Hongfu Sun, PhD (Google Scholar)
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Honorary Senior Research Fellow | University of Queensland | Australia | hongfu.sun@uq.edu.au

ACADEMIC BACKGROUND

- ***Senior Lecturer (permanent),*** University of Newcastle, Newcastle, Australia 2024/02 – Present
- ***DECRA Senior Research Fellow,*** University of Queensland, Brisbane, Australia 2023/01 – 2024/02
- ***DECRA Research Fellow,*** University of Queensland, Brisbane, Australia 2019/03 – 2022/12
- ***Postdoctoral Researcher,*** University of Calgary, Calgary, Canada 2015/11 – 2019/03
- ***Doctor of Philosophy,*** University of Alberta, Edmonton, Canada 2010/09 – 2015/11
- ***Bachelor of Science,*** Huazhong University of Science and Technology, China 2005/09 – 2019/06

LEADERSHIP AND SUPERVISION

- Discipline Lead of Centre for Medical Engineering Research (Uni. Newcastle and HMRI) 2024
- Medical Engineering Program Convenor at University of Newcastle 2024
- Graduated 3 and currently taking 4 PhD students as the Principal Supervisor (Uni. Queensland) 2019 – Present
- Graduated 6 Master by Coursework and 2 Honours students (Uni. Queensland) 2020 – 2023

RESEARCH THEMES

- Medical imaging, MRI, quantitative MRI, Novel imaging methods
- Artificial Intelligence (AI), Machine/Deep learning, Generative models

TEACHING

- 2024-2025 (Uni. Newcastle/Singapore) – Course Coordinator, ENGG1003: ***Procedural Programming***
- 2024-2025 (Uni. Newcastle) – Course Coordinator, MENG3451: ***Medical Imaging and Signal Processing***
- 2019-2023 (Uni. Queensland) – Course Coordinator, BIOE6601: ***Medical Imaging*** [students rating 4.8/5.0]

HONORS AND AWARDS

- ***Dr F & Mrs ME Zaccari Scholarship*** for Schizophrenia research (1 PhD scholarship across UQ) 2023
- ***UQ Knowledge Exchange & Translation Award*** (2 awardees from Engineering Faculty) 2022
- ***Nominee as President*** of ISMRM Australia and New Zealand community 2022
- ***Collaboration Award*** from UQAI (6 awardees from Engineering Faculty) 2022
- ***Chair*** of ISMRM Data Processing Scientific oral and poster sessions 2022
- ***Chair*** of ISMRM QSM Scientific oral and poster sessions 2021
- ***Chair*** of ISMRM-ANZ acquisition and reconstruction session 2021
- ***ARC Discovery Early Career Researcher Award (DECRA)*** (the most prestigious government early-career fellowship award with only 200 each year across Australia) 2021
- ***The "Rising Star" Award*** from School of ITEE (4 awardees from School) 2021
- ***Early Career Researcher Award*** from UQ 2020
- ***Cover Article Award*** for MRM (top 1 MRI journal) January 2020 issue 2020
- ***Summa Cum Laude Merit Award*** from ISMRM (top 3% of 6000+ abstracts) 2014/2015/2019
- ***Conference Travel Award*** from Hotchkiss Brain Institute 2018
- ***Distinguished Reviewer Award*** for MRM (top 1 MRI journal) 2017/2018
- ***Distinguished Reviewer Award*** for Journal of Magnetic Resonance Imaging 2016-2018
- ***Postgraduate Fellowships in Health Innovation*** (the most prestigious government fellowship with 20 awardees across Alberta province in Canada) from Alberta Innovates 2016-2018
- ***Trainee Stipend Award*** from ISMRM 2013-2015/2018
- ***Research Exchange Award*** from HBI-Melbourne Exchange Program (2 awardees from Uni.) 2017
- ***Chair*** of ISMRM QSM Educational oral and Scientific oral sessions 2017
- ***Postdoctoral Fellowship*** from T. Chen Fong in Medical Imaging Science (1 awardee from Uni.) 2016
- ***Postdoctoral Fellowships*** from Harley Hotchkiss - Samuel Weiss 2015
- ***Cover Article Award*** for MRM (top 1 MRI journal) May 2015 issue 2015
- ***NIH Young Investigator Travel Award*** for QSM International Workshop 2014/2015
- ***Travel Award*** from University of Alberta Graduate Student Association 2014
- ***Consortium Ambassador*** for Canadian Graduate Engineering 2013/2014
- ***Scholarship*** from Faculty of Medicine & Dentistry 75th Anniversary ($7000) 2012
- ***Scholarship*** from the University of Alberta BME Graduate Program ($6500) 2011

