



## Moss Zhao

Postdoctoral Scholar, Radiology

### Bio

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#### BIO

Dr. Moss Zhao is a postdoctoral scholar at Stanford's Center for Advanced Functional Neuroimaging led by Drs. Greg Zaharchuk and Michael Moseley. He develops cutting-edge and clinically viable imaging technologies to improve the diagnosis and treatment of cerebrovascular diseases across the lifespan. His specific areas of expertise include physiological modeling, arterial spin labeling, Bayesian inference, PET/MRI, and artificial intelligence. His scientific contributions could significantly improve the early detection of strokes and dementia as well as enrich the knowledge of brain development in the first two decades of life.

Dr. Zhao received his DPhil at St Cross College of University of Oxford under the supervision of Prof. Michael Chappell. As an alumni mentor, he supports the career development of students of his alma mater. Since 2016, he has presented his work to more than 3000 delegates at international conferences and held leadership positions in professional societies. His research and teaching are supported by the American Heart Association, the National Institutes of Health, and the European Cooperation in Science and Technology.

#### INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

#### HONORS AND AWARDS

- Postdoctoral Fellowship, American Heart Association (2021)
- Early Career Fellowship, The European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) (2020)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Trainee Representative, ISMRM PET-MRI Study Group (2023 - present)
- FIT & Early Career Blogging Program, American Heart Association (2021 - present)
- Member of The Membership, Marketing, and Media Committee, The European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) (2020 - present)
- Member of The Early Career Investigators Committee, The European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) (2019 - present)
- Member of EU COST Action Glioma MR Imaging 2.0, European Cooperation in Science and Technology (COST) (2019 - present)

#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Oxford , Engineering Science (Biomedical Engineering) (2019)
- Master of Science, The Chinese University of Hong Kong , Biomedical Engineering (2013)
- Bachelor of Science, Hong Kong Baptist University , Computer Science (2012)

## STANFORD ADVISORS

- Gregory Zaharchuk, Postdoctoral Faculty Sponsor

## LINKS

- My LinkedIn: <https://www.linkedin.com/in/moss-zhao-417260136/>
- My Google Scholar: <https://scholar.google.co.uk/citations?user=DpEdjgUAAAAJ&hl=en>
- My Twitter: <https://twitter.com/mosszhaodphil>

## Publications

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### PUBLICATIONS

- **Measuring Quantitative Cerebral Blood Flow in Healthy Children: A Systematic Review of Neuroimaging Techniques.** *Journal of magnetic resonance imaging : JMRI*  
Zhao, M. Y., Tong, E., Duarte Armindo, R., Woodward, A., Yeom, K. W., Moseley, M. E., Zaharchuk, G.  
2023
- **Effect of vitamin D supplementation on cerebral blood flow in male patients with adrenoleukodystrophy.** *Journal of neuroscience research*  
Zhao, M. Y., Dahlen, A., Ramirez, N. J., Moseley, M., Van Haren, K., Zaharchuk, G.  
2023
- **Advanced MR Techniques for Preoperative Glioma Characterization: Part 2.** *Journal of magnetic resonance imaging : JMRI*  
Hangel, G., Schmitz-Abecassis, B., Sollmann, N., Pinto, J., Arzanforoosh, F., Barkhof, F., Booth, T., Calvo-Imirizaldu, M., Cassia, G., Chmelik, M., Clement, P., Ercan, E., Fernández-Seara, et al  
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- **Advanced MR Techniques for Preoperative Glioma Characterization: Part 1.** *Journal of magnetic resonance imaging : JMRI*  
Hirschler, L., Sollmann, N., Schmitz-Abecassis, B., Pinto, J., Arzanforoosh, F., Barkhof, F., Booth, T., Calvo-Imirizaldu, M., Cassia, G., Chmelik, M., Clement, P., Ercan, E., Fernández-Seara, et al  
2023
- **Erratum to: Velocity-selective arterial spin labeling perfusion MRI: A review of the state of the art and recommendations for clinical implementation (Magn Reson Med. 2022; 88:1528-1547).** *Magnetic resonance in medicine*  
Qin, Q., Alsop, D. C., Bolar, D. S., Hernandez-Garcia, L., Meakin, J., Liu, D., Nayak, K. S., Schmid, S., van Osch, M. J., Wong, E. C., Woods, J. G., Zaharchuk, G., Zhao, et al  
2022
- **Revascularization improves vascular hemodynamics - a study assessing cerebrovascular reserve and transit time in Moyamoya patients using MRI.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*  
Zhao, M. Y., Armindo, R. D., Gauden, A. J., Yim, B., Tong, E., Moseley, M., Steinberg, G. K., Zaharchuk, G.  
2022: 271678X221140343
- **Recent Technical Developments in ASL: A Review of the State of the Art.** *Magnetic resonance in medicine*  
Hernandez-Garcia, L., Aramendia-Vidaurreta, V., Bolar, D. S., Dai, W., Fernandez-Seara, M. A., Guo, J., Madhuranthakam, A. J., Mutsaerts, H., Petr, J., Qin, Q., Schollenberger, J., Suzuki, Y., Taso, et al  
2022
- **Velocity-selective arterial spin labeling perfusion MRI: A review of the state of the art and recommendations for clinical implementation.** *Magnetic resonance in medicine*  
Qin, Q., Alsop, D. C., Bolar, D. S., Hernandez-Garcia, L., Meakin, J., Liu, D., Nayak, K. S., Schmid, S., van Osch, M. J., Wong, E. C., Woods, J. G., Zaharchuk, G., Zhao, et al  
2022
- **Using arterial spin labeling to measure cerebrovascular reactivity in Moyamoya disease: Insights from simultaneous PET/MRI.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*  
Zhao, M. Y., Fan, A. P., Chen, D. Y., Ishii, Y., Khalighi, M. M., Moseley, M., Steinberg, G. K., Zaharchuk, G.  
2022: 271678X221083471

