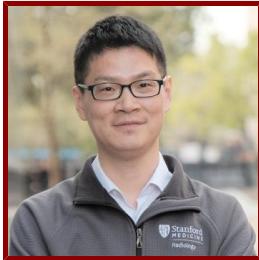


Stanford



Erpeng Dai

Instructor, Radiology

Bio

BIO

Dr. Erpeng Dai's research interest is focused on advanced neuro MRI technique development and application. Previously, he has developed a series of novel techniques for high-resolution and fast diffusion MRI (dMRI). Currently, he is mainly working on distortion-free dMRI, advanced diffusion encoding, and brain microstructure and connectivity studies.

ACADEMIC APPOINTMENTS

- Instructor, Radiology

HONORS AND AWARDS

- Pathway to Independence Awards (K99/R00), National Institutes of Health (NIH) (2023)
- Junior Fellow, the International Society for Magnetic Resonance in Medicine (ISMRM) (2023)
- Magna Cum Laude Awards, ISMRM (2018, 2019)
- Excellent Ph.D. Dissertation Award 2nd places, Tsinghua University (2018)
- Outstanding Research Award, the Overseas Chinese Society for Magnetic Resonance in Medicine (OCSMRM) (2018)
- Pulse Programming Stefan E. Fischer Award, Philips Healthcare (2016)
- Young Investigator Award (YIA), OCSMRM (2016)
- Trainee Travel Stipend, ISMRM (2014, 2015, 2016)

PROFESSIONAL EDUCATION

- Postdoc, Stanford University , Radiology (2023)
- PhD, Tsinghua University , Biomedical Engineering (2018)
- BE, Huazhong University of Science and Technology , Biomedical Engineering (2013)

Publications

PUBLICATIONS

- Frequency-dependent diffusion kurtosis imaging in the human brain using an oscillating gradient spin echo sequence and a high-performance head-only gradient. *NeuroImage*
Dai, E., Zhu, A., Yang, G. K., Quah, K., Tan, E. T., Fiveland, E., Foo, T. K., McNab, J. A.
2023: 120328
- Multi-band multi-shot diffusion MRI reconstruction with joint usage of structured low-rank constraints and explicit phase mapping. *Magnetic resonance in medicine*

