Curriculum Vitae - Mark Chiew

Physical Sciences Platform
Sunnybrook Research Institute
Department of Medical Biophysics
University of Toronto

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Work & Education

Academic Positions

2022 - 27 **Tier 2 Canada Research Chair in Computational Biomedical Imaging**
University of Toronto

2022 - **Associate Professor**
Department of Medical Biophysics, University of Toronto

2022 - **Scientist**
Physical Sciences Platform, Sunnybrook Research Institute

2021 - **Associate Professor**
Nuffield Department of Clinical Neurosciences, University of Oxford

2018 - 21 **University Research Lecturer**
Nuffield Department of Clinical Neurosciences, University of Oxford

2017 - 22 **Royal Academy of Engineering Research Fellow**
FMRIB Centre, University of Oxford

2012 - 17 **Post-Doctoral Researcher**
FMRIB Centre, University of Oxford

Education

2007 - 12 **Ph.D.**, Medical Biophysics, University of Toronto
Thesis: Development and Application of Methods for Real-Time fMRI Neurofeedback
Supervisor: Prof. Simon J. Graham

2002 - 07 **B.ASc**, Engineering Physics, University of British Columbia
Math Honours, Electrical Engineering Option

Grants & Awards

Funding

2025 - 30 **Canadian Institutes of Health Research Project Grant** **$642,600**
Rapid Diagnostic Imaging of Brain Metastases using Computational MRI
Principal Investigator

2024 - 25 **Canadian Institutes of Health Research Bridge Grant** **$100,000**
Rapid Diagnostic Imaging of Brain Metastases using Computational MRI
Principal Investigator

2023 - 28 **CFI John R. Evans Leaders Fund** **$390,247**
Next Gen Computational MRI for Rapid Neuroimaging and Image-Guided Therapy
Principal Investigator

2023 - 28	**NSERC Discovery Grant** Computational Methods for Rapid and Robust Magnetic Resonance Imaging Principal Investigator (RGPIN/2023-03410)	**$197,500**
2022 - 27	**Tier 2 Canada Research Chair** Computational Biomedical Imaging Principal Investigator	**$600,000**
2020 - 23	**EPSRC Healthcare Technologies New Investigator Award** Robust 3D Functional Imaging of the Living, Breathing Brain Principal Investigator (EP/T013133/1)	**£352,921**
2017 - 22	**Royal Academy of Engineering Research Fellowship** Characterising the Brain's Spatio-Temporal Dynamics by Integrating EEG and FMRI Principal Investigator (RF201617\16\23)	**£499,715**
2017 - 19	**John Fell Oxford University Press Research Fund** A Novel Approach to EEG and FMRI Principal Investigator	**£57,800**
2019 - 20	**WIN Seed Grant** Advanced Brain Blood Flow Measurements with 7T MRI Co-Principal Investigator	**£9,000**

Grant Collaborations

2024 - 25	**Ontario Research Fund - Research Excellence** Rapid Diagnostic Imaging of Brain Metastases using Computational MRI Collaborator (PI: Simon Graham)	**$2,000,000**
2024 - 29	**Science Foundation Ireland Frontiers for the Future** Robust Motion Correction for Functional MRI using Deep Neural Networks Collaborator (PI: Rhodri Cusack)	**€999,810**

Awards

2023 - 24	IEEE Transactions on Medical Imaging Distinguished Reviewer (Silver)
2019,23	WIN Good Citizen Award
2015 - 24	Magnetic Resonance in Medicine Distinguished Reviewer
2015	ISMRM I.I. Rabi Young Investigator Award Finalist
2014,15	University of Oxford Award for Excellence
2015	Guarantors of Brain Travel Grant
2013,14	University of Oxford Lockey Bequest Grant
2014	OHBM Trainee Abstract Award
2011,13,14	ISMRM Trainee Stipend Award
2011	Ontario Graduate Scholarship
2010	University of Toronto Medical Biophysics Excellence Award
2009,10	Jack and Rita Catherall Fund Travel Award
2009 - 10	Ydessa Hendeles Graduate Scholarship
2008 - 10	Ontario Graduate Scholarship in Science and Technology
2006	John Collison Memorial Scholarship in Mathematics
2004,05	UBC Undergraduate Scholars Program Award
2002	British Columbia Provincial Scholarship

Invited Presentations

Keynote Presentations

1. Computational Methods for Accelerated MRI, Annual James Lepock Memorial Symposium, University of Toronto, Toronto, Canada; May 2025

Seminars

1. Development of Rapid and Robust Neuroimaging Methods, Feindel Brain and Mind Seminar Series, McGill University, Montreal, Quebec, Canada; Dec 2024
2. Computational Methods for MRI in Under-Sampled and Corrupted Data Regimes, Western University, London, Ontario, Canada; Oct 2024
3. Self-Supervised Learning and Friends - Computational Methods for MRI in Incomplete and Corrupted Data Regimes, Carle Illinois Advanced Imaging Center Seminar, University of Illinois Urbana-Champaign, USA; Sept 2024
4. Ultrahigh Resolution fMRI at 7T using Radial-Cartesian TURBINE Sampling, Center for Advanced Imaging, University of Queensland (Virtual); Jan 2023
5. Computational Methods for Rapid and Robust Neuroimaging, BRAIN-TO Lab, University Health Network, Toronto, Canada; Sept 2022
6. Neuroimaging with Optimized Sampling and Reconstruction, Keilholz Mind Lab, Georgia Tech and Emory University (Virtual); April 2021
7. Fast and Robust MR Imaging with Constrained Reconstruction Methods, Champalimaud Centre for the Unknown, Lisbon, Portugal; Dec 2019
8. Getting more information from fMRI with better sampling and reconstruction, KCL Centre for Neuroimaging Sciences, Neuroimaging Seminar, London, UK; Mar 2019
9. Getting more out of fMRI data using constrained reconstructions and simultaneous EEG, Center for Functional MRI, UC San Diego, USA; Oct 2018
10. Beyond Simultaneous: Integrating EEG Information for Image Reconstruction in FMRI, UCL Centre for Neuroimaging Techniques Seminar, London, UK; Dec 2017
11. Basics, Benefits, and Breakthroughs for Fast Brain Imaging, BC Children's Hospital, Vancouver, Canada; Jun 2017
12. Accelerating FMRI Data Acquisition using Hybrid Radial-Cartesian Sampling and Low-Rank Constraints, Centre for the Developing Brain Seminar Series, Kings College London, London, UK; Oct 2016
13. Using network models of brain activity to inform highly accelerated fMRI data acquisition, MR Seminar, Institute of Biomedical Engineering, ETH Zurich, Zurich, Switzerland; Feb 2016
14. The Utility of Low-Rank Models for Acquisition & Analysis of FMRI Data, Institute of Psychiatry, Psychology & Neuroscience, Kings College London, London, UK; Oct 2015
15. Accelerating FMRI Data Acquisition using Low-Rank Constraints, NeuroImaging Interest Group Rounds, Hospital for Sick Children, Toronto, Canada; Jun 2015
16. Accelerating FMRI Data Acquisition using Rank Constraints, Max Planck Institute for Biological Cybernetics, Tuebingen,Germany; Feb 2014
17. Estimation of Resting State Networks from Undersampled k-t FMRI Data using Matrix Completion, SMIAL Seminar Series, Sunnybrook Research Institute, Toronto, Canada; Jun 2013

Publications

Preprints

1. Okell TW, Woods JG, **Chiew M**. Combined Angiographic, Structural and Perfusion Radial Imaging using Arterial Spin Labeling, 2025;
2. Li H, **Chiew M**, Dragonu I, Jezzard P, Okell TW. Few-shot learning for highly accelerated 3D time-of-flight MRA reconstruction, 2025;
3. Shen Q, Wu W, **Chiew M**, Ji Y, Woods JG, Okell TW. Motion correction with subspace-based self-navigation for combined angiography, perfusion and structural imaging, 2024;