- **Reliability of arterial spin labeling derived cerebral blood flow in periventricular white matter.** *Neuroimage. Reports*  
Dolui, S., Fan, A. P., Zhao, M. Y., Nasrallah, I. M., Zaharchuk, G., Detre, J. A.  
2021; 1 (4)
- **Cerebrovascular Reactivity Measurements Using Simultaneous 15O-Water PET and ASL MRI: Impacts of Arterial Transit Time, Labeling Efficiency, and Hematocrit.** *NeuroImage*  
Zhao, M. Y., Fan, A. P., Chen, D. Y., Sokolska, M. J., Guo, J. n., Ishii, Y. n., Shin, D. D., Khalighi, M. M., Holley, D. n., Halbert, K. n., Otte, A. n., Williams, B. n., Rostami, et al  
2021: 117955
- **Reproducibility of cerebrovascular reactivity measurements: A systematic review of neuroimaging techniques.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*  
Zhao, M. Y., Woodward, A., Fan, A. P., Chen, K. T., Yu, Y., Chen, D. Y., Moseley, M. E., Zaharchuk, G.  
2021: 271678X211056702
- **Predicting PET Cerebrovascular Reserve with Deep Learning by Using Baseline MRI: A Pilot Investigation of a Drug-Free Brain Stress Test.** *Radiology*  
Chen, D. Y., Ishii, Y., Fan, A. P., Guo, J., Zhao, M. Y., Steinberg, G. K., Zaharchuk, G.  
2020: 192793
- **Quantification of cerebral perfusion and cerebrovascular reserve using Turbo-QUASAR arterial spin labeling MRI.** *Magnetic resonance in medicine*  
Zhao, M. Y., Václav#, L., Petersen, E. T., Biemond, B. J., Sokolska, M. J., Suzuki, Y., Thomas, D. L., Nederveen, A. J., Chappell, M. A.  
2019
- **A systematic study of the sensitivity of partial volume correction methods for the quantification of perfusion from pseudo-continuous arterial spin labeling MRI** *NEUROIMAGE*  
Zhao, M. Y., Mezue, M., Segerdahl, A. R., Okell, T. W., Tracey, I., Xiao, Y., Chappell, M. A.  
2017; 162: 384–97
- **Disease-Specific Target Gene Expression Profiling of Molecular Imaging Probes: Database Development and Clinical Validation** *MOLECULAR IMAGING*  
Chan, L., Ngo, C., Wang, F., Zhao, M. Y., Zhao, M., Law, H., Wong, S., Yung, B.  
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