- Dai, E., Mani, M., McNab, J. A.
2022
- **Distortion-Free Diffusion Imaging Using Self-Navigated Cartesian Echo-Planar Time Resolved Acquisition and Joint Magnitude and Phase Constrained Reconstruction** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Dai, E., Lee, P. K., Dong, Z., Fu, F., Setsompop, K., McNab, J. A.
2022; 41 (1): 63-74
 - **High-Resolution Whole-Brain Diffusion MRI at 3T Using Simultaneous Multi-slab (SMSlab) Acquisition.** *NeuroImage*
Dai, E., Liu, S., Guo, H.
2021: 118099
 - **DTI-MR fingerprinting for rapid high-resolution whole-brain T1 , T2 , proton density, ADC, and fractional anisotropy mapping.** *Magnetic resonance in medicine*
Cao, X., Liao, C., Zhou, Z., Zhong, Z., Li, Z., Dai, E., Iyer, S. S., Hannum, A. J., Yurt, M., Schauman, S., Chen, Q., Wang, N., Wei, et al
2023
 - **Reconstruction for 7T high-resolution whole-brain diffusion MRI using two-stage N/2 ghost correction and L1-SPIRiT without single-band reference.** *Magnetic resonance in medicine*
Pan, Z., Ma, X., Dai, E., Auerbach, E. J., Guo, H., Ugurbil, K., Wu, X.
2023
 - **SAturation-recovery and Variable-flip-Angle (SAVA) based three-dimensional free-breathing cardiovascular magnetic resonance T1 mapping at 3T.** *NMR in biomedicine*
Guo, R., Si, D., Chen, Z., Dai, E., Chen, S., Herzka, D. A., Luo, J., Ding, H.
2022: e4755
 - **Optimized multi-axis spiral projection MR fingerprinting with subspace reconstruction for rapid whole-brain high-isotropic-resolution quantitative imaging.** *Magnetic resonance in medicine*
Cao, X., Liao, C., Iyer, S. S., Wang, Z., Zhou, Z., Dai, E., Liberman, G., Dong, Z., Gong, T., He, H., Zhong, J., Bilgic, B., Setsompop, et al
2022
 - **Slab boundary artifact correction in multislab imaging using convolutional-neural-network-enabled inversion for slab profile encoding.** *Magnetic resonance in medicine*
Zhang, J., Liu, S., Dai, E., Ye, X., Shi, D., Wu, Y., Lu, J., Guo, H.
2021
 - **Improving distortion correction for isotropic high-resolution 3D diffusion MRI by optimizing Jacobian modulation.** *Magnetic resonance in medicine*
Liu, S., Xiong, Y., Dai, E., Zhang, J., Guo, H.
2021
 - **A 3D k-space Fourier encoding and reconstruction framework for simultaneous multi-slab acquisition** *MAGNETIC RESONANCE IN MEDICINE*
Dai, E., Wu, Y., Wu, W., Guo, R., Liu, S., Miller, K. L., Zhang, Z., Guo, H.
2019; 82 (3): 1012-1024
 - **Distortion correction for high-resolution single-shot EPI DTI using a modified field-mapping method** *NMR IN BIOMEDICINE*
Xiong, Y., Li, G., Dai, E., Wang, Y., Zhang, Z., Guo, H.
2019; 32 (9): e4124
 - **The effects of navigator distortion and noise level on interleaved EPI DWI reconstruction: a comparison between image- and k-space-based method** *MAGNETIC RESONANCE IN MEDICINE*
Dai, E., Zhang, Z., Ma, X., Dong, Z., Li, X., Xiong, Y., Yuan, C., Guo, H.
2018; 80 (5): 2024-2032
 - **eIRIS: Eigen-analysis approach for improved spine multi-shot diffusion MRI** *MAGNETIC RESONANCE IMAGING*
Guo, L., Huang, F., Xu, Z., Mei, Y., Fang, W., Ma, X., Dai, E., Guo, H., Feng, Q., Chen, W., Feng, Y.
2018; 50: 134-140
 - **Model-based reconstruction for simultaneous multislice and parallel imaging accelerated multishot diffusion tensor imaging** *MEDICAL PHYSICS*
Dong, Z., Dai, E., Wang, F., Zhang, Z., Ma, X., Yuan, C., Guo, H.
2018; 45 (7): 3196-3204

- **Motion-corrected k-space reconstruction for interleaved EPI diffusion imaging** *MAGNETIC RESONANCE IN MEDICINE*
Dong, Z., Wang, F., Ma, X., Dai, E., Zhang, Z., Guo, H.
2018; 79 (4): 1992-2002
- **A comparison of readout segmented EPI and interleaved EPI in high resolution diffusion weighted imaging** *MAGNETIC RESONANCE IMAGING*
Wang, Y., Ma, X., Zhang, Z., Dai, E., Jeong, H., Xie, B., Yuan, C., Guo, H.
2018; 47: 39-47
- **Interleaved EPI diffusion imaging using SPIRiT-based reconstruction with virtual coil compression** *MAGNETIC RESONANCE IN MEDICINE*
Dong, Z., Wang, F., Ma, X., Zhang, Z., Dai, E., Yuan, C., Guo, H.
2018; 79 (3): 1525-1531
- **Simultaneous Multislice Accelerated Interleaved EPI DWI Using Generalized Blipped-CAIPI Acquisition and 3D K-Space Reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
Dai, E., Ma, X., Zhang, Z., Yuan, C., Guo, H.
2017; 77 (4): 1593-1605
- **Technical Note: Measurement of common carotid artery lumen dynamics using black-blood MR cine imaging** *MEDICAL PHYSICS*
Dai, E., Dong, L., Zhang, Z., Li, L., Zhang, H., Zhao, X., Wang, J., Yuan, C., Guo, H.
2017; 44 (3): 1105-1112
- **Improved multi-shot diffusion imaging using GRAPPA with a compact kernel** *NEUROIMAGE*
Ma, X., Zhang, Z., Dai, E., Guo, H.
2016; 138: 88-99