4. Millard C, **Chiew M**, Tanner J, Hess AT, Mailhe B. Tuning-free multi-coil compressed sensing MRI with Parallel Variable Density Approximate Message Passing (P-VDAMP), 2022;
5. Schauman SS, Okell TW, **Chiew M**. The Set Increment with Limited Views Encoding Ratio (SILVER) Method for Optimizing Radial Sampling of Dynamic MRI, 2021;
6. Xia P, **Chiew M**, Zhou X, Thomas A, Dydak U, Emir UE. Density-Weighted Concentric Ring Trajectory using simultaneous multi-band acceleration: 3D Metabolite-cycled Magnetic Resonance Spectroscopy Imaging at 3 T, 2019;

Journal Articles

1. Alcicek S, Craven AR, Shen X, **Chiew M**, Ozen A, Sawiak S, Pilatus U, Emir UE. Multi-site feasibility and reproducibility study on UTE 3D phosphorous MRSI using novel rosette trajectory (PETALUTE), *Magnetic Resonance in Medicine* 2025;
2. Priestley L, **Chiew M**, Shahdloo M, Mahmoodi A, Cheng X, Cleveland R, Rushworth M, Khalighinejad N. Dorsal raphe nucleus controls motivation-state transitions in monkeys, *Science Advances* 2025; 11(26):eads1236
3. Lally PJ, Jin Y, Huo Z, Beitone C, **Chiew M**, Matthews PM, Miller KL, Bangerter NK. Steady-state free precession for T2* relaxometry: All echoes in every readout with k-space aliasing, *Magnetic Resonance in Medicine* n/a(n/a)
4. Bozymski B, Shen X, Özen A, **Chiew M**, Thomas MA, Clarke WT, Sawiak S, Dydak U, Emir U. Feasibility and comparison of 3D modified rosette ultra-short echo time (PETALUTE) with conventional weighted acquisition in 31P-MRSI, *Scientific Reports* 2025; 15(1):6465
5. Shen Q, Wu W, **Chiew M**, Ji Y, Woods JG, Okell TW. Ultra-high temporal resolution 4D angiography using arterial spin labeling with subspace reconstruction, *Magnetic Resonance in Medicine* 2025; 93(5):1924–1941
6. Li Z, Miller KL, Chen X, **Chiew M**, Wu W. Self-Navigated 3D Diffusion MRI Using an Optimized CAIPI Sampling and Structured Low-Rank Reconstruction Estimated Navigator, *IEEE Transactions on Medical Imaging* 2025; 44(2):632–644
7. Villarreal CX, Shen X, Alhulail AA, Buffo NM, Zhou X, Pogue E, Özen AC, **Chiew M**, Sawiak S, Emir U, Chan DD. An accelerated PETALUTE MRI sequence for in vivo quantification of sodium content in human articular cartilage at 3T, *Skeletal Radiology* 2025; 54(3):601–610
8. Millard C, **Chiew M**. Clean Self-Supervised MRI Reconstruction from Noisy, Sub-Sampled Training Data with Robust SSDU, *Bioengineering* 2024; 11(12):1305
9. Wiltshire CEE, Cler GJ, **Chiew M**, Freudenberger J, Chesters J, Healy MP, Hoole P, Watkins KE. Speaking to a metronome reduces kinematic variability in typical speakers and people who stutter, *PLOS ONE* 2024; 19(10):e0309612
10. Kent JL, Buck MHS de, Dragonu I, **Chiew M**, Valkovič L, Hess AT. Accelerated 3D multi-channel mapping at 7 T for the brain and heart, *Magnetic Resonance in Medicine* 2024; 92(5):2007–2020
11. Shen Q, Wu W, **Chiew M**, Ji Y, Woods JG, Okell TW. Efficient 3D cone trajectory design for improved combined angiographic and perfusion imaging using arterial spin labeling, *Magnetic Resonance in Medicine* 2024; 92(4):1568–1583
12. Shahdloo M, Khalighinejad N, Priestley L, Rushworth M, **Chiew M**. Dynamic off-resonance correction improves functional image analysis in fMRI of awake behaving non-human primates, *Frontiers in Neuroimaging* 2024; 3
13. Farley N, Susnjar A, **Chiew M**, Emir UE. Test–Retest Reproducibility of Reduced-Field-of-View Density-Weighted CRT MRSI at 3T, *Tomography* 2024; 10(4):493–503
14. Chen X, Wu W, **Chiew M**. Motion compensated structured low-rank reconstruction for 3D multi-shot EPI, *Magnetic Resonance in Medicine* 2024; 91(6):2443–2458
15. Millard C, **Chiew M**. A Theoretical Framework for Self-Supervised MR Image Reconstruction Using Sub-Sampling via Variable Density Noisier2Noise, *IEEE Transactions on Computational Imaging* 2023; 9:707–720
16. Tendler BC, Welland M, Miller KL, The WIN Handbook Team. Why every lab needs a handbook, *eLife* 2023; 12:e88853
17. Shen X, Özen AC, Monsivais H, Susnjar A, Ilbey S, Zheng W, Du Y, **Chiew M**, Emir U. High-resolution 3D ultra-short echo time MRI with Rosette k-space pattern for brain iron content mapping, *Journal of Trace Elements in Medicine and Biology* 2023; 77:127146
18. Chen X, Wu W, **Chiew M**. Improving robustness of 3D multi-shot EPI by structured low-rank reconstruction of

segmented CAIPI sampling for fMRI at 7T, *NeuroImage* 2023; 267:119827

19. Okell TW, **Chiew M**. Optimization of 4D combined angiography and perfusion using radial imaging and arterial spin labeling, *Magnetic Resonance in Medicine* 2023; 89(5):1853–1870
20. Woods JG, Schauman SS, **Chiew M**, Chappell MA, Okell TW. Time-encoded pseudo-continuous arterial spin labeling: Increasing SNR in ASL dynamic angiography, *Magnetic Resonance in Medicine* 2023; 89(4):1323–1341
21. Shen X, Özen AC, Sunjar A, Ilbey S, Sawiak S, Shi R, **Chiew M**, Emir U. Ultra-short T2 components imaging of the whole brain using 3D dual-echo UTE MRI with rosette k-space pattern, *Magnetic Resonance in Medicine* 2023; 89(2):508–521
22. Graedel NN, Miller KL, **Chiew M**. Ultrahigh Resolution fMRI at 7T Using Radial-Cartesian TURBINE Sampling, *Magnetic Resonance in Medicine* 2022; 88(5):2058–2073
23. Lu Y, Wiltshire CEE, Watkins KE, **Chiew M**, Goldstein L. Characteristics of articulatory gestures in stuttered speech: A case study using real-time magnetic resonance imaging, *Journal of Communication Disorders* 2022; 97:106213
24. Shahdloo M, Schüffelgen U, Papp D, Miller KL, **Chiew M**. Model-based dynamic off-resonance correction for improved accelerated fMRI in awake behaving nonhuman primates, *Magnetic Resonance in Medicine* 2022; 87(6):2922–2932
25. Clarke WT, **Chiew M**. Uncertainty in denoising of MRSI using low-rank methods, *Magnetic Resonance in Medicine* 2022; 87(2):574–588
26. Mason HT, Graedel NN, Miller KL, **Chiew M**. Subspace-constrained approaches to low-rank fMRI acceleration, *NeuroImage* 2021; 238:118235
27. Hess AT, Dragonu I, **Chiew M**. Accelerated calibrationless parallel transmit mapping using joint transmit and receive low-rank tensor completion, *Magnetic Resonance in Medicine* 2021; 86(5):2454–2467
28. Wiltshire CEE, **Chiew M**, Chesters J, Healy MP, Watkins KE. Speech Movement Variability in People Who Stutter: A Vocal Tract Magnetic Resonance Imaging Study, *Journal of Speech, Language, and Hearing Research* 2021; 64(7):2438–2452
29. Emir UE, Sood J, **Chiew M**, Thomas MA, Lane SP. High-resolution metabolic mapping of the cerebellum using 2D zoom magnetic resonance spectroscopic imaging, *Magnetic Resonance in Medicine* 2021; 85(5):2349–2358
30. Wang C, Foxley S, Ansorge O, Bangerter-Christensen S, **Chiew M**, Leonte A, Menke RA, Mollink J, Pallebage-Gamarallage M, Turner MR, Miller KL, Tendler BC. Methods for quantitative susceptibility and R2* mapping in whole post-mortem brains at 7T applied to amyotrophic lateral sclerosis, *NeuroImage* 2020; 222:117216
31. Schauman SS, **Chiew M**, Okell TW. Highly accelerated vessel-selective arterial spin labeling angiography using sparsity and smoothness constraints, *Magnetic Resonance in Medicine* 2020; 83(3):892–905
32. **Chiew M**, Miller KL. Improved statistical efficiency of simultaneous multi-slice fMRI by reconstruction with spatially adaptive temporal smoothing, *NeuroImage* 2019; 203:116165
33. O'Brien C, Okell TW, **Chiew M**, Jezzard P. Volume-localized measurement of oxygen extraction fraction in the brain using MRI, *Magnetic Resonance in Medicine* 2019; 82(4):1412–1423
34. Steel A, **Chiew M**, Jezzard P, Voets NL, Plaha P, Thomas MA, Stagg CJ, Emir UE. Metabolite-cycled density-weighted concentric rings k-space trajectory (DW-CRT) enables high-resolution 1 H magnetic resonance spectroscopic imaging at 3-Tesla, *Scientific Reports* 2018; 8(1):7792
35. **Chiew M**, Graedel NN, Miller KL. Recovering task fMRI signals from highly under-sampled data with low-rank and temporal subspace constraints., *NeuroImage* 2018; 174:97–110
36. **Chiew M**, Jiang W, Burns B, Larson P, Steel A, Jezzard P, Albert Thomas M, Emir UE. Density-weighted concentric rings k-space trajectory for1H magnetic resonance spectroscopic imaging at 7 T., *NMR in biomedicine* 2018; 31(1):e3838
37. Weizman L, Miller KL, Eldar YC, **Chiew M**. PEAR: PEriodic And fixed Rank separation for fast fMRI., *Medical physics* 2017; 44(12):6166–6182
38. Emir UE, Burns B, **Chiew M**, Jezzard P, Thomas MA. Non-water-suppressed short-echo-time magnetic resonance spectroscopic imaging using a concentric ring k-space trajectory, *NMR in Biomedicine* 2017; 30(7):e3714
39. Graedel NN, Mcnab JA, **Chiew M**, Miller KL. Motion correction for functional MRI with three-dimensional hybrid radial-Cartesian EPI., *Magnetic resonance in medicine* 2017; 78(2):527–540
40. **Chiew M**, Graedel NN, Mcnab JA, Smith SM, Miller KL. Accelerating functional MRI using fixed-rank approxima-

