS, DICOM, and research software for automated multi-modal image analysis." *Proc SPIE Medical Imaging*. 2013; 8674: 10.1117/12.2007621. **(Oral)**

Conference Abstracts (Total: 38; Oral presentations: 15; Awards: 7)

38. L Xu, Y Zhao, M Li, RD Lawless, KG Schilling, BP Rogers, Z Ding, AW Anderson, BA Landman, JC Gore, **Y Gao**. "Functional alterations in white-gray matters bipartite network in preclinical Alzheimer's disease". *Intl Soc Magn Reson Med (ISMRM)*. 2024 (Poster).
37. KG Schilling, M Kim, M Li, **Y Gao**, D Archer, C Gao, E Topolnjak, N MK, SM Resnick, LL Beason-held, AW Anderson, S Vinci-Booher, JC Gore, BA Landman. "How much, and in which directions, do subjects move during MRI scans?". *Intl Soc Magn Reson Med (ISMRM)*. 2024 (Poster).
36. L Xu, Z Zu, **Y Gao**, M Li, KG Schilling, S Choi, AW Anderson, JC Gore, Z Ding. "White matter-engaged multilayer network for evaluation of functional deficits in Alzheimer's disease". *Intl Soc Magn Reson Med (ISMRM)*. 2024 (Poster).
35. M Li, KG Schilling, F Gao, L Xu, S Choi, **Y Gao**, Z Zu, AW Anderson, Z Ding, BA Landman, JC Gore. "Deciphering Mediation Effects of White Matter Functional Characteristics on Cognitive Decline in Aging". *Intl Soc Magn Reson Med (ISMRM)*. 2024 (Poster).
34. L Xu, **Y Gao**, M Li, DR Lawless, Y Zhao, KG Schilling, BP Rogers, AW Anderson, Z Ding, BA Landman, JC Gore. "Functional correlation tensors in brain white matter and the effects of normal aging". *Resting State Brain Connectivity (RSBC)*. 2023. (Poster)
33. KG Schilling, M Li, F Rheault, **Y Gao**, L Cai, Y Zhao, Z Zu, Z Ding, AW Anderson, BA Landman, JC Gore, "Whole-brain, gray and white matter time-locked functional signal changes with simple tasks and model-free analysis". *Intl Soc Magn Reson Med (ISMRM)*. 2023. **(Oral)**
32. L Xu, S Choi, Y Zhao, M Li, BP Rogers, JC Gore, **Y Gao**, and Z Ding. "Seasonal variations of functional connectivity of human brains". *Intl Soc Magn Reson Med (ISMRM)*. 2023. (Poster)
31. **Y Gao**, Y Zhao, M Li, DR Lawless, KG Schilling, L Xu, AT Shafer, LL Beason-Held, SM Resnick, BP Rogers, Z Ding, AW Anderson, BA Landman, JC Gore. "Reorganization of functional connectivity between white and grey matters during normal aging". *Intl Soc Magn Reson Med (ISMRM)*. 2023. (Poster)
30. **Y Gao**, Y Zhao, KG Schilling, M Li, AW Anderson, Z Ding, and JC Gore. "Local BOLD correlations in white matter measured under constraints of fiber orientation". *Intl Soc Magn Reson Med (ISMRM)*. 2022. **(Oral)**
29. Y Zhao, **Y Gao**, M Li, KG Schilling, AW Anderson, Z Ding, JC Gore. "Model-free mapping of neural activation in brain white matter based on local fiber architecture". *Intl Soc Magn Reson Med (ISMRM)*. 2022. **(Oral)**
ISMRM Summa Cum Laude Merit Award (Top 5%)
28. M Li, **Y Gao**, Z Ding, JC Gore. "Dynamic spectral modes of resting-state BOLD time courses in white matter". *Intl Soc Magn Reson Med (ISMRM)*. 2022. **(Oral)**
27. Z Zu, Y Zhao, **Y Gao**, M Li, Z Ding, JC Gore. "The missing third dimension – functional correlations of BOLD signals incorporating white matter". *Intl Soc Magn Reson Med (ISMRM)*. 2022. (Poster)
26. KG Schilling, M Li, F Rheault, **Y Gao**, Z Ding, AW Anderson, H Kang, BA Landman, JC Gore. "Along-tract quantification of the BOLD hemodynamic response function in white matter". *Intl Soc Magn Reson Med (ISMRM)*. 2022. **(Oral)**
25. **Y Gao**, M Li, AS Huang, AW Anderson, Z Ding, SH Heckers, ND Woodward, JC Gore. "Decreases in functional connectivity of white matter in a resting state and during a working memory task in schizophrenia." *Intl Soc Magn Reson Med (ISMRM)*, 2020. (Poster)
24. **Y Gao**, A Sengupta, M Li, Z Zu, BP Rogers, AW Anderson, Z Ding, JC Gore. "Functional connectivity of white matter as a biomarker of cognitive decline in Alzheimer's disease". *Intl Soc Magn Reson Med (ISMRM)*. 2020. (Poster)
23. B Hardy, **Y Gao**, AW Anderson: "RF Shim Flexibility with Multi-Surface-Loop Arrays Over Varying Head Geometries", *Intl Soc Magn Reson Med (ISMRM)*. 2020. (Poster)
22. **Y Gao**, M Li, Z Zu, BP Rogers, AW Anderson, Z Ding, JC Gore: "Progressive degeneration of white matter functional connectivity in Alzheimer's Disease." *Resting State and Brain Connectivity*. 2018. (Poster)
21. V Nath, KG Schilling, P Parvathaneni, AE Hainline, CB Hansen, C Bermudez, AJ Plassard, JA Blaber, VA Janve, **Y Gao**, I Stepniewska, AW Anderson, BA Landman. "Deep learning captures more accurate diffusion