SUCCESSFUL GRANTS (CI stands for Chief Investigator, equivalent to Principal Investigator (PI) in North America system, A-C indicates the position in the CI list)

• University of Newcastle Startup Grants	$32,500	Sole CI	2024-2025
• Dr F & Mrs ME Zaccari Scholarship	$240,000	Sole CI	2023-2026
• **NHMRC Ideas Grants**	$611,098	CI C	2024-2026
• **ARC Discovery Projects (DP)**	$512,607	CI C	2023-2025
• UQ Knowledge Exchange & Translation Award	$139,124	Sole CI	2023
• **ARC Discovery Early Career Researcher Award (DECRA)**	$429,000	Sole CI	2021-2023
• UQAI Collaboratory ECR Seed Fund	$20,000	CI A	2022
• ITEE Research Support Funding	$10,000	Sole CI	2021
• EAIT Early Career Researcher Philanthropic Grants	$33,000	Sole CI	2021
• ITEE Startup Grants	$50,000	Sole CI	2019-2021
• UQ Early Career Researcher Grants	$25,875	Sole CI	2020
• **Alberta Innovates Postgraduate Fellowships in Health Innovation**	$165,000	Sole CI	2016-2018
• RHISE HBI Melbourne Trainee Research Exchange	$14,000	Sole CI	2017
• T. Chen Fong Postdoctoral Fellowship in Medical Imaging Science	$60,000	Sole CI	2016
• Harley N. Hotchkiss Postdoctoral Recruitment Fellowship	$50,000	Sole CI	2016

COMMUNITY AND PROFESSIONAL ACTIVITIES

- ***Host*** National Youth Science Forum of University of Newcastle visit (20 students) 2024/07
- ***Staff Representative*** for Uni. Newcastle Open Day of the Bachelor of Medical Engineering 2024/08
- ***Outreach*** to Newcastle Grammar School Medical Engineering Program (16 Y11 students) 2024/09
- ***Guest Editor*** of NeuroImage, Frontiers in Radiology, Frontiers in Neuroscience, Information 2022-2024
- ***HDR Scholarship Ranking Committee*** for the School of EECS 2022-2024
- ***Panel Reviewers Committee*** of Low and Negligible Risk (LNR) ethics for UQ 2021-2024
- ***HDR Milestone Panel Member*** for 20+ PhD students from the School of EECS, CAI, and QBI 2020-2024
- ***Grant Review*** for Natural Sciences and Engineering Research Council of Canada Doctoral Award 2017; The Austrian Science Fund 2022; ARC DECRA 2022; Fonds de Recherche du Québec – Nature et technologies 2023; ARC Linkage 2023 2017-2023
- ***Peer Review*** for MICCAI, ISMRM; IEEE; Radiology; NeuroImage; MRM; JMRI; NMR in Biomedicine; Frontiers; etc. (**130+ papers recorded by Web of Science)** 2017-Present
- ***Organizing Committee*** of "MRI Together 2022" International Workshop (1000+ attendees) 2022
- ***Staff Representative*** at UQ Open Day and EAIT Experience Day for Biomedical Engineering 2020-2022
- ***Chair and Moderator*** for ISMRM conference (6000+ attendees) 2017-Present
- ***Invited Editorial*** for Journal of Magnetic Resonance Imaging 2019/12
- ***Academic Exchange*** at Melbourne Brain Centre Imaging Unit, Australia 2017/05-07

PEER-REVIEWED PUBLICATIONS ***(10 as first author, 15 as last/corresponding author *)***