tions and radial-cartesian sampling., *Magnetic resonance in medicine* 2016; 76(6):1825–1836

41. **Chiew M**, Smith SM, Koopmans PJ, Graedel NN, Blumensath T, Miller KL. K-t FASTER: Acceleration of functional MRI data acquisition using low rank constraints., *Magnetic resonance in medicine* 2015; 74(2):353–364
42. Olsen RK, **Chiew M**, Buchsbaum BR, Ryan JD. The relationship between delay period eye movements and visuospatial memory, *Journal of Vision* 2014; 14(1):1–11
43. **Chiew M**, Graham SJ. Constrained source space imaging: Application to fast, region-based functional MRI., *Magnetic resonance in medicine* 2013; 70(4):1058–1069
44. Rotenberg D, **Chiew M**, Ranieri S, Tam F, Chopra R, Graham SJ. Real-time correction by optical tracking with integrated geometric distortion correction for reducing motion artifacts in functional MRI, *Magnetic Resonance in Medicine* 2013; 69(3):734–748
45. **Chiew M**, LaConte SM, Graham SJ. Investigation of fMRI neurofeedback of differential primary motor cortex activity using kinesthetic motor imagery, *NeuroImage* 2012; 61(1):21–31
46. **Chiew M**, Graham SJ. BOLD Contrast and Noise Characteristics of Densely Sampled Multi-Echo fMRI Data., *IEEE transactions on medical imaging* 2011; 30(9):1691–1703
47. Yancey SE, Rotenberg DJ, Tam F, **Chiew M**, Ranieri S, Biswas L, Anderson KJT, Baker SN, Wright GA, Graham SJ. Spin-history artifact during functional MRI: Potential for adaptive correction., *Medical physics* 2011; 38(8):4634–4646
48. Kuo AY-C, **Chiew M**, Tam F, Cunningham C, Graham SJ. Multiecho coarse voxel acquisition for neurofeedback fMRI., *Magnetic resonance in medicine* 2011; 65(3):715–724

Conference Papers

1. Kadota B, Millard C, **Chiew M**. Learned k-space Partitioning for Optimized self-supervised MRI Reconstruction, *47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)* 2025;
2. Ebrahiminia F, **Chiew M**. Learning a B0 Shimming Model Using Deep Neural Networks, *47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)* 2025;
3. Patel JH, Kadota BT, Sheagren CD, **Chiew M**, Wright GA. Low-Rank Conjugate Gradient-Net for Accelerated Cardiac MR Imaging, *Statistical Atlases and Computational Models of the Heart. Workshop, CMRxRecon and MBAS Challenge Papers.* 2025; :334–344
4. Sheagren CD, Kadota BT, Patel JH, **Chiew M**, Wright GA. Accelerated Cardiac Parametric Mapping Using Deep Learning-Refined Subspace Models, *Statistical Atlases and Computational Models of the Heart. Regular and CMRxRecon Challenge Papers* 2024; :369–379
5. Chen X, Wu W, **Chiew M**. Locally Structured Low-Rank MR Image Reconstruction using Submatrix Constraints, *2022 IEEE 19th International Symposium on Biomedical Imaging (ISBI)* 2022; :1–4
6. Weizman L, Miller KL, Eldar YC, Maayan O, **Chiew M**. PEAR: PEriodic and ApeRiodic signal separation for fast FMRI, *2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)* 2017; :505–508

Conference Abstracts

1. Hu M, **Chiew M**, Lange F, Jezzard P, Woods JG, Okell TW. Motion-Robust ASL Perfusion Imaging with Self-Navigation Using 3D GRASE and CAIPI Sampling, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025; **(oral power-pitch presentation)**
2. Li H, **Chiew M**, Dragonu I, Jezzard P, Okell TW. Highly Accelerated 3D TOF MRA using Deep Learning Reconstruction with Raw K-space Simulation, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025; **(oral power-pitch presentation)**
3. Zaki C, Millard C, **Chiew M**. Robust domain adaptation for transferable MRI denoising models, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025;
4. Shen Q, Wu W, **Chiew M**, Ji Y, Woods JG, Okell TW. Subspace based motion correction for combined angiography, structural and perfusion imaging with improved acquisition, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025;
5. Keedwell B, Hess AT, Okell TW, Dragonu I, Ji Y, **Chiew M**, Jezzard P. Comparison of consecutive and simultaneous phase contrast MRI acquisitions for the estimation of pulse transit time as a measure of intracranial vessel stiffness, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025;