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- fiber orientations distributions than constrained spherical deconvolution." *Intl Soc Magn Reson Med (ISMRM)*. 2018. (Poster)
20. KG Schilling, VA Janve, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Histologically-derived fiber response functions for diffusion MRI data reveal systematic differences from model-based deconvolution kernels." *Intl Soc Magn Reson Med (ISMRM)*. 2018. (Oral) **ISMRM Summa Cum Laude Merit Award (Top 5%)**
 19. **Y Gao**, KG Schilling, I Stepniewska, G Luo, BA Landman, H Yu, DO Claassen, BM Dawant, AW Anderson. "Validation of dentato-rubro-thalamic tract in squirrel monkey brain". *Intl Soc Magn Reson Med (ISMRM)*. 2018. (Oral)
 18. **Y Gao**, KG Schilling, I Stepniewska, BA Landman, AW Anderson. "Validation of dMRI-based parcellation of thalamus". *Biomedical Engineering Society (BMES)*. 2017. (Oral)
 17. KG Schilling, VA Janve, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Histological Validation of Orientation Dispersion and Fiber Orientation." *Intl Soc Magn Reson Med (ISMRM)*. 2017. (Oral) **ISMRM Summa Cum Laude Merit Award (Top 5%)**
 16. **Y Gao**, KG Schilling, I Stepniewska, BA Landman, AW Anderson. "Validation of DTI-based parcellation of thalamus in squirrel monkey-preliminary study". *Intl Soc Magn Reson Med (ISMRM)*. 2017. (Oral)
 15. KG Schilling, VA Janve, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Can we get around to the crossing fiber problem by increasing resolution?" *ISMRM Diffusion Study Group Workshop*. 2016. (Oral)
 14. KG Schilling, VA Janve, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Comparing diffusion MRI with the fiber architecture and tract density of gyral blades." *Intl Soc Magn Reson Med (ISMRM)*. 2016. (Oral)
 13. **Y Gao**, F Wang, J Xu, BA Landman, KG Schilling, LM Chen, JC Gore, AW Anderson. "A robust method to reconstruct gradient-echo multi-shot EPI with triple reference scans." *Organization for Human Brain Mapp (OHBM)*. 2015. (Poster)
 12. KG Schilling, **Y Gao**, I Stepniewska, BA Landman, AW Anderson. "Reproducibility and variation in diffusion measures of the in vivo and ex vivo squirrel monkey brain." *Intl Soc Magn Reson Med (ISMRM)*. 2015. (Poster)
 11. KG Schilling, **Y Gao**, I Stepniewska, H Li, VA Janve, BA Landman, AW Anderson. "Validation of orientation distribution functions in 3D using structure tensor analysis." *Intl Soc Magn Reson Med (ISMRM)*. 2015. (Oral) **ISMRM Summa Cum Laude Merit Award (Top 5%)**
 10. **Y Gao**, F Wang, I Stepniewska, AS Choe, KG Schilling, BA Landman, AW Anderson, Z Ding, LM Chen, JC Gore. "Comparison of BOLD and CBV-weighted resting state connectivity to an anatomical 'gold standard' in the motor network of the squirrel monkey brain." *Intl Soc Magn Reson Med (ISMRM)*. 2015. (Oral) **ISMRM Summa Cum Laude Merit Award (Top 5%)**
 9. **Y Gao**, BA Landman, AJ Plassard, KG Schilling, AS Choe, I Stepniewska, X Li, AW Anderson. "Cortical parcellation based on DTI connectivity--validation in the squirrel monkey brain." *Resting State Brain Connectivity (RSBC)*. 2014. (Poster)
 8. **Y Gao**, AJ Plassard, AS Choe, I Stepniewska, X Li, BA Landman, AW Anderson. "Cortical parcellation based on DTI connectivity-validation in the squirrel monkey brain." *Intl Soc Magn Reson Med (ISMRM)*. 2014. (Oral) **ISMRM Magna Cum Laude Merit Award (Top 15%)**
 7. **Y Gao**, AS Choe, X Li, I Stepniewska, AW Anderson. "Method for comparing fiber orientation distribution (FOD) functions based on histology and diffusion MRI." *Intl Soc Magn Reson Med (ISMRM)*. 2014. (Poster)
 6. **Y Gao**, AS Choe, X Li, I Stepniewska, AW Anderson. "Comparison of *in vivo* and *ex vivo* DTI cortical connectivity measurements in the squirrel monkey brain." *Intl Soc Magn Reson Med (ISMRM)*. 2013. (Poster)
 5. **Y Gao**, AS Choe, X Li, I Stepniewska, AW Anderson. "Validation of DTI-tractography-based measures of white matter pathways originating from the primary motor area." *Intl Soc Magn Reson Med (ISMRM)*. 2012. (Poster)
 4. **Y Gao**, AS Choe, X Li, I Stepniewska, AW Anderson. "Validation of DTI-tractography-based measures of primary motor area cortical connectivity." *Intl Soc Magn Reson Med (ISMRM)*. 2011. (Poster) **1st Place of ISMRM Poster Award (Top 0.3%)**
 3. **Y Gao**, AS Choe, X Li, I Stepniewska, AW Anderson. "Validation of DTI measures of primary motor area cortical