1. H. Askari, Y. Luo, **H. Sun***, F. Roosta; Latent Refinement via Flow Matching for Training-free Linear Inverse Problem Solving; NeurIPS 2025.
2. **H. Sun**; Editorial for "Accelerating 2D Kidney Magnetic Resonance Fingerprinting using Deep Learning Based Tissue Quantification"; J. Magn. Reson. Imaging 2025.
3. X. Zhu, Y. Gao, Z. Xiong, W. Jiang, F. Liu, **H. Sun***; DIP-UP: Deep Image Prior for Unwrapping Phase; Information. 2025; 16 (7):592.
4. M. Li, C. Chen, Z. Xiong, Y. Liu, P. Rong, S. Shan, F. Liu, **H. Sun**, Y. Gao; Quantitative susceptibility mapping via deep neural networks with iterative reverse concatenations and recurrent modules; Med Phys. 2025.
5. T. Ding, Y. Gao, Z. Xiong, F. Liu, M.A. Cloos, **H. Sun***; MRF-Mixer: A simulation-based deep learning framework for accelerated and accurate magnetic resonance fingerprinting reconstruction; Information. 2023;16(3):218.
6. H. Askari, F. Roosta, **H. Sun***; Training-free medical image inverses via bi-level guided diffusion models; Proc IEEE/CVF Winter Conf Appl Comput Vis (WACV). 2025;75–84.
7. W. Jiang, Z. Xiong, F. Liu, N. Ye, **H. Sun***; Fast Controllable Diffusion Models for Undersampled MRI Reconstruction; 2024 IEEE International Symposium on Biomedical Imaging (ISBI); doi: 10.1109/ISBI56570.2024.10635891.
8. Y. Gao, Z. Xiong, S. Shan, Y. Liu, P. Rong, M. Li, A.H. Wilman, G.B. Pike, F. Liu, **H. Sun***; Plug-and-Play Latent Feature Editing for Orientation-Adaptive Quantitative Susceptibility Mapping Neural Networks; Medical Imaging Analysis. 2023.
9. Z. Xiong, Y. Gao, Y. Liu, A. Fazlollahi, P. Nestor, F. Liu, **H. Sun***; Quantitative Susceptibility Mapping through Model-based Deep Image Prior (MoDIP); NeuroImage. 2023.
10. W. Zheng, Z. Dai, R. Wu, **H. Sun***; Editorial: Imaging of neurometabolism; Front Neurosci. 2023; 17: 1286361.
11. H. Askari, Y. Latif, **H. Sun***; MapFlow: Latent Transition Via Normalizing Flow for Unsupervised Domain Adaptation; Machine Learning; 2023.