6. Beitone C, **Chiew M**, Miller KL, Bangerter NK, Lally PJ. Efficient multi-echo steady-state imaging with spatial-resolution enhancement, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025; **(oral power-pitch presentation)**
7. Kadota B, Millard C, **Chiew M**. Learned partitioning for dual-domain self-supervised learning, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2025;
8. Hu M, **Chiew M**, Lange F, Jezzard P, Woods JG, Okell TW. Self-Navigated Inter-Shot Motion Correction for 3D GRASE ASL Perfusion Imaging with CAIPI Sampling, *ISMRM Workshop on Perfusion MRI* 2025; **(oral presentation)**
9. Li Z, Miller KL, Chen X, **Chiew M**, Wu W. Self-navigated 3D multi-slab EPI for SNR-efficient high-resolution diffusion MRI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024; **(oral presentation)**
10. Lipka A, Sawiak S, Shen X, Emir UE, Özen A, **Chiew M**, Speth J, Chang D-Y, Jiang Z, Tamer G, Scarpelli M. Accelerated Preclinical UHF Abdominal T1 Mapping using Novel Rosette Ultrashort Echo Time (PETALUTE), *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024; **(oral power-pitch presentation)**
11. Kadota B, Millard C, **Chiew M**. Joint Multi-Contrast Image Reconstruction with Self-Supervised Learning, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024;
12. Millard C, **Chiew M**. Simultaneous self-supervised reconstruction and denoising for low SNR, sub-sampled training data with Robust SSDU, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024; **(oral presentation)**
13. Shen Q, Wu W, **Chiew M**, Ji Y, Woods J, Okell TW. Motion correction with subspace-based self-navigation for combined angiography, perfusion and structural imaging using ASL, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024;
14. Beitone C, **Chiew M**, Miller KL, Bangerter NK, Lally PJ. Fluctuating Equilibrium MR with partial RF spoiling: A parallel contrast imaging technique, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2024;
15. Millard C, **Chiew M**. A self-supervised method for recovering clean images from noisy, sub-sampled training examples, *Northern Lights Deep Learning Conference* 2024;
16. Chen X, Wu W, **Chiew M**. Motion Compensated Structured Low-rank Reconstruction for Robust 3D Multi-shot EPI fMRI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral presentation)**
17. Millard C, **Chiew M**. Using Noisier2Noise To Choose The Sampling Mask Partition Of Self-Supervised Learning Via Data Undersampling (SSDU), *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral power-pitch presentation)**
18. Woods JG, **Chiew M**, Okell TW. Minimizing SAR For SNR-Efficient Pseudo-Continuous Arterial Spin Labeling At 7T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral presentation)**
19. Shen Q, **Chiew M**, Wu W, Okell TW. Efficient 3D Cone Trajectory Design For Improved Combined Angiographic, Structural And Perfusion Imaging Using Arterial Spin Labelling, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
20. Shen Q, **Chiew M**, Wu W, Okell TW. Subspace Reconstruction Of High Temporal Resolution Arterial Spin Labeling Angiography Using A Kinetic Model, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
21. Leung BY, Staruch RM, **Chiew M**. Accelerated MRI Thermometry Guidance For Transurethral Ultrasound Ablation Of The Prostate Using Locally Low Rank Reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
22. Li Z, Chen X, **Chiew M**, Miller KL, Wu W. Self-Navigated High-Resolution 3D Diffusion MRI Using An Extended Blipped-CAIPI Sampling And Structured Low-Rank Reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
23. Kent JL, Valkovic L, Dragonu I, **Chiew M**, Hess AT. Pilot Tone Vs PTx Scattering: A Comparison Between "RF Sensor" Methods For Rigid Body Motion Detection Of The Brain At 7T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
24. Kent JL, Valkovic L, Dragonu I, **Chiew M**, Hess AT. Accelerated Volumetric Multi-Channel PTx B1+ Mapping At 7T For The Brain And Heart, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
25. Lally PJ, **Chiew M**, Matthews PM, Miller KL, Bangerter NK. SNR-Efficient, Motion-Robust Multi-Echo SPGR With K-Space Aliasing, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral**

presentation)

26. Bozymski B, Shen X, Özen AC, Ilbey S, Thomas MA, **Chiew M**, Clarke WT, Dydak U, Emir UE. Comparison Of Compressed Sensing Accelerated Rosette UTE And Conventional 31P 3D MRSI At 3T In Leg Muscle, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023;
27. Monsivais H, Nossa G, Hong S, Park T, Erdil FS, Shen X, Susnjar A, Özen AC, Ilbey S, **Chiew M**, Huber J, Dydak U, Emir UE. Ultrashort-Echo Time Magnetization Transfer (UTE-MT) For Brain Iron Imaging, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral power-pitch presentation)**
28. Nossa G, Monsivais H, Hong S, Park T, Erdil FS, Shen X, Özen AC, Ilbey S, **Chiew M**, Steinwurzel C, Kourtzi Z, Shih Y-YI, Emir UE. Submillimeter FMRI Acquisition Using A Dual-Echo Rosette-K-Space Trajectory At 3T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2023; **(oral presentation)**
29. Shen Q, **Chiew M**, Wu W, Okell TW. Efficient 3D cone trajectory for improved combined angiographic and perfusion imaging using arterial spin labeling, *ISMRM Workshop on Data Sampling & Image Reconstruction* 2023; **(oral presentation)**
30. Chen X, Wu W, **Chiew M**. Improved Structured Low-rank Reconstruction for 3D multi-shot EPI with Joint Motion Modelling, *ISMRM Workshop on Data Sampling & Image Reconstruction* 2023; **(oral presentation)**
31. Lally PJ, **Chiew M**, Matthews PM, Miller KL, Bangerter NK. A motion-robust, short-TR alternative to multi-echo SPGR, *ISMRM Workshop on Data Sampling & Image Reconstruction* 2023; **(oral presentation)**
32. Millard C, **Chiew M**. A framework for self-supervised MR image reconstruction using sub-sampling via Noisier2Noise, *BASP Frontiers Workshop* 2023;
33. Okell TW, Woods JC, **Chiew M**. Combined Angiographic, Structural and Perfusion Radial Imaging using Arterial Spin Labeling, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022; **(oral presentation)**
34. Chen X, Wu W, **Chiew M**. A Locally Structured Low-Rank Tensor Method Using Submatrix Constraints for Joint Multi-echo Image Reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
35. Shahdloo M, **Chiew M**. Optimal Singular-Value Shrinkage for fMRI Denoising, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
36. Lally PJ, Statton B, Matthews PM, **Chiew M**, Miller KL, Bangerter NK. SNR-efficient SSFP with k-space aliasing, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022; **(oral presentation)**
37. Bozymski B, Shen X, Özen A, Ilbey S, Thomas MA, **Chiew M**, Dydak U, Emir UE. Ultra-Short Echo Time 31P 3D MRSI at 3T with Novel Rosette k-space Trajectory, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
38. Karnik A, Shen X, Monsivais H, Sunjar A, Özen A, Ilbey S, **Chiew M**, Cakmak M, Rispoli J, Emir UE. Quantitative Susceptibility Mapping (QSM) Using High-resolution Ultra-Short Echo Time (UTE) MRI with Rosette k-space Pattern, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
39. Ooms N, Shen X, Özen A, Ilbey S, **Chiew M**, Emir UE. Pulmonary imaging Using 3D Dual-Echo FID Ultra-short Echo Time MRI with Rosette k-space Pattern: Introduction and Feasibility., *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
40. Shen X, Özen A, Sunjar A, Ilbey S, Shi R, **Chiew M**, Emir UE. Myelin Imaging Using 3D Dual-echo Ultra-short Echo Time MRI with Rosette k-Space Pattern, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
41. Villarreal C, Shen X, Özen A, Ilbey S, **Chiew M**, Alhulial A, Pogue E, Emir UE, Chan D. Compressed sensing and the use of 3D UTE acquisition for high-resolution accelerated 23NA imaging at 3T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
42. Monsivais H, Shen X, Susnjar A, Özen A, Ilbey S, **Chiew M**, Karnik A, Emir UE, Dydak U. Iron Imaging with 3D Multi-Gradient Recalled Echo (3D-mGRE) and 3D Ultra-short Echo (3D-UTE) Sequences: A Phantom Comparison Study, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
43. Shen X, Özen A, Monsivais H, Ilbey S, Susnjar A, Karnik A, **Chiew M**, Emir UE. High Resolution 3D Ultra-Short Echo Time MRI with Rosette k-Space Pattern for Brain Iron Content Mapping, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2022;
44. Okell TW, Woods JC, **Chiew M**. Combined Angiographic, Structural and Perfusion Radial Imaging using Arterial Spin Labeling, *ISMRM Workshop on Perfusion MRI* 2022; **(oral presentation)**

