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EDUCATION

2009–2011	***Postdoctorate,*** Massachusetts General Hospital, Harvard Medical School
2004–2009	***Ph.D. Biomedical Engineering***, McGill University
2002–2004	***M.Sc. Electrical Engineering***, University of Calgary
1996–2001	***B.Sc. Electrical Engineering (Minor, Computer Engineering),*** U. of Calgary

EMPLOYMENT HISTORY

2018– pres.	***Associate Professor,*** Dept. of Medical Biophysics, University of Toronto
2011– 2018	***Assistant Professor,*** Dept. of Medical Biophysics, University of Toronto
2011– pres.	***Scientist,*** Rotman Research Institute, Baycrest, Toronto

ACTIVITIES

Summary

Granting programs reviewed for	8		
Editorial boards	2		
Professional service	3		
Chair/Moderator activities	4		
Journals reviewing for	21	NeuroImage (#manuscripts)	28
		J Cereb Blood Flow Metab	37
		Magn Reson Med	5
		Hum Brain Mapp	9

Grant Review

2018-present	Heart and Stroke Foundation
2016-present	CIHR Foundation Grant Reviewer
2015-present	CIHR Doctoral Award Committee
2014-present	NSERC Discovery Grant
2014-present	CIHR College of Reviewers
2014	CIHR Open-Operating Grant, Medical Imaging and Physics Committee
2014-present	Medical Research Council, United Kingdom
2014-present	Alzheimer's Association

Editorial Boards

2015-present	Frontiers Neuroscience -- Brain Imaging Methods
2011-present	Journal of Cerebral Blood Flow and Metabolism

Professional Service

2018-present	Member, Decanal Committee, Faculty of Medicine, U of T

2018-present	Member, Awards and Promotions Committee, Medical Biophysics
2017-present	Scientific Advisor, Research Ethics Board, Baycrest
2016-present	Member, OHBM Council (Communications Committee)
2011-present	MRI Physicist, Imaging Oversight Committee, Baycrest

Chair/Moderator

2017	Chair, OHBM Annual Meeting, Acquisition Methods Session
2015	Moderator, Toronto – Tel Aviv Joint Imaging Conference
2015	Chair, ISMRM Annual Meeting, Brain Physiology Session
2011	Chair, OHBM Symposium on Neuroimaging of Aging

Ad-hoc Review

2017-present	Journal of Neurophysiology
2017-present	Cerebral Cortex
2017-present	Nature Scientific Reports
2016-present	Oncotarget
2016-present	Magnetic Resonance Imaging
2015-present	American Journal of Neuroradiology
2016-present	Biological Psychiatry
2014-present	Frontiers Neuroscience
2012-present	BMC Neuroscience
2013-present	Brain Connectivity
2013-present	Movement Disorders
2013-present	NeuroImage Clinical
2012-present	Human Brain Mapping
2012-present	Neurobiology of Aging
2011-present	PLoS ONE
2011-present	Journal of Pharmacology and Experimental Therapeutics
2010-present	Journal of Gerontology
2009-present	NeuroImage
2009-present	Journal of Cerebral Blood Flow and Metabolism
2009-present	Magnetic Resonance in Medicine
2008-present	Journal of Magnetic Resonance Imaging

Membership

2003-present	International Society for Magnetic Resonance in Medicine (ISMRM)
2006-present	Organization for Human Brain Mapping (OHBM)
2000-present	Institute of Electrical and Electronics Engineers (IEEE)

RESEARCH CONTRIBUTIONS

Summary

<table>
<tr><td rowspan="2">Research Articles</td><td rowspan="2">42</td><td colspan="2">14 (As first author)</td></tr>
<tr><td colspan="2">14 (As senior author)</td></tr>
<tr><td>Total Citations</td><td colspan="3">860 (self citations excluded)</td></tr>
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<tr><td>Mean Impact Factor</td><td colspan="2">5.188 (Overall)</td><td>5.507 (Since 2011)</td></tr>
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Invited Lectures	19
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Conference Proceedings	72
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Citation conventions
The research supervisor (**senior author**) is **last** on the list. Other co-authors are cited in the order of their contribution to the manuscript.