12. Z. Dai, Z. Yang, Z. Li, M. Li, **H. Sun**, Z. Zhuang, W. Yang, Z. Hu, X. Chen, D. Lin, X. Wu; Increased glymphatic system activity in patients with mild traumatic brain injury; Front. Neurol. - Applied Neuroimaging; 2023.
13. S. Shan, Y. Gao, P.Z.Y. Liu, B. Whelan, **H. Sun**, B. Dong, F. Liu, D.E.J. Waddington; Distortion-Corrected Image Reconstruction with Deep Learning on an MRI-Linac; Magn. Reson. Med. 2023.
14. Z. Xiong, Y. Gao, F. Liu, **H. Sun***; Affine Transformation Edited and Refined Deep Neural Network for Quantitative Susceptibility Mapping; NeuroImage; 2022.
15. N. Nathoo, M. Gee, K. Nelles, J. Burt, **H. Sun**, P. Seres, A.H. Wilman, C. Beaulieu, F. Ba, R. Camicioli; Quantitative susceptibility mapping changes relate to gait issues in Parkinson's Disease; Can J Neurol Sci. 2022 Nov 10:1-22. doi: 10.1017/cjn.2022.316.
16. R. Yang, M. Hamilton, **H. Sun**, K. Rawji, S. Sarkar, R. Mirzaei, G.B. Pike, W. Yong, J.F. Dunn; Detecting monocyte trafficking in an animal model of glioblastoma using R2* and quantitative susceptibility mapping; Cancer Immunology, Immunotherapy; 2022.
17. D. Nakhid, C. McMorris, **H. Sun**, W.B. Gibbard, C. Tortorelli, C. Lebel; Brain Volume and Magnetic Susceptibility Differences in Children and Adolescents with Prenatal Alcohol Exposure; Alcoholism: Clinical and Experimental Research; 2022.
18. A. De, **H. Sun**, D.J. Emery, K.C. Butcher, A.H. Wilman; Quantitative susceptibility-weighted imaging in presence of strong susceptibility sources: Application to hemorrhage; Magn. Reson Imaging 2022.
19. Y. Gao, Z. Xiong, A. Fazlollahi, P.J. Nestor, V. Vegh, F. Nasrallah, C. Winter, G.B. Pike, S. Crozier, F. Liu, **H. Sun***; Instant tissue field and magnetic susceptibility mapping from MRI raw phase using Laplacian enhanced deep neural networks; NeuroImage. 2022.
20. X. Zhu, Y. Gao, F. Liu, S. Crozier, **H. Sun***; BFRnet: A deep learning-based MR background field removal method for QSM of the brain containing significant pathological susceptibility sources. Z Med Phys. 2022.
21. D. Nakhid, C. McMorris, **H. Sun**, B. Gibbard, C. Tortorelli, C. Lebel; Brain iron and mental health symptoms in youth with and without prenatal alcohol exposure; Nutrients; 2022.
22. Z. Yang, D. Lin, X. Chen, J. Qiu, S. Li, R. Huang, Z. Yang, **H. Sun**, Y. Liao, J. Xiao, Y.Y. Tang, X. Chen, S. Zhang, Z. Dai; Distinguishing COVID-19 from influenza pneumonia in the early stage through CT imaging and clinical features; Frontiers in Microbiology; 2022.
23. Y. Gao, M. Cloos, F. Liu, S. Crozier, G.B. Pike, **H. Sun***; Accelerating quantitative susceptibility and R2* mapping using incoherent undersampling and deep neural network reconstruction. Neuroimage. 2021.
24. X. Zhu, Y. Gao, F. Liu, S. Crozier, **H. Sun***; Deep grey matter quantitative susceptibility mapping from small spatial coverages using deep learning. Z Med Phys. 2021.
25. Z. Yang, X. Chen, R. Huang, S. Li, D. Lin, Z. Yang, **H. Sun**, G. Liu, J. Qiu, Y. Tang, J. Xiao, Y. Liao, X. Wu, R. Wu, X. Chen, Z. Dai. Atypical presentations of coronavirus disease 2019 (COVID-19) from onset to readmission. BMC Infect Dis. 2021 Jan 29;21(1):127.
26. X. Liu, J. Wang, **H. Sun**, S.S.Chandra, S. Croziera, F. Liu; On the regularization of feature fusion and mapping for fast MR multi-contrast imaging via iterative networks; Magn Reson Imaging. 2021 Jan 2;77:159-168.
27. Y. Gao, X. Zhu, B.A. Moffat, R. Glarin, A.H. Wilman, G.B. Pike, S. Crozier, F. Liu, **H. Sun***; xQSM: Quantitative Susceptibility Mapping with Octave Convolutional and Noise Regularized Neural Networks; NMR Biomed. 2020 Nov 26.
28. Z. Dai, S. Kalra, D. Mah, P. Seres, **H. Sun**, R. Wu, A.H. Wilman; Amide signal intensities may be reduced in the motor cortex and the corticospinal tract of ALS patients; Eur Radiol. 2020.
29. M.E. MacDonald, R.J. Williams, D. Rajashekar, R.B. Stafford, A. Hanganu, **H. Sun**, A.J.L. Berman, C.R. McCreary, R. Frayne, N.D. Forkert, G.B. Pike; Age-related differences in cerebral blood flow and cortical thickness with an application to age prediction; Neurobiol Aging 2020; 95:131-142.
30. Y. Ma, E.L. Mazerolle, J. Cho, **H. Sun**, Y. Wang, G.B. Pike; Quantification of brain oxygen extraction fraction using QSM and a hyperoxic challenge; Magn. Reson. Med. 2020. doi: 10.1002/mrm.28390.
31. X. Chen, Y. Tang, Y. Mo, S. Li, D. Lin, Z. Yang, Z. Yang, **H. Sun**, J. Qiu, Y. Liao, J. Xiao, X. Chen, X. Wu, R. Wu, Z. Dai; A diagnostic model for coronavirus disease 2019 (COVID-19) based on radiological semantic and clinical features: a multi-center study; Eur Radiol. 2020 Mar 23.
32. **H. Sun**; Editorial for "Deep-Learning Detection of Cancer Metastasis to the Brain on MRI"; J. Magn. Reson. Imaging 2020 Mar 10. doi: 10.1002/jmri.27131.
33. N. Naji, **H. Sun**, A.H. Wilman; On the value of QSM from MPRAGE for segmenting and quantifying iron-rich deep gray matter; Magn. Reson. Med. 2020 Mar 3. doi: 10.1002/mrm.28226.
34. **H. Sun**, J.O. Cleary, R. Glarin, S.C. Kolbe, R.J. Ordidge, B.A. Moffat, G.B. Pike; Extracting more for less: Multi-echo MP2RAGE for simultaneous T1-weighted imaging, T1 mapping, R2* mapping, SWI, and QSM from a single acquisition; Magn. Reson. Med. 2020; 83(4):1178-1191.
35. Y. Ma, **H. Sun**, J. Cho, E.L. Mazerolle, Y. Wang, G.B. Pike; Cerebral OEF quantification: A comparison study between quantitative susceptibility mapping and dual-gas calibrated BOLD imaging; Magn. Reson. Med. 2020; 83(1):68-82. (**selected as MRM 2020 January Cover Article**)
36. A. De, **H. Sun**, D.J. Emery, K.C. Butcher, A.H. Wilman; Rapid quantitative susceptibility mapping of intracerebral hemorrhage; J. Magn. Reson. Imaging 2020; 51(3):712-718.
37. A.M. Elkady, D. Cobzas, **H. Sun**, P. Seres, G. Blevins, A.H. Wilman; Five Year Iron Changes in Relapsing-Remitting Multiple Sclerosis Deep Gray Matter Compared to Healthy Controls; Mult Scler Relat Disord 2019; 33:107-115.