45. Lu Y, Wiltshire CEE, Watkins KE, **Chiew M**, Goldstein L. Articulation of metronome-timed speech in people who stutter, *Conference on Motor Speech* 2022;
46. Holmgren J, Prisco L, **Chiew M**, Jbabdi S, Allen M, Sleigh J, Tracey I, Warnaby CE. Auditory and pain processing is severely disrupted at slow wave activity saturation under general anaesthesia, *International Anesthesia Research Society Annual Meeting* 2021;
47. Shen X, **Chiew M**, Emir UE. Development of 3D Rosette K-Space Trajectory in Ultra-Short Echo Time MRI Applications, *American Association of Physicists in Medicine Annual Meeting* 2021;
48. Shahdloo M, Papp D, Schuffelgen U, Miller KL, Rushworth MFS, **Chiew M**. Highly accelerated fMRI of awake behaving non-human primates via model-based dynamic off-resonance correction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
49. **Chiew M**. Variable Density Phase Encoding for High Resolution Single-Shot EPI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
50. Chen X, Wu W, **Chiew M**. Respiratory fluctuations in 3D fMRI from inter-shot phase variations can be reduced by low-rank reconstruction of segmented CAIPI sampling, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021; **(oral presentation)**
51. Clarke WT, **Chiew M**. Characterising the variance and reproducibility of low rank denoising methods for spectroscopic data, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
52. Schauman SS, Okell TW, **Chiew M**. Optimizing the fixed angular increment between k-space spokes can lead to improved SNR in radial imaging, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
53. Wood TC, Ljungberg E, **Chiew M**. ZTE Infilling From Auto-calibration Neighbourhood Elements, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
54. Farley N, Zhou X, **Chiew M**, Thomas MA, Dydak U, Emir UE. Towards a Probabilistic Neurochemical atlas via parcellated approach using ZOOM MRSI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2021;
55. Xia P, Zhou X, **Chiew M**, Thomas MA, Dydak U, Emir UE. Density-Weighted Concentric Ring Trajectory Using Simultaneous Multi-Slice Acceleration: 3D Magnetic Resonance Imaging at 3T, *Joint AAPM | COMP Virtual Meeting* 2020;
56. Almomen F, Xia P, Zhou X, **Chiew M**, Steel A, Thomas MA, Dydak U, Emir UE. Simultaneous mapping of T2* and major neurotransmitters using MRSI at 3T, *Organization for Human Brain Mapping Annual Meeting* 2020; **(oral presentation)**
57. Clarke WT, **Chiew M**. Comparison of low-rank denoising methods for accelerating the acquisition of 31P-MRSI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
58. Chen X, Wu W, **Chiew M**. Reduced Inter-shot Physiological Variability in 3D Multi-Shot fMRI using Structured Low-Rank Matrix Completion, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
59. O'Brien C, Okell TW, **Chiew M**, Jezzard P. Remote Reconstructed Cerebral T2 Maps through Venous Blood Measurement in the Sagittal Sinus using SL-TRUST, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
60. Schauman SS, Woods JC, **Chiew M**, Okell TW. Highly accelerated time-encoded dynamic ASL angiography, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
61. Schauman SS, Okell TW, **Chiew M**. Radial sampling interactions in multi-dimensional sparse encoding problems using a joint decoding-reconstruction framework, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
62. Schauman SS, Okell TW, **Chiew M**. High resolution 4D vessel selective angiography in under 5 minutes using a constrained reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2020;
63. Schauman SS, Okell TW, **Chiew M**. The SILVER method – an Improvement upon Radial Golden Ratio Sampling Within a Specified Window Size, *ISMRM Workshop on Data Sampling & Image Reconstruction* 2020;
64. Schauman SS, Okell TW, **Chiew M**. Precision reconstruction for vessel-encoded ASL angiography, *British Chapter ISMRM Annual Meeting* 2019;
65. Holmgren J, Prisco L, **Chiew M**, Jbabdi S, Allen M, Sleigh J, Tracey I, Warnaby CE. Auditory and pain processing is severely disrupted at slow wave activity saturation under general anaesthesia, *British Journal of Anaesthesia* 2019;

123:e514

66. Hess AT, Jaeschke S, **Chiew M**. Click and run respiratory resolved, ECG and navigator free cardiac B0 and relative B1 calibration at 7T, *ISMRM Workshop on Ultrahigh Field Magnetic Resonance* 2019;
67. Hess AT, Tanner J, Dragonu I, **Chiew M**. Accelerated 3D relative transmit mapping using structured low-rank matrix completion – evaluated in the body and brain, *ISMRM Workshop on Ultrahigh Field Magnetic Resonance* 2019;
68. Graedel NN, Miller KL, **Chiew M**. Ultra-high spatial resolution TURBINE fMRI at 7T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral presentation)**
69. Mason HT, Miller KL, Graedel NN, **Chiew M**. Improving k-t PERRI: A low-rank data-driven fMRI k-t acceleration method, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral power-pitch presentation)**
70. Okell TW, **Chiew M**. High Resolution Perfusion Imaging using Golden Angle Radial Arterial Spin Labelling, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral power-pitch presentation)**
71. Schauman SS, **Chiew M**, Okell TW. 4D Vessel-Encoded pCASL Angiography in a Five-Minute Scan, *University of Michigan International Workshop on Arterial Spin Labeling MRI* 2019;
72. Woods JC, Schauman SS, **Chiew M**, Chappell MA, Okell TW. Optimization of time-encoded pseudo-continuous ASL angiography with a variable flip-angle scheme, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral presentation)**
73. Schauman SS, **Chiew M**, Okell TW. Highly Accelerated Dynamic 2D and 3D Vessel-Encoded Arterial Spin Labelling Angiography, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral presentation)**
74. Emir UE, Xia P, Dydak U, Zhou X, **Chiew M**, Thomas MA, Guo R, Li Y, Zhao Y, Liang ZP. Non-Water suppressed High-Resolution 1H-MRSI of the Brain Using Short-TE SPICE with semi-LASER Concentric Ring Trajectory Acquisition, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019;
75. Shen X, Xia P, Dehghani M, Near J, Zhou X, **Chiew M**, Dydak U, Emir UE. Simultaneous Measurement of functional MRI and MRS by Fast Non-water Suppressed MR Spectroscopy Imaging, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral presentation)**
76. Xia P, Shen X, Zhou X, **Chiew M**, Thomas MA, Dydak U, Emir UE. Density-Weighted Concentric Ring Trajectory using simultaneous multi-slice (SMS) acceleration: 3D Metabolite-cycled Magnetic Resonance Spectroscopy Imaging at 3 T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2019; **(oral presentation)**
77. **Chiew M**, Holmgren J, Warnaby CE, Rieger S, Vannesjo SJ, Miller KL. Using Information Derived from Simultaneous EEG Measures to Inform MR Image Reconstruction, *Gordon Research Conference* 2018;
78. Emir UE, Xia P, Zhou X, **Chiew M**, Thomas MA, Dydak U. Density-weighted concentric ring trajectory using simultaneous multi-slice (SMS) acceleration: 3D metabolite-cycled magnetic resonance spectroscopic imaging at 3 T, *MRS Workshop* 2018;
79. Wiltshire CEE, Chesters J, **Chiew M**, Watkins KE. Assessing speech movements in people who stutter using real-time MRI of the vocal tract, *Annual meeting of the society for the neurobiology of language* 2018;
80. Mason HT, Miller KL, **Chiew M**. Acceleration of Golden Angle-Sampled FMRI Data with Data-Driven Priors and Low-Rank Constraints, *Organization for Human Brain Mapping Annual Meeting* 2018; **(oral presentation)**
81. Steel A, James G, **Chiew M**, Thomas MA, Emir UE, Stagg CJ. Regional GABA Concentrations Assessed by Magnetic Resonance Spectroscopic Imaging Predict Different Aspects of Motor Performance, *Organization for Human Brain Mapping Annual Meeting* 2018;
82. **Chiew M**, Holmgren J, Fido D, Warnaby CE, Vannesjo SJ. Measuring MRI Gradient Trajectory Dynamics using Simultaneous EEG-FMRI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2018; **(oral presentation)**
83. Schauman SS, **Chiew M**, Okell TW. Accelerated Acquisition of Vessel-Encoded Arterial Spin Labelling Angiograms with Compressed Sensing, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2018;
84. **Chiew M**, Okell TW. Improved Golden Ratio Radial Arterial Spin Labelling Angiography Reconstruction using k-t Sparsity Constraints, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2018;
85. Emir UE, Xia P, Zhou X, **Chiew M**, Steel A, Thomas MA, Dydak U. Non-Water Suppressed GABA Editing Magnetic Resonance Spectroscopic Imaging using Density Weighted Concentric Rings Trajectory, *International*

Society for Magnetic Resonance in Medicine Annual Meeting 2018;

