

Yueqi Qiu

Ph.D. Candidate in Biomedical Engineering

✉ saraqiu@sjtu.edu.cn | 📍 Shanghai Jiao Tong University | 🌐 qiuyueqi.github.io | ID:0009-0005-7499-2983

Research Profile

I am actively seeking postdoctoral positions and other MRI-related research opportunities in MR physics, pulse sequence development, and clinically driven MRI innovation. My research interests include portable and low-field MRI, SPEN/xSPEN imaging, diffusion MRI, and advanced reconstruction methods, with a strong passion for developing innovative MRI techniques to solve real clinical problems.

I will attend the ISMRM Annual Meeting in Cape Town and the ESMRMB Annual Meeting this year. I would be excited to connect and discuss research, collaborations, or potential opportunities during the meetings or via email.

Education

Shanghai Jiao Tong University Shanghai, China
Ph.D. Candidate in Biomedical Engineering 09/2022 - Present (expected 2027)

- Advisor: Dr. Zhiyong Zhang
- **ISMRM 2025 Young Investigator Award Winner**
- Doctoral National Scholarship of China, 2025 (*awarded to less than 1% of Ph.D. students in China*)

Shanghai Jiao Tong University Shanghai, China
B.S. in Biomedical Engineering 09/2018 - 06/2022

- Outstanding Graduate of Shanghai Jiao Tong University

Research Interests

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- MRI pulse sequence design and image reconstruction
 - Portable and low-field MRI systems
 - Spatiotemporal encoding (SPEN/xSPEN) MRI
 - Diffusion MRI and multi-shot reconstruction

Journal Publications

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- P1 **Multi-Shot Multi-Echo xSPEN Technique for Portable Low-Field MRI Systems**
Yueqi Qiu, P. K. Lee, K. Dai, S. Chen, S. Yang, C. Wang, H. Bai, Z. Dang, and Z. Zhang
NMR in Biomedicine, 2026
- P2 **Diffusion Weighted Fast Spin Echo With RF-Encoded Slabs for Portable Low-Field MRI Systems**
P. K. Lee, Yueqi Qiu, S. Chen, et al.
Magnetic Resonance in Medicine, 2026
- P3 **A Fast and Reliable Eddy Current Measurement Method in Portable Low-Field MRI**
S. Chen, Yueqi Qiu, S. Zhong, P. K. Lee, H. Chen, and Z. Zhang
IEEE Transactions on Instrumentation and Measurement, 2026
- P4 **Multiband Fast Spin Echo on Portable Low-Field Systems**
P. K. Lee, Yueqi Qiu, C. Wang, and Z. Zhang
Magnetic Resonance in Medicine, 2025
- P5 **A New Approach for Multislice Spatiotemporal Encoding MRI in a Portable Low-Field System**
Yueqi Qiu, S. Chen, E. Solomon, et al.
Magnetic Resonance in Medicine, 2025
- P6 **Spatiotemporal Encoding MRI in a Portable Low-Field System**
The 2025 ISMRM Young Investigator Award Winner
Yueqi Qiu, K. Dai, S. Zhong, S. Chen, C. Wang, H. Chen, L. Frydman, and Z. Zhang
Magnetic Resonance in Medicine, 2024

P7 Susceptibility-Weighted Imaging at High-Performance 0.5 T MRI System: Protocol Considerations and Experimental Results

Yueqi Qiu, H. Bai, H. Chen, et al.
Frontiers in Neuroscience, 2022

Conference Proceedings

C1 Self-Navigated Multi-Shot and Multiband SPEN DWI for Portable Low-Field MRI

Digital Poster, ISMRM 2026

Yueqi Qiu, P. K. Lee, S. Chen, K. Dai, C. Wang, and Z. Zhang

Low Field Systems and Applications, DIGITAL POSTERS Row I, 13:50–14:45, ISMRM Annual Meeting, Cape Town, South Africa, May 2026

C2 Multi-Shot Multi-Echo xSPEN Technique for Permanent Gradient Portable Low-Field MRI Systems

Oral Presentation (2025 ISMRM Magna Cum Laude Merit Award)

Yueqi Qiu, P. K. Lee, S. Chen, K. Dai, C. Wang, and Z. Zhang

Truly Low-Field MRI, ISMRM Annual Meeting, Honolulu, Hawai'i, USA, May 2025

C3 Spatiotemporal Encoding MRI in a Portable Low-Field System

Oral Presentation (2025 ISMRM Young Investigator Award Winner)

Yueqi Qiu, P. K. Lee, K. Dai, S. Zhong, S. Chen, C. Wang, H. Chen, L. Frydman, and Z. Zhang

Young Investigator Awards Session, ISMRM Annual Meeting, Honolulu, Hawai'i, USA, May 2025