38. A.J. Walsh, **H. Sun**, D.J. Emery, A.H. Wilman; Hematocrit Measurement with R2* and Quantitative Susceptibility Mapping in Postmortem Brain; AJNR Am J Neuroradiol. 2018; 39(7):1260-1266.
39. **H. Sun**, Y. Ma, M.E. MacDonald, G.B. Pike; Whole Head Quantitative Susceptibility Mapping Using a Least-norm Direct Dipole Inversion Method; NeuroImage 2018; 179:166-175.
40. **H. Sun**, A. Klahr, M. Kate, L.C. Gioia, D.J. Emery, K. Butcher, A.H. Wilman; Quantitative Susceptibility Mapping for Following of Intracranial Hemorrhage; Radiology 2018; 288(3):830-839.
41. A.M. Elkady, D. Cobzas, **H. Sun**, G. Blevins, A.H. Wilman; Discriminative Analysis of Regional Evolution of Iron and Myelin/Calcium in Deep Gray Matter of Relapsing-Remitting Multiple Sclerosis and Healthy Subjects; J. Magn. Reson. Imaging 2018; 48(3):652-668.
42. J. Kmech, E. Fujiwara, D. Cobzas, **H. Sun**, P. Seres, G. Blevins, A.H. Wilman; Cognitive Implications of Deep Gray Matter Iron in Multiple Sclerosis; AJNR Am J Neuroradiol. 2017; 38 (5) 942-948.
43. A.M. Elkady, D. Cobzas, **H. Sun**, G. Blevins, A.H. Wilman; Progressive Iron Accumulation Across Multiple Sclerosis Phenotypes Revealed by Sparse Classification of Deep Gray Matter; J. Magn. Reson. Imaging 2017; 46(5):1464-1473.
44. M. Juhás, **H. Sun**, M.R.G. Brown, M.B. MacKay, A.H. Wilman, S.M. Dursun, A.J. Greenshaw; Deep Grey Matter Iron Accumulation in Alcohol Use Disorder; NeuroImage 2017; 148:115-122.
45. **H. Sun**, P. Seres, A.H. Wilman; Structural and Functional Quantitative Susceptibility Mapping from Standard fMRI Studies; NMR Biomed. 2016 Sep 30; doi: 10.1002/nbm.3619.
46. A.M. Elkady, **H. Sun**, A.H. Wilman; Importance of extended spatial coverage for quantitative susceptibility mapping of iron-rich deep grey matter; J. Magn. Reson. Imaging 2016; 34(4):574-578.
47. **H. Sun**, M. Kate, L.C. Gioia, D.J. Emery, K. Butcher, A.H. Wilman; Quantitative susceptibility mapping using a superposed dipole inversion method: application to intracranial hemorrhage; Magn. Reson. Med. 2016; 76(3):781-91.
48. D. Cobzas, **H. Sun**, A.J. Walsh, R.M. Lebel, G. Blevins, A.H. Wilman; Voxel-based analysis of subcortical grey matter using transverse relaxation and quantitative susceptibility mapping with application to multiple sclerosis; J. Magn. Reson. Imaging 2015; 42:1601-1610.
49. **H. Sun**, A.J. Walsh, R.M. Lebel, G. Blevins, I. Catz, J-Q. Lu, E.S. Johnson, D.J. Emery, K.G. Warren, A.H. Wilman; Validation of quantitative susceptibility mapping with Perls' iron staining for subcortical gray matter; NeuroImage 2015; 105:486–492.
50. **H. Sun**, A.H. Wilman; Quantitative susceptibility mapping using single-shot echo-planar imaging; Magn. Reson. Med. 2015; 73:1932-1938. (**selected as MRM 2015 May Cover Article**)
51. **H. Sun**, A.H. Wilman; Background field removal using spherical mean value filtering and Tikhonov regularization; Magn. Reson. Med. 2014; 71:1151–1157.