86. Steel A, **Chiew M**, Jezzard P, Voets NL, Plaha P, Thomas MA, Stagg CJ, Emir UE. Metabolite cycled density-weighted concentric rings k-space trajectory (DW-CRT) enables 1H magnetic resonance spectroscopic imaging at 3 Tesla in a clinically feasible timeframe, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2018;
87. Mason HT, Miller KL, **Chiew M**. Acceleration of FMRI data with priors and low-rank constraints, *Organization for Human Brain Mapping Annual Meeting* 2017;
88. Graedel NN, **Chiew M**, Miller KL. Exploring motion navigator choices in the TURBINE motion correction scheme for fMRI, *Organization for Human Brain Mapping Annual Meeting* 2017; **(oral presentation)**
89. **Chiew M**, Holmgren J, Fido D, Warnaby CE, Miller KL. EEG-Informed Reconstruction of Accelerated FMRI Data Acquisition, *Organization for Human Brain Mapping Annual Meeting* 2017;
90. **Chiew M**, Miller KL. Improving simultaneous multi-slice and 3D-EPI FMRI using rank-constrained reconstruction, *Organization for Human Brain Mapping Annual Meeting* 2017;
91. **Chiew M**, Graedel NN, Holmgren J, Fido D, Warnaby CE, Miller KL. Accelerated rank-constrained FMRI data reconstruction informed by external temporal measures, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2017; **(oral presentation)**
92. **Chiew M**, Holmgren J, Graedel NN, Fido D, Warnaby CE, Miller KL. Correction of Gradient Artefacts in Simultaneous EEG-FMRI from Rotating Gradient Trajectories, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2017;
93. **Chiew M**, Jiang W, Larson PEZ, Burns B, Jezzard P, Thomas MA, Emir UE. Density Weighted Concentric Rings K-Space Trajectory for 1H MRSI with gradient offset independent adiabatic pulses at 7T, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2017;
94. Emir UE, Burns B, **Chiew M**, Jezzard P, Thomas MA. Metabolite-Cycling Short-Echo Time Magnetic Resonance Spectroscopic Imaging using a Concentric Ring k-space Trajectory, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2017;
95. **Chiew M**, Holmgren J, Fido D, Warnaby CE, Miller KL. Recovering Brain Network Structure from Highly Under-Sampled FMRI using Electrophysiological Constraints, *BASP Frontiers Workshop* 2017;
96. Weizman L, Miller KL, Eldar YC, **Chiew M**. Acceleration of functional MRI data acquisition by separation of background and dynamic components, *European Society for Magnetic Resonance in Medicine and Biology Annual Meeting* 2016; **(oral presentation)**
97. Guan C, **Chiew M**. Comparison of strict sparsity and low-rank constraints for accelerated FMRI data reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2016;
98. Graedel NN, **Chiew M**, Miller KL. Motion correction for functional MRI with hybrid radial-Cartesian 3D EPI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2016; **(oral presentation)**
99. **Chiew M**, Graedel NN, Miller KL. Promoting incoherence of radial x-f point spread functions using randomly perturbed golden angles, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2016;
100. **Chiew M**, Miller KL. Revisiting adaptive regularization for self-calibrated, dynamic parallel imaging reconstruction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2016;
101. Guan C, **Chiew M**. Comparison of strict sparsity and low-rank constraints for accelerated FMRI data reconstruction, *ISMRM Workshop on Data Sampling & Image Reconstruction* 2016;
102. **Chiew M**, Graedel NN, Smith SM, Miller KL. Sub-second Whole Brain FMRI using a Hybrid Radial-Cartesian Acquisition and Low-Rank Reconstruction, *Organization for Human Brain Mapping Annual Meeting* 2015;
103. **Chiew M**, Graedel NN, Smith SM, Miller KL. Acceleration of task-based FMRI using k-t FASTER, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2015;
104. **Chiew M**, Graedel NN, Mcnab JA, Smith SM, Miller KL. 3D Hybrid Radial-Cartesian Sampling for Improved Resting State FMRI using k-t FASTER, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2015;
105. **Chiew M**, Smith SM, Koopmans PJ, Graedel NN, Blumensath T, Miller KL. K-t FASTER: Acceleration of FMRI Data Acquisition using Low Rank Constraints, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2015;

106. Graedel NN, **Chiew M**, Mcnab JA, Miller KL. FMRI using a 3D radial-Cartesian trajectory: Spatio-temporal tunability and artefact correction, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2015; **(oral presentation)**
107. **Chiew M**, Smith SM, Graedel NN, Blumensath T, Miller KL. Accelerating Resting State FMRI Acquisition using k-t FASTER: In Vivo Validation, *Organization for Human Brain Mapping Annual Meeting* 2014; **(oral presentation)**
108. Graedel NN, **Chiew M**, Clare S, Miller KL. Complex interactions of physiological noise and acceleration on tSNR in 3D EPI, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2014;
109. **Chiew M**, Smith SM, Blumensath T, Miller KL. Joint multi-coil and low-rank constraints for accelerating FMRI data acquisition using k-t FASTER, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2014;
110. **Chiew M**, Smith SM, Graedel NN, Blumensath T, Miller KL. Application of k-t FASTER for rank-constrained acceleration of in vivo FMRI data, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2014;
111. **Chiew M**, Smith SM, Koopmans PJ, Graedel NN, Blumensath T, Miller KL. Low-Rank Acceleration of Resting FMRI Data Acquisition using k-t FASTER, *Whistler Workshop of Brain Fuctional Organization, Connectivity and Behavior* 2014; **(oral presentation)**
112. Mansur A, **Chiew M**, Tam F, Schweizer TA, Graham SJ. Analysis of Fmri Neurofeedback of the Primary Motor Cortex as a Function of Time During Kinesthetic Motor Imagery, *Canadian Stroke Congress* 2013;
113. **Chiew M**, Smith SM, Koopmans PJ, Blumensath T, Miller KL. Acceleration of Resting State FMRI Data Acquisition using Matrix Completion, *Organization for Human Brain Mapping Annual Meeting* 2013;
114. Mansur A, **Chiew M**, Tam F, Schweizer TA, Graham SJ. General linear model regression analysis of fMRI neurofeedback of the primary motor cortex using kinesthetic motor imagery, *Organization for Human Brain Mapping Annual Meeting* 2013;
115. **Chiew M**, Smith SM, Koopmans PJ, Blumensath T, Miller KL. K-t FASTER: A New Method for the Acceleration of Resting State FMRI Data Acquisition, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2013;
116. **Chiew M**, Miller KL, Koopmans PJ, Tunnicliffe EM, Smith SM, Blumensath T. Iterative Hard Thresholding and Matrix Shrinkage (IHT+MS) for Low-Rank Recovery of k-t Undersampled MRI Data, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2013;
117. **Chiew M**, Graham SJ. Direct SENSE imaging for fast, multi-echo fMRI over a restricted field of view, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2012;
118. **Chiew M**, LaConte SM, Graham SJ. fMRI Neurofeedback of Kinesthetic Motor Imagery, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2012;
119. Rotenberg DJ, **Chiew M**, Ranieri S, Tam F, Graham SJ. Real-time Motion Correction by Optical Tracking for Reducing Spin-History Artifacts in fMRI, *Organization for Human Brain Mapping Annual Meeting* 2011;
120. **Chiew M**, LaConte SM, Graham SJ. Performance related brain differences in real-time fMRI neurofeedback of imagined hand motor activity, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2011;
121. **Chiew M**, Graham SJ. Effect of physiological noise on densely sampled multi-echo fMRI data, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2011;
122. **Chiew M**, LaConte SM, Graham SJ. Self-Regulation of Imagined Hand Motor Activity using Real-Time fMRI Neurofeedback, *Organization for Human Brain Mapping Annual Meeting* 2010;
123. **Chiew M**, Graham SJ. A novel multi-echo fMRI weighting strategy using principal component analysis for BOLD contrast sensitivity enhancement, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2010;
124. **Chiew M**, Graham SJ. Modulating Brain Activity via Multi-Echo fMRI Neurofeedback, *International Society for Magnetic Resonance in Medicine Annual Meeting* 2009;