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- connectivity." *Intl Soc Magn Reson Med (ISMRM)*. 2010. (Oral)
2. AS Choe, **Y Gao**, I Stepniewska, X Li, Z Ding, AW Anderson. "Challenges of tracking fibers from cortical regions." *Intl Soc Magn Reson Med (ISMRM)*. 2010. (Poster)
 1. X Li, AS Choe, **Y Gao**, I Stepniewska, AW Anderson. "Simple and efficient image processing techniques to improve the registration between the MR and light microscopy images." *Intl Soc Magn Reson Med (ISMRM)*. 2010. (Poster)

ACADEMIC PRESENTATIONS (Total: 28)

Invited Talk

1. **Y Gao**, "White Matter Functional Connectivity in Human Brain", BME seminar, Vanderbilt University, Nashville, TN, 09/04/2019.

Conference Oral Presentation

11. **Y Gao**, "Automatic Preprocessing Pipeline for White Matter Functional Analyses of Large-Scale Databases", *SPIE 2023 Medical Imaging: Image Processing*, San Diego, CA, 02/2023.
10. **Y Gao**, "Local BOLD Correlations in White Matter Measured Under Constraints of Fiber Orientation", *Joint Annual Meeting ISMRM-ESMRMB & ISMRT 31st Annual Meeting*, London, United Kingdom, 05/2022.
9. **Y Gao**, "Progressive Degeneration of White Matter Functional Connectivity in Alzheimer's Disease", *SPIE 2019 Medical Imaging: Biomedical Applications in Molecular, Structural and Functional Imaging*, San Diego, CA, 02/2019.
8. **Y Gao**, "Quantitative Assessment of DMRI-Based Dentate-Rubro-Thalamic Tractography in Squirrel Monkey", *SPIE 2019 Medical Imaging: Biomedical Applications in Molecular, Structural and Functional Imaging*, San Diego, CA, 02/2019.
7. **Y Gao**, "Validation of Dentate-Rubro-Thalamic Tract in Squirrel Monkey Brain", *Joint Annual Meeting ISMRM-ESMRMB 2018*, Paris, France, 06/2018.
6. **Y Gao**, "Tests of Clustering Thalamic Nuclei Based on Various DMRI Models in the Squirrel Monkey Brain", *SPIE 2018 Medical Imaging: Biomedical Applications in Molecular, Structural and Functional Imaging*, Houston, TX, 02/2018.
5. **Y Gao**, "Validation of DTI-Based Parcellation of Thalamus in Squirrel Monkey - Preliminary Study", *ISMRM 25th Annual Meeting & Exhibition*, Honolulu, HI, 04/2017.
4. **Y Gao**, "Comparison of BOLD and CBV-Weighted Resting State Connectivity to An Anatomical 'Gold Standard' in the Motor Network of the Squirrel Monkey Brain", *ISMRM 23rd Annual Meeting & Exhibition*, Toronto, Canada, 06/2015.
3. **Y Gao**, "Cortical Parcellation Based on DTI Connectivity -- Validation in the Squirrel Monkey Brain", *Joint Annual Meeting ISMRM-ESMRMB 2014*, Milan, Italy, 05/2014.
2. **Y Gao**, "Integration of XNAT/PACS, DICOM, and Research Software for Automated Multi-modal Image Analysis", *SPIE 2013 Medical Imaging: Advanced PACS-based Imaging Informatics and Therapeutic Applications*. Orlando, FL, 02/2013.
1. **Y Gao**, "Validation of DTI Measures of Primary Motor Area Cortical Connectivity", *Joint Annual Meeting ISMRM-ESMRMB 2010*, Stockholm, Sweden, 05/2010.