Peer-reviewed Journal Articles
(Trainee authors are underlined)

Invited Reviews

1. **Chen J. J.**. *Cerebrovascular reactivity imaging in aging*. Front Neurosci (Special Issue on Metabolic and Vascular Biomarkers for Imaging Aging and Alzheimer's Disease), 2018.
2. **Chen J. J.**. *Functional MRI of brain physiology in aging and neurodegenerative diseases*. NeuroImage (Special Issue on Physiological and Quantitative fMRI), 2017. Under review.
3. Hua J., Liu P., Donahue M., Rane S., Kim T., **Chen J. J.**, Qin Q. and Kim S. G. *MRI techniques to measure arterial and venous cerebral blood volume.* NeuroImage 2018. Epud ahead of print; doi:10.1016/j.neuroimage/2018.02.027.
4. **Chen J. J.**, Jann K. and Wang D. J. *Characterizing resting-state brain function using arterial-spin labeling. Brain Connect 2015.* Brain Connect 2015; 5: 527-542. PMID: 26106930.
5. Mark, C. I., Mazerolle, E. and **Chen J. J.** *The metabolic and vascular origins of the BOLD effect: Implications for imaging pathology and resting-state brain function.* J Magn Reson Imaging 2015. PMID: 25727523.

Research Papers

6. Yuen N. H., Dousty M., Osachoff N. and **Chen J. J.** *Spectral characterization of resting-state fMRI.* Under review (NeuroImage, Manuscript #17-260).
7. Ragot D. M. and **Chen J. J.** Characterizing signal and noise origins of spin-echo BOLD fMRI at 3 Tesla. Submitted (NeuroImage).
8. Lam T. K., Dawson D. R., Honjo K., Ross B., Binns M. A., Stuss D. T., Black S. E., **Chen J. J.**, Levine, B. T., Fujioka, T. and Chen, J. L. *Variability in stroke motor outcome is explained by structural and functional integrity of the motor system.* Nat Sci Rep 2018; 8:9480.
9. Fujioka T., Ross B., Wright R. **Chen J. J.**, Chen J. L., Black S. E., Stuss D. T. and Dawson D. *The effect of music-support rehabilitation on motor, cognitive and psychosocial functions in chronic stroke.* Submitted (Ann New York Acad Sci, Manuscript # annals—251).
10. Chad J., Pasternak O., Salat D. H. and **Chen J. J.** *Revisiting age-related white-matter microstructural degeneration with diffusion-tensor imaging.* Neurobiol Aging 2018; in press.
11. Freigang C., Ross B., Hongjo K., **Chen J. J.**, Chen J. L., Black S. E., Stuss D. T., Dawson D. R., Fujioka T. *Central auditory processing in chronic stroke patients: an MEG study.* Under review (Brain, manuscript # BRAIN-2017-00907).
12. Chu P. P. W., Golestani A. M., Kwinta J. B., Khatamian Y. B. and **Chen J. J.** *Characterizing the modulation of resting-state fMRI metrics by baseline physiology.* NeuroImage 2018; in press.
13. Golestani A. M., Faraji-Dana Z., Kayvanrad M. A., Setsompop K., Graham S. J. and **Chen J. J.**

Simultaneous multislice resting-state fMRI at 3 Tesla: Slice-acceleration related biases in physiological-noise effects. Brain Connect 2017. In press.

14. Tong Y., Yao J., **Chen J. J.** and deB Frederick B., The resting-state arterial-venous blood signal differential predicts blood transit time. J Cereb Blood Flow Metab 2017. In press.

15. Lam T. K., Dawson D. R., Honjo K., Ross B., Binns M. A., Stuss D. T., Black S. E., **Chen J. J.**, Levine, B. T., Fujioka, T. and Chen, J. L. *Neural coupling between motor and frontoparietal networks correlates with motor ability in chronic stroke patients.* Neurol Sci 2017; 384: 21-29.

16. Golestani A. M., Kwinta J. B. and **Chen J. J.** *The effect of low-frequency physiological correction on the reproducibility and specificity of resting-state fMRI metrics: Functional connectivity, ALFF and ReHo.* Front Neurosci (Special Issue on Reproducibility) 2017; 11: 546. PMCID: PMC5833680.

17. Faraji-Dana Z., Tam F., **Chen J. J.** and Graham S. J. *A robust method for suppressing motion-induced coil sensitivity variations during prospective correction of head motion in fMRI.* Magn Reson Imaging 2016; 34: 1206-1219.

18. Faraji-Dana Z., Tam F., **Chen J. J.** and Graham S. J. *Interactions between head motion and coil sensitivity in accelerated fMRI.* J Neurosci Methods 2016: doi: 10.1016/j.neurmeth.2016.06.005. PMID: 27288867.

19. Faraji-Dana Z., Tam F., **Chen J. J.** and Graham S. J. Suppressing respiration effects when geometric distortion is corrected dynamically by phase labeling for additional coordinate encoding (PLACE) during functional MRI. PLoS ONE 2016; 11: e0156750. PMID: 27258194.