NON-PEER-REVIEWED PRE-PRINTS ***(2 as last author)***

1. T. Ding, H. Chen, Y. Gao, Z. Xiong, F. Liu, M.A. Cloos, **H. Sun***; Adaptive Gate-Aware Mamba Networks for Magnetic Resonance Fingerprinting; arXiv preprint arXiv:2507.03369.
2. M. Li, C. Chen, Z. Li, Y. Liu, S. Shan, P. Wu, P. Rong, F. Liu, G.B. Pike, A.H. Wilman, **H. Sun**, Y. Gao; SUSEP-Net: Simulation-Supervised and Contrastive Learning-based Deep Neural Networks for Susceptibility Source Separation; arXiv preprint arXiv:2506.13293.
3. J. Liu, Q. Lin, Z. Xiong, S. Shan, C. Liu, M. Li, F. Liu, G.B. Pike, **H. Sun**, Y. Gao; Highly undersampled MRI reconstruction via a single posterior sampling of diffusion models; p arXiv:2505.08142.
4. Z. Xiong, W. Jiang, Y. Gao, F. Liu, **H. Sun***; QSMDiff: Unsupervised 3D Diffusion Models for Quantitative Susceptibility Mapping; p arXiv:2403.14070.
5. W. Ma, M. Bran Lorenzana, W. Dai, **H. Sun**, S.S. Chandra; Multi-scale MRI reconstruction via dilated ensemble networks; p arXiv:2310.04705.