C4 Interventional Navigation at a Portable MRI System: A Pilot Study

Digital Poster, ISMRM 2024

Yueqi Qiu, C. Xu, X. Wei, C. Wang, H. Chen, and Z. Zhang

Interventional Hardware & Technical Developments, Singapore, May 2024

C5 Diffusion Tensor Imaging in Portable Low-Field MRI

Digital Poster, ISMRM 2024

K. Dai, Yueqi Qiu, S. Chen, H. Chen, and Z. Zhang

Embrace the Flexibility: Low-Field Acquisition, Singapore, May 2024

C6 Spatiotemporal Encoding MRI at a Portable Low-Field System Without Parallel Imaging

Oral Presentation (2024 ISMRM Magna Cum Laude Merit Award)

Yueqi Qiu, K. Dai, S. Zhong, H. Chen, L. Frydman, and Z. Zhang

Low-Field High-Quality MRI, ISMRM Annual Meeting, Singapore, May 2024

C7 Ultrafast Multi-Parametric Quantitative MRI Using Multi-TR Echo-Planar Time-Resolved Imaging (Multi-TR-EPTI)

Oral Presentation, ISMRM 2023

H. Bai, Yueqi Qiu, K. Dai, H. Chen, and Z. Zhang

Radiomics, Quantitative MRI & Miscellaneous Data Acquisition & Analysis, Toronto, Canada, June 2023

C8 A SNR and Contrast Comparison Study at 0.11T, 0.25T, 1.5T and 3T MRI Systems

Digital Poster, ISMRM 2023

Yueqi Qiu, H. Bai, H. Chen, and Z. Zhang

Low-Field & Point-of-Care/Portable MRI II, Toronto, Canada, June 2023

Research Experience

Portable Diffusion MRI and SPEN DWI

End-to-End Multi-Band Multi-Shot SPEN DWI for Portable Low-Field MRI

03/2025 - Present

- o Designed a full self-navigated multi-shot SPEN DWI framework, including pulse sequence and reconstruction pipeline
- o Developed multiband RF encoding strategies to improve SNR efficiency and acquisition speed
- o Investigated motion-robust diffusion imaging methods for portable MRI systems

Multi-Shot Multi-Echo xSPEN for Permanent Gradient Portable MRI

06/2024 - 03/2025

- Developed a novel MS-ME xSPEN framework to improve SNR and contrast diversity
- Applied xSPEN methods to permanent-gradient MRI systems with severe field inhomogeneity and gradient nonlinearity

Multislice Spatiotemporal Encoding MRI in Portable MRI 01/2024 - 06/2024

- Designed multislice SPEN pulse sequences for a 110 mT portable MRI system
- Investigated multiband RF excitation techniques for SNR enhancement

Spatiotemporal Encoding MRI at Portable Low-Field MRI 01/2023 - 11/2023

- Developed distortion-resistant SPEN MRI acquisitions for portable low-field MRI
- Demonstrated improved robustness compared with EPI acquisitions corrected using TOPUP
- Extended SPEN approaches to 3D MRI and diffusion MRI applications

Low-Field MRI Physics and Clinical Translation

Clinical Imaging Evaluation of Brain Tumor Patients on Portable MRI 01/2026 - Present

- Optimized clinical imaging protocols for portable low-field MRI systems
- Compared image contrasts between portable MRI and clinical high-field scanners across brain tumor types
- Evaluated the clinical feasibility of portable MRI in neuro-oncology applications

Comparison Study Between Multi-Field MRI Systems 10/2022 - 11/2023

- Performed SNR, quantitative fitting, and protocol optimization studies across multiple MRI field strengths
- Investigated strategies for achieving clinically comparable contrasts at low field

T2 Shuffling at Low-Field MRI Systems 01/2022 - 06/2022

- Developed fast multi-contrast imaging approaches using low-rank reconstruction
- Exploited the physical advantages of low- and medium-field MRI systems

Susceptibility-Weighted Imaging and Protocol Design at Low-Field MRI 09/2021 - 01/2022

- Optimized TE, TR, and RF flip-angle parameters using low-field signal simulations
- Demonstrated susceptibility contrast visualization capabilities at 0.5T MRI, especially for venous structures

Awards and Honors

Doctoral National Scholarship of China 2025

Awarded to less than 1% of Ph.D. students nationwide; one of the highest doctoral honors in China

Prince-Meaney Translational Science Award ISMRM Young Investigator Award, 2025

Gold Award China International College Students' Innovation Competition, 2025

Magna Cum Laude Merit Award ISMRM Annual Meeting, 2024 & 2025

Outstanding Graduate Shanghai Jiao Tong University, 2022

Skills

Programming Languages: MATLAB, Python, C++

Research Areas: MRI pulse sequence design, image reconstruction, portable MRI, low-field MRI, diffusion MRI, SPEN/xSPEN imaging

Tools and Platforms: Linux, Git, L^AT_EX, MRI reconstruction toolchains

Languages: Chinese (native), English (proficient)