Book Chapters

1. **Chiew M**, Lee H-J, Lin F-H. 11 - Advances in resting-state fMRI acquisition: Highly accelerated fMRI, *Advances in Resting-State Functional MRI* 2023; :255–275

Non Peer-Reviewed Publications

1. O'Donoghue MC, Blane J, Semple J, Rieger S, Aikin N, Campbell J, Pretorius P, Griffanti L, Gillis G, Okell TW, **Chiew M**, Smith SM, Miller KL, & Mackay CE. (2022). WIN MR Protocol: Oxford Brain Health Centre

(2019_102_BHC). Zenodo. https://doi.org/10.5281/zenodo.6598036

2. Magnetic Resonance in Medicine Highlights Magazine, Volume 6 (2021) - Editor
3. Magnetic Resonance in Medicine Highlights Magazine, Volume 5 (2020) - Editor
4. Q&A with Lia Hocke, Yunjie Tong, and Blaise Frederick, Magnetic Resonance in Medicine Highlights (2016 December 16), http://www.ismrm.org/qa-with-lia-hocke-yunjie-tong-and-blaise-de-frederick/
5. Q&A with Klaus Scheffler and Philipp Ehses, Magnetic Resonance in Medicine Highlights (2016 July 21), http://www.ismrm.org/qa-with-klaus-scheffler-and-philipp-ehses

Editor Picks

1. Q&A with Aaron T. Hess and Mark Chiew, Magnetic Resonance in Medicine Highlights (2021 December 10), https://blog.ismrm.org/2021/12/10/qa-with-aaron-t-hess-and-mark-chiew/

Patents and Intellectual Property

1. Schauman SS, **Chiew M**, Okell TO "Methods and Systems for Optimizing Sampling Efficiency of Dynamically Sampled Magnetic Resonance Imaging (MRI), US Patent Application 2022/0146615 A1(pending)
2. **Chiew M**, Emir UE "Simultaneous Multi-Slice MRSI using Density Weighted Concentric Ring Acquisition", US Patent US11828822B2 (Granted Nov 28, 2023)
3. **Chiew M**, Miller KL, Smith SM, Blumensath T "Acceleration of Low-Rank MRI Data Acquisition", US Patent (Application 61/808696, Abandoned)

Teaching and Supervision

Teaching & Course Co-Ordination

2025 -	Co-organizer, Sunnybrook Neuroimaging Summer School Sunnybrook Research Institute
2025 -	Lecturer, MBP1400H, Advanced Magnetic Resonance Imaging Department of Medical Biophysics, University of Toronto
2025 -	Co-ordinator, MBP Uptown Student Seminar Series Department of Medical Biophysics, University of Toronto
2023 -	Course Co-Ordinator, MBP1407H, Magnetic Resonance Imaging - Overview Department of Medical Biophysics, University of Toronto
2023 -	Course Co-Ordinator, MBP1413H, Biomedical Applications of Artificial Intelligence Department of Medical Biophysics, University of Toronto
2013 - 19	Co-Organiser, Head Tutor and Lecturer, FMRIB Graduate Program - MRI Physics Department of Clinical Neurosciences, University of Oxford
2012 - 13	Tutor and Lecturer, FMRIB Graduate Program Department of Clinical Neurosciences, University of Oxford
2010 - 11	Teaching Assistant, PHY231, Physics for the Life Sciences Department of Physics, University of Toronto
2010	Lab Demonstrator, PHY324 H1S, Practical Physics II Department of Physics, University of Toronto

Invited Educational Lectures and Presentations

2024	Teaching Lecture, "Recent MRI Research and Innovation" 2nd ISMRM African Chapter Conference & 2nd Subsaharan MRI Training Workshop, Dar es Salaam, Tanzania
2024	Educational Lecture, "Open Source Challenges and Opportunities" Weekday Educational Course, ISMRM 2024 Annual Meeting, Singapore

2023	Teaching Lecture, "Image Acquisition and Interpretation" 1st ISMRM African Chapter Conference & 2nd Subsaharan MRI Training Workshop, Accra, Ghana
2023	Teaching Presentation, MRI Artifacts Gameshow Weekday Educational Course, ISMRM 2023 Annual Meeting, Toronto, Canada
2021	Teaching Lecture, "Low Rank and Structured Low Rank Reconstruction Approaches", Image Reconstruction Weekend Educational Course, ISMRM 2021 Virtual Annual Meeting
2014 - 19	Lecturer, EPSRC-MRC Centre for Doctoral Training in Biomedical Imaging University of Oxford
2014 - 19	Faculty Lecturer, Physics Lectures FSL Course
2017	Teaching Lecture, "Measuring Connectivity with RS-FMRI", Connectivity: Structure & Function Weekend Educational Course, ISMRM 2017 Annual Meeting, Honolulu, USA
2013	Teaching Lecture, "MRI Basics and Diffusion Imaging" Hospital for Sick Children, University of Toronto
2013	Teaching Lecture, "Compressed Sensing", Teaching Session on Highly Accelerated FMRI ESMRMB 2013 Congress, Toulouse, France
2011	Teaching Lecture, "Fast Functional MRI", Annual MRI Retreat Sunnybrook Research Institute, University of Toronto
2010	Invited Lecture, "Conversation with a Scientist", Summer Research Rounds Rotman Research Institute, University of Toronto

Post-Doctoral Supervision

2021 - 24	Charles Millard, University of Oxford Project: Self-Supervised Learning Methods in MRI
2020 - 23	Mo Shahdloo, University of Oxford Project: Model-Based Off-Resonance Correction for Accelerated Non-Human Primate Imaging
2015 - 16	Lior Weizman, Visiting Fellow, Technion - Israel Institute of Technology (co-supervisor) Project: Low-Rank + Sparse Decomposition for Accelerated fMRI

Graduate Student Supervision

2025 -	Divya Krishnakumar, PhD Student, University of Toronto (co-supervised) Thesis: TBD
2025 -	Zach Vavasour, PhD Student, University of Toronto Thesis: TBD
2024 -	Yuliang Chris Xiao, PhD Student, University of Toronto (co-supervised) Thesis: TBD
2024 -	Fatemeh Ebrahiminia, PhD Student, University of Toronto Thesis: TBD
2023 -	Hao Li, DPhil Student, University of Oxford (co-supervised) Thesis: TBD
2023 -	Minhao Hu, DPhil Student, University of Oxford (co-supervised) Thesis: TBD
2023 -	Clara Zaki, MSc Student, University of Toronto Thesis: TBD
2022 - 25	Brenden Kadota, MSc Student, University of Toronto Thesis: Optimized Self-Supervised Learning for MRI Reconstruction
2019 - 23	Xi Chen, DPhil Student, University of Oxford Thesis: Structured Low Rank Methods for Robust 3D Multi-Shot EPI

2017 - 20	S. Sophie Schauman, DPhil Student, University of Oxford Thesis: Improving Acquisition Speed and Efficiency of Advanced Arterial Spin Labelling MRI
2016 - 20	Harry Mason, DPhil Student, University of Oxford Thesis: Exploring subspace-constrained approaches to low-rank fMRI acceleration
2013 - 16	Nadine N. Graedel, DPhil Student, University of Oxford Thesis: Three-Dimensional Hybrid Radial Cartesian Echo Planar Imaging for Functional MRI

Undergraduate Student Supervision

2025	Selina Liu, Engineering Science, University of Toronto Hurvitz Brain Sciences Summer Student Program: Automated pipeline for raw MRI data anonymization
2024	Kevin Zhang, Integrated Biomedical Engineering and Health Science, McMaster University Summer Research Volunteer: Investigating k-space motion detection networks
2024	Stephie Liu, Biomedical Engineering, University of Waterloo Sunnybrook Summer Student Program: MRI data synthesis with latent diffusion models
2023	Jisu Jung, Human Biology Program, University of Toronto HMB496 Summer Research Project: Sex biases in machine learning of human brain features
2014 - 16	Charles Guan, Electrical Engineering, Stanford University (Undergraduate Thesis) Thesis: Sparsity and Low-Rank Constraints in Functional MRI