INVITED TALKS ***(4 as plenary)***

1. **H. Sun**; An overview of current deep learning approaches in QSM; ISMRM EMPT Virtual Workshop; Dec. 2025. (**Plenary presentation**)
2. **H. Sun;** A history of medical imaging; Newcastle Grammar School Medical Engineering Program outreach; Sept. 2024.
3. **H. Sun;** Quantitative MRI using deep learning methods; Invited Visit to Monash Biomedical Imaging Centre, Monash University; July 2024.
4. **H. Sun;** Quantitative MRI and AI applications; Brain Neuromodulation Research Program's Annual Symposium, Hunter Medical Research Institute; June 2024.
5. **H. Sun;** Medical imaging instruments for disease diagnosis, monitoring, and treatment; Guest Lecture for MENG4100: Implants and Assistive Technologies, University of Newcastle; May 2024.
6. **H. Sun;** Diffusion probabilistic models for MRI inverse problems; Australian 7T Network; online; Sept. 2023.
7. **H. Sun**; Decoding magnetic resonance fingerprints with AI; UQ Artificial Intelligence Collaboratory Workshop; Nov. 2022.
8. **H. Sun**; Overview of QSM and deep learning for QSM; ISMRM ANZ QSM Virtual Workshop; Sept. 2022. (**Plenary presentation**)
9. **H. Sun**; Quantitative MRI of the brain with deep learning; EMCR Informal Talks, 1st Meeting; School of ITEE, University of Queensland; July 2022.

10. **H. Sun**; Fast QSM: Accelerated acquisition and instant reconstruction; Centre for Advanced Imaging Annual Symposium 2021; Queensland Brain Institute, Brisbane; Nov. 2021. (**Plenary presentation**)
11. **H. Sun**; Deep learning for MRI acceleration reconstruction; Pattern Recognition and Analysis (COMP3710); University of Queensland, Brisbane; Oct. 2021.
12. **H. Sun**; Advances in New MRI Methods for Human Brain-Quantitative Susceptibility Mapping; University of Queensland, Brisbane; Nov. 2018.
13. **H. Sun**; Whole head quantitative susceptibility mapping using a least-norm direct dipole inversion method; 2018 Alberta Imaging Symposium; Foothills Medical Centre, Calgary; June 2018.
14. **H. Sun**; Quantitative Susceptibility Mapping at high field and ultra-high field MRI; CAI academic visit; Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia; June 2017.
15. **H. Sun**; Quantitative Susceptibility Mapping: reconstruction advances; CSIRO academic visit; Commonwealth Scientific and Industrial Research Organisation, Brisbane, Australia; June 2017.
16. **H. Sun**; Brain iron imaging using MRI Quantitative Susceptibility (QSM); DNDR Seminar Series; The Florey Institute of Neuroscience and Mental Health, The University of Melbourne, Melbourne, Australia; June 2017.
17. **H. Sun**; Quantitative Susceptibility Mapping: Image Reconstruction; CFMM Ultra High Field Winter School, Robarts Research Institute, University of Western Ontario, London; March 2017.
18. **H. Sun**; Brain Iron and Myelin Study Using Quantitative Susceptibility Mapping; NSERC CREATE I3T Advanced Imaging Seminar Series, Foothills Medical Centre, Calgary; Nov. 2016.
19. **H. Sun**; Methods and Applications of Quantitative Susceptibility Mapping; Radiology Research Day of Cumming School of Medicine, Foothills Medical Centre, Calgary; June 2016. (**Plenary presentation**)
20. **H. Sun**; Postmortem validation of QSM for subcortical GM iron quantification in MS; Alberta endMS Retreat 2014: Four Pillars of Multiple Sclerosis Research; Banff, Alberta; Sept. 2014.
21. **H. Sun**; Quantitative Susceptibility Mapping (QSM): Methods and Applications to the Brain; 2014 Alberta Imaging Symposium, University of Alberta, Edmonton; June 2014.
22. **H. Sun**; Susceptibility imaging of the brain at high field; 2013 Alberta Imaging Symposium; Foothills Medical Centre, Calgary; June 2013.