Conference Poster Presentation

11. **Y Gao**, "Reorganization of Functional Connectivity Between White and Grey Matters During Normal Aging", *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, Canada, 06/2023.
10. **Y Gao**, "Decreases in Functional Connectivity of White Matter in a Resting State and During a Working Memory Task in Schizophrenia", *ISMRM & SMRT Virtual Conference & Exhibition*, Online, 08/2020.
9. **Y Gao**, "Functional Connectivity of White Matter as a Biomarker of Cognitive Decline in Alzheimer's Disease", *ISMRM & SMRT Virtual Conference & Exhibition*, Online, 08/2020.
8. **Y Gao**, "Progressive Degeneration of White Matter Functional Connectivity in Alzheimer's Disease", *Six Biennial Conference on Resting State Brain Connectivity*, Montreal, Canada, 09/2018.

CURRICULUM VITAE (July, 2024)

Yurui Gao (she/her/hers)

7. **Y Gao**, “A 3D High Resolution Ex Vivo White Matter Atlas of the Common Squirrel Monkey (*Saimiri Sciureus*) Based on Diffusion Tensor Imaging”, *SPIE 2016 Medical Imaging: Image Processing*, San Diego, CA, 02/2016.
6. **Y Gao**, “A Robust Method to Reconstruct Gradient-Echo Multi-Shot EPI with Triple Reference Scans”, *Organization Human Brain Mapping (OHBM) Annual meeting 2015*, Honolulu, HI, 06/2015.
5. **Y Gao**, “Cortical Parcellation Based on DTI Connectivity – A Validation Study in the Squirrel Monkey Brain”, *Conference on Resting State Brain Connectivity*, MIT, Cambridge, MA, 09/2014.
4. **Y Gao**, “Method for Comparing Fiber Orientation Distribution (FOD) Functions Based on Histology and Diffusion MRI”, *Joint Annual Meeting ISMRM-ESMRMB 2014*, Milan, Italy, 05/2014.
3. **Y Gao**, “Comparison of *In Vivo* and *Ex Vivo* DTI Cortical Connectivity Measurements in the Squirrel Monkey Brain”, *ISMRM 21st Annual Meeting & Exhibition*, Salt Lake City, UT, 04/2013.
2. **Y Gao**, “Validation of DTI-Tractography-Based Measures of White Matter Pathways Originating from Primary Motor Area”, *ISMRM 20th Annual Meeting & Exhibition*, Melbourne, Australia, 05/2012.
1. **Y Gao**, “Validation of DTI-Tractography-Based Measures of Primary Motor Area Cortical Connectivity”, *ISMRM 19th Annual Meeting & Exhibition*, Montreal, Canada, 05/2011.

Other Presentations

5. **Y Gao**, “Functional Connectivity of White Matter as a Potential Biomarker of Cognitive Decline in Alzheimer’s Disease”, *Vanderbilt Alzheimer’s Disease Research Day*, VUMC, Nashville, TN, 05/2019. (Poster+Oral)
4. **Y Gao**, “Use of Diffusion MRI in Identifying Targets for Deep Brain Stimulation”, *5th Annual Surgery, Intervention, and Engineering Symposium*, Vanderbilt University, Nashville, TN, 12/2016. (Poster)
3. **Y Gao**, “Comparison of BOLD and CBV-Weighted Resting State Connectivity to Structural Gold Standard in Motor Network of Squirrel Monkey Brain”, *The Vanderbilt University Institute of Imaging Science 2015 Research Retreat*, Vanderbilt University Law School, Nashville, TN, 06/2015. (Oral)
2. **Y Gao**, “Cortical Parcellation Based on DTI Connectivity – Validation in Squirrel Monkey Brain”, *The Vanderbilt University Institute of Imaging Science 2014 Research Retreat*, Chattanooga, TN, 06/2014. (Poster)
1. **Y Gao**, “Validation of DTI-Tractography-Based Measures of Primary Motor Area Cortical Connectivity”, *The Vanderbilt University Institute of Imaging Science 2013 Research Retreat*, Chattanooga, TN, 06/2013. (Poster)