Supervisory Committees

2025 -	Rachel Leung, MASc Supervisory Committee, BME, University of Toronto
2025 -	Lisa Wang, MSc Supervisory Committee, MBP, University of Toronto
2025 -	Jianzhong You, PhD Supervisory Committee, MBP, University of Toronto
2025 -	Caleb Thompson, MSc Supervisory Committee, MBP, University of Toronto
2024 -	Emma McKnight, MSc Supervisory Committe, MBP, University of Toronto
2023 -	Nayana Menon, MASc Supervisory Committee, BME, University of Toronto
2023 -	Jason Rock, MSc Supervisory Committee, MBP, University of Toronto
2022 -	Navona Calarco, PhD Supervisory Committee, MBP, University of Toronto
2019	Pingyu Xia, PhD Committee, Purdue University

External Examinations

2025 Mar	Pierre-Antoine Comby, Université Paris-Saclay, PhD Oral Examination Committee Member
2024 Oct	Paul Dubovan, Western University, PhD Oral Examination Committee Member

Internal Examinations

2025 Sep	Faiyza Alam, University of Toronto, PhD Oral Examination Committee Member
2025 Aug	Lubna Burki, University of Toronto, MSc Oral Examination Committee Member
2025 Aug	Taylor De Young, University of Toronto, PhD Reclassification Examination Committee Member
2025 Aug	Lisa Lee, University of Toronto, PhD Oral Examination Committee Member
2025 May	Andres Felipe Melani De La Hoz, University of Toronto, PhD Qualifying Examination Committee Member
2025 May	Jaykumar Patel, University of Toronto, PhD Oral Examination Committee Member
2025 Mar	Edward Ntiri, University of Toronto, MSc Oral Examination Committee Member
2025 Jan	Emma Pineau, University of Toronto, PhD Reclassification Examination Committee Member
2024 Jun	Troy Umolac, University of Toronto, PhD Reclassification Examination Committee Member

2024 Jun	Moujan Saderi, University of Toronto, MSc Oral Examination Committee Member
2023 Oct	Samal Munidasa, University of Toronto, PhD Oral Examination Committee Member
2023 Oct	Navona Calarco, University of Toronto, PhD Qualifying Examination Committee Member
2022 Dec	Qijia Shen, University of Oxford, DPhil Transfer of Status Assessor
2022 Oct	Ying-Qiu Zheng, University of Oxford, DPhil Confirmation of Status Assessor
2021 Dec	Andrew Tyler, University of Oxford, DPhil Viva Voce Examination
2021 Mar	Conor Keogh, University of Oxford, DPhil Transfer of Status Assessor
2021 Jan	Ying-Qiu Zheng, University of Oxford, DPhil Transfer of Status Assessor
2020 Dec	Ryan Timms, University of Oxford, DPhil Confirmation of Status Assessor
2020 Dec	Charles Millard, University of Oxford, DPhil Confirmation of Status Assessor
2020 Nov	Thijs De Buck, University of Oxford, DPhil Transfer of Status Assessor
2020 Oct	Evan Roberts, University of Oxford, DPhil Transfer of Status Assessor
2019 Dec	Ryan Timms, University of Oxford, DPhil Transfer of Status Assessor
2019 Nov	Evan Edmond, University of Oxford, DPhil Transfer of Status Assessor
2019 Oct	Charles Millard, University of Oxford, DPhil Transfer of Status Assessor
2019 Jul	Feng Qi, University of Oxford, DPhil Viva Voce Examination
2018 Dec	Sven Jaeschke, University of Oxford, DPhil Confirmation of Status Assessor
2017 Nov	Jack Allen, University of Oxford, DPhil Confirmation of Status Assessor
2017 Nov	Joseph Woods, University of Oxford, DPhil Confirmation of Status Assessor
2017 Aug	Caitlin O'Brien, University of Oxford, DPhil Transfer of Status Assessor
2016 Aug	Jack Allen, University of Oxford, DPhil Transfer of Status Assessor
2015 Jan	Wenchuan Wu, University of Oxford, DPhil Transfer of Status Assessor

Professional Activities

Editorial Boards

2025 -	Member, Web Editorial Board, International Society for Magnetic Resonance in Medicine
2023 -	Review Editor, Brain Imaging Methods, Frontiers in Neuroimaging

Ad Hoc Journal Reviewer

BMC Medical Imaging

Brain and Behavior

Brain Informatics

Computers in Biology and Medicine

Frontiers in Neuroscience

Human Brain Mapping

IEEE Transactions on Biomedical Engineering

IEEE Transactions on Medical Imaging

IEEE Transactions on Computational Imaging

IEEE Transactions on Signal Processing

Imaging Neuroscience

Journal of Cognitive Neuroscience

Journal of Magnetic Resonance Imaging

Journal of Medical Imaging
Journal of Neuroimaging
Journal of Neuroscience Methods
Magnetic Resonance in Medicine
Magnetic Resonance Imaging
Medical Image Analysis
Nature
Nature Human Genetics
Neural Computation
Neurocomputing
NeuroImage
NMR in Biomedicine
Philosophical Transactions of the Royal Society B
PLoS ONE

Ad Hoc Conference Reviewer

International Society for Magnetic Resonance in Medicine Annual Meeting (ISMRM)
Organization for Human Brain Mapping Annual Meeting (OHBM)
IEEE International Symposium on Biomedical Imaging (ISBI)
International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)
European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)
Imaging Network Ontario (ImNO)

Grant Reviewer

Swiss National Science Foundation
Natural Sciences and Engineering Research Council of Canada
Canadian Institutes of Health Research
Israel Science Foundation
Royal Academy of Engineering (UK)
Medical Research Council (UK)

Seminars, Panels and Moderation

May 07, 2024	Moderator, ISMRM 2024 Clinical Translation Challenge Scientific Session, Singapore
May 06, 2024	Moderator, ISMRM 2024 Image Reconstruction Scientific Session, Singapore
Dec 14, 2023	Fetal/Neonatal MRI, Joint MFM-NICU Research Meeting, Sunnybrook Research Institute
Nov 23, 2023	Panelist, Workshop: How to write academic papers, Sunnybrook Research Institute
Jan 20, 2023	Chair, MaLMIC Forum on Machine Learning in Image Reconstruction Speakers: Ge Wang, Charlie Millard
Jun 18, 2018	Moderator, ISMRM Pulse Sequence Highlights Powerpitch Session, Paris
2017 - 20	WIN Methods Seminar Co-Organiser
2010 - 11	Co-coordinator, Rotman Rounds, Rotman Research Institute

Outreach Activities

Feb 19, 2025	Speaker, Meet the Scientist Series\ Toronto District School Board Centre for Excellence in Black Student Achievement

Search Committees

2024	Chair, Sunnybrook Research Institute Search Committee for Physical Sciences Platform Scientist
2023	Member, Sunnybrook Research Institute Search Committee for Holland Bone & Joint Program Scientist
2023	Member, Sunnybrook Research Institute Search Committee for Tier 1 Canada Research Chair

Committees & Service

2025 -	Member, ISMRM Web Editorial Board
2025 -	Associate Member, IEEE Bio Imaging and Signal Processing Technical Committee
2024 -	Co-ordinator, MR Group Seminar Series, Sunnybrook Research Institute
2023	Member, ISMRM Clinical Translation Unmet Needs Challenge Committee
2023 - 26	Member, ISMRM Publications Committee
2021 - 22	Co-chair, ISMRM AMPC Image Acquisition Educational Table
2020 - 23	Member, ISMRM Annual Meeting Program Committee
2020 - 22	Chair, Oxford WIN Working Group on Ethnic and Racial Diversity
2020 - 22	Member, Oxford WIN EDI Committee
2019 - 20	Editor, Magnetic Resonance in Medicine Highlights Magazine
2013 - 18	MRI Scheduling Co-ordinator, FMRIB Physics Group, University of Oxford

Professional Affiliations

IEEE Signal Processing Society, Member

Temerty Centre for AI Research and Education in Medicine, Member

College of Reviewers, Canadian Institutes of Health Research, Full Member

Royal Academy of Engineering, Past Research Fellow

International Society for Magnetic Resonance in Medicine, Full Member

Organization for Human Brain Mapping, Past Member

European Society for Magnetic Resonance in Medicine and Biology, Past Member

Last updated: September 2, 2025