CONTRIBUTED TALKS ***(8 as first author, 11 as last/corresponding author)***

1. H. Askari, F. Roosta, **H. Sun***; Training-free medical image inverses via bi-level guided diffusion models; WACV; Tucson, Arizona; March 2025.
2. W. Jiang, Z. Xiong, N. Ye, **H. Sun***; Fast Controllable Diffusion Models for Undersampled MRI Reconstruction; ISBI; Athens, Greece; May 2024.
3. W. Jiang, Y. Gao, **H. Sun***; MR image super-resolution via a variational diffusion model; ISMRM; Toronto; June 2023.
4. W. Jiang, Y. Gao, **H. Sun***; MRI reconstruction using DDPM with sparsely sampled k-space as guidance; ISMRM; Toronto; June 2023.
5. Y. Gao, T. Ding, M.A. Cloos, **H. Sun***; MRF-mixer: a self-supervised deep learning MRF framework; ISMRM; Toronto; June 2023.
6. Z. Xiong, Y. Gao, **H. Sun***; Unsupervised Multi-task learning for solving ill-posed dipole inversion in quantitative susceptibility mapping; QMR Lucca workshop; Lucca, Italy, October 2022.
7. Y. Gao, T. Ding, M.A. Cloos, **H. Sun***; QSM extraction from MRF acquisitions through deep neural networks; QMR Lucca workshop; Lucca, Italy, October 2022.
8. Y. Gao, Z. Xiong, A. Fazlollahi, P.J. Nestor, V. Vegh, G.B. Pike, S. Crozier, F. Liu, **H. Sun***; QSM from the raw phase using an end-to-end neural network; ISMRM; London; May 2022. (**Magna Cum Laude Merit Award**)
9. X. Zhu, Y. Gao, F. Liu, S. Crozier, **H. Sun***; A deep learning-based background field removal method for brains containing high susceptibility sources; ISMRM; London; May 2022.
10. Y. Gao, S. Crozier, F. Liu, **H. Sun***; Accelerating QSM using Compressed Sensing and Deep Neural Network; ISMRM; Vancouver; May 2021.
11. Y. Gao, X. Zhu, S. Crozier, F. Liu, **H. Sun***; xQSM: a deep learning QSM network using Octave Convolution; ISMRM; Sydney; April 2020.
12. **H. Sun**, F. Liu, S. Crozier; Differentiating hemorrhage, calcification, and edema of glioblastoma using quantitative susceptibility mapping (QSM); AUS MR in RT workshop; Noosa; 2019.
13. **H. Sun**, M.E. MacDonald, E.L. Mazerolle, K. Sabourin, G.B. Pike; Localization of GPi for MRgFUS pallidotomy: a comparison between high-resolution FGATIR, R2* and QSM at 3 T; ISMRM; Montreal; May 2019. (**Magna Cum Laude Merit Award**)
14. F. Schweser, W. Li, **H. Sun**, D. Zhou, N. Bertolino, P. Polak, Y. Wang, A.H. Wilman, K. Bredies, R. Zivadinov, S.D. Robinson; An illustrated comparison of background field elimination methods for phase MRI and QSM; ISMRM; Singapore; May 2016.
15. **H. Sun**, P. Seres, A.H. Wilman; Subcortical Grey Matter Susceptibility Mapping from Standard fMRI studies; ISMRM; Toronto; June 2015.
16. A.M. Elkady, **H. Sun**, A.J. Walsh, G. Blevins, Z. Dai, A.H. Wilman; Quantitative Susceptibility Mapping of Lesions in Multiple Sclerosis; ISMRM; Toronto; June 2015.

17. **H. Sun**, M. Kate, L.C. Gioia, D.J. Emery, K. Butcher, A.H. Wilman; QSM of intracranial hemorrhage: Artifact reduction using a superposition method; QSM workshop; Duke University, Durham; Oct. 2014.
18. **H. Sun**, V.V. Divekar, M. Kate, L.C. Gioia, C.A. Baron, C. Beaulieu, D.J. Emery, K. Butcher, A.H. Wilman; Quantitative Susceptibility Mapping of Intracranial Hemorrhage: Clinical Results and Numerical Simulation; ISMRM; Milan; May 2014. (**Magna Cum Laude Merit Award**)
19. **H. Sun**, A.H. Wilman; Echo-Planar Susceptibility Mapping: QSM using single-shot gradient EPI; ISMRM; Milan; May 2014. (**Summa Cum Laude Merit Award**)
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DOCTORAL THESIS

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