

# Yuancheng Jiang

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## EDUCATION

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### Master of Science

School of Biomedical Engineering, Tsinghua University  
Advisor: Dr. Hua Guo

Aug 2022 -  
GPA: 3.90/4.00

### Bachelor of Science

Department of Biomedical Engineering, School of Medicine, Tsinghua University  
Awards: First-Class Comprehensive Excellent Scholarship (Top 10%) in 2019/2020/2021

Aug 2018 - Jun 2022  
GPA: 3.74/4.00

## PROJECTS

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### Multishot EPI Nyquist ghost correction by dual-polarity GRAPPA or SENSE

CBIR & Martinos Center for Biomedical Imaging

Aug 2023 -  
Advisor: Dr. Berkin Bilgic & Dr. Hua Guo

- Proposed multishot dual-polarity GRAPPA (msDPG) and dual-polarity SENSE (DPS) for robust Nyquist ghost correction on multishot EPI diffusion data.
- Achieved superior ghost correction performance on scanners with ultra-high field (Terra.X) or high-performance gradients (Connectome 2.0).

### Diffusion imaging by navigator-free multishot SMS spiral

CBIR

Apr 2023 - Mar 2024  
Advisor: Dr. Hua Guo

- Designed an acquisition and reconstruction workflow for navigator-free multishot SMS spiral diffusion imaging.
- Achieved high-efficiency, high-resolution diffusion imaging.

### Real-time PRF thermometry by deep-learning-based reconstruction

CBIR & Beijing Tiantan Hospital

Jun 2022 - Jun 2023  
Advisor: Dr. Hua Guo

- Conducted highly undersampled acquisition and proposed a neural network for real-time reconstruction.
- Achieved real-time PRF thermometry with high spatiotemporal resolution on both retrospectively and prospectively undersampled experiments.

## JOURNAL PAPERS

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# denotes co-first authors

- **Jiang Y #**, Li G #, Shao X, Guo H. Simultaneous Multi-Slice Diffusion Imaging using Navigator-free Multishot Spiral Acquisitions. ([Preprint](#), Submitted to *Magn Reson Med*, Accepted)
- Pan Z #, **Jiang Y #**, Li S, Lu W, Han M, Kuang Y, Sun H, Wang X, Bai J, Liu W, Wang G, Guo H. Artifact Correction in Magnetic Resonance Temperature Imaging for Laser Interstitial Thermotherapy with Multi-echo Acquisitions. ([Preprint](#), Submitted to *NMR Biomed*, Under Review)
- **Jiang Y #**, Pan Z #, Lyu W, Zhang K, Han M, Liu W, Wang G, Guo H. Real-time PRF thermometry for Laser Interstitial Thermotherapy using a recurrent reconstruction network. (Preprint)
- Lian Y, **Jiang Y**, Guo H. Adaptive regularization weight selection for compressed sensing MRI reconstruction. (Submitted to *Magn Reson Med*, Under Review)

- Fang Y, Li S, Wang J, Zhang Z, Jiang W, Wang C, **Jiang Y**, Guo H, Han X, Tian W. Diagnostic efficacy of tract-specific diffusion tensor imaging in cervical spondylotic myelopathy with electrophysiological examination validation. *Eur Spine J* 2024;33(3):1230-1244.
- **Jiang Y**, ..., Guo H, Bilgic B. Ghost correction for segmented EPI data by multishot dual-polarity GRAPPA and SENSE. (In preparation)

## MEETING PROCEEDINGS

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- Li G, **Jiang Y**, Zhang Y, Guo H. Slice-POCS-ICE: a navigator-free reconstruction for SMS-accelerated multi-shot spiral-based diffusion-weighted imaging. In: Proceedings of the 32nd annual meeting of ISMRM, Singapore, 2024. p **1019**. (Oral Presentation)
- **Jiang Y**, Pan Z, Zhang K, Han M, Liu W, Wang G, Guo H. Recurrent reconstruction network enables real-time and high-resolution PRF thermometry for LITT. In: Proceedings of the 32nd annual meeting of ISMRM, Singapore, 2024. p **2704**.
- **Jiang Y**, Llorden GR, Fujita S, Cho J, Yong X, Guo H, Bilgic B. Dual-polarity SENSE with calibration refinement enables robust Nyquist ghost correction on a high-performance gradient system. In: Proceedings of the 32nd annual meeting of ISMRM, Singapore, 2024. p **4424**.
- Li G, **Jiang Y**, Guo H. Simultaneous Multi-slice Single-shot Spiral Acquisitions for Accelerated Diffusion-weighted Imaging. In: Proceedings of the 31st Annual Meeting of ISMRM, Toronto, ON, Canada, 2023. p **3784**.
- **Jiang Y**, Han X, Wang J, Li S, Wang K, Liu Y, Liang W, Jiang W, Guo H. Multi-parameter model proposes a comprehensive imaging index for degenerative cervical myelopathy diagnosis: a preliminary study. In: Proceedings of the 29th Annual Meeting of ISMRM, Virtual Meeting, 2021. p **3460**.
- **Jiang Y**, Jun Y, Liu Q, Zhong W, Rathi Y, Guo H, Bilgic B. Robust Nyquist ghost correction for high-resolution EPI using multishot dual-polarity GRAPPA reconstruction. Submitted to: Proceedings of the 33rd annual meeting of ISMRM, Honolulu, HI, United States, 2025. **Preprint**
- Zhong W, **Jiang Y**, Guo H. Do second-order motion-compensation gradients and spiral sampling suppress phase variations in DWI? Submitted to: Proceedings of the 33rd annual meeting of ISMRM, Honolulu, HI, United States, 2025.
- Zhong W, **Jiang Y**, Guo H. Simulated Analysis of SNR and SNR efficiency in motion compensated single-slab DWI, multislabs, SMSlab and 2D SMS EPI Techniques. Submitted to: Proceedings of the 33rd annual meeting of ISMRM, Honolulu, HI, United States, 2025.
- Xiao Y, ..., **Jiang Y**, ..., Guo H. Self-navigated simultaneous multi-slab 3D DWI. Submitted to: Proceedings of the 33rd annual meeting of ISMRM, Honolulu, HI, United States, 2025.
- Gao Y, **Jiang Y**, ..., Guo H. 3D-EPI SWI at 0.5T. Submitted to: Proceedings of the 33rd annual meeting of ISMRM, Honolulu, HI, United States, 2025.

## MISCELLANEOUS

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### Key Courses

- Medical Imaging (A+), Electrical and Electronic Engineering (A)
- Calculus (A), Numerical Analysis (A), Convex Optimization (A-)

### Skills

- MR physics, sequence programming, and image reconstruction.
- Machine learning and deep learning.