20. Golestani, A. M., Wei L. L., Kwinta J. B. and **Chen J. J.** *Quantitative mapping of cerebrovascular reactivity using resting-state BOLD fMRI: Validation in healthy adults.* NeuroImage. Epub ahead of print, May 2016. doi: 10.1016/j.neuroimage.2016.05.025. PMID: 27177763.

21. Kielar, A., Deschamps, T., Chu, R. K. O., Jokel, R., Khatamian, Y. B., Chen, J. J. and Meltzer, J. A. *Identifying dysfunctional cortex: distinguishing the effects of stroke and healthy aging with resting-state MEG and fMRI.* Front Aging Neurosci 2016; 8:40. PMID: 26973515.

22. Khatamian Y. B., Ragot D. M, Golestani A. M. and **Chen J. J.** *Spin-echo resting-state functional connectivity in high-susceptibility areas: Sensitivity, specificity and the role of physiological noise.* Brain Connectivity 2016. Epub ahead of print, Feb. 6, 2016, doi:10.1089/brain.2015.0365. PMID: 26842962.

23. Golestani A. M., Kwinta J. B., Strother S. C., Khatamian Y. B. and **Chen J. J.** *The association between cerebrovascular reactivity on resting-state fMRI functional connectivity: The influence of basal carbon dioxide.* NeuroImage 2016; 132: 301-313. PMID: 26908321.

24. Makedonov I., **Chen J. J.**, Masellis M. and MacIntosh B. J. *Physiological fluctuations in white matter are increased in Alzheimer's disease and correlated with neuroimaging and cognitive biomarkers.* Neurobiol Aging 2016; 37: 12-18. PMID: 26476600.

25. Halani, S., Kwinta, J. B., Golestani A. M. and **Chen J. J.** *Comparing cerebrovascular reactivity measured using BOLD and cerebral blood flow imaging: The effect of vascular tension on vasodilatory and vasoconstrictive reactivity.* NeuroImage 2015; 110: 110-123. PMID: 25655446.

26. Golestani A. M., Chang C., Kwinta J. B., Khatamian Y. B. and **Chen J. J.** *Mapping the CO_2 response function in the resting-state BOLD fMRI signal: Spatial variability, test-retest reproducibility and the effect of sampling rate*. NeuroImage 2014; 104: 266-277. PMID: 25462695.

27. Tak S., Polimeni, J. R., Wang, D. J. J. and **Chen J. J.** *Associations of resting-state fMRI functional connectivity with flow-BOLD coupling and regional vasculature*. Brain Connect 2014; 5: 137-146. PMID: 25384681.

28. Tak S., Wang, D. J. J., Polimeni, J. R., Yan, L. and **Chen J. J.** *Dynamic and static contributions of*

the cerebrovasculature to the resting-state BOLD signal. NeuroImage 2014; 84: 672:80. PMID: 24099842.

29. Coutu J. P., **Chen J. J.**, Rosas H. D. and Salat D. H. *Non-Gaussian water diffusion in aging white matter*. Neurobiol Aging, 2014; 35: 1412-21. PMID: 24378085.
30. **Chen J. J.**, Rosas H. D. and Salat D. H. *The Relationship between cortical blood flow and sub-cortical white-matter health across the adult age span.* PLoS ONE 2013; 8(2): e56733. PMID: 23437228.
31. **Chen J. J.**, Salat D. H. and Rosas H. D. *Complex relationships between cerebral blood flow reductions and tissue atrophy in early Huntington's disease.* NeuroImage 2012; 59:1043-51. PMID: 21945790.
32. **Chen J. J.**, Rosas H. D. and Salat D. H. *Age-associated reductions in cerebral blood flow are independent from regional atrophy.* NeuroImage 2011;55:468-78. PMID: 21167947.
33. Salat D. H., **Chen J. J.**, A. J. van der Kouwe, D. N. Greve, B Fischl and Rosas H. D.. *Hippocampal degeneration is associated with temporal and limbic gray matter/white matter tissue contrast in Alzheimer's disease.* NeuroImage 2011; 54: 1795-902. PMID: 20965261.
34. **Chen J. J.** and Pike G. B. *MRI measurement of the BOLD-specific flow-volume relationship during hypercapnia and hypocapnia in humans.* NeuroImage 2010; 53:383-91. PMID: 20624474.
35. **Chen J. J.** and Pike G. B. *Global cerebral oxidative metabolism during hypercapnia and hypocapnia in humans: implications for BOLD fMRI.* J Cereb Blood Flow Metab, 2010; 30: 1094-9. PMID: 20372169.
36. **Chen J. J.** and Pike G. B. *BOLD-specific changes in cerebral blood volume and blood flow during neuronal activation.* NMR Biomed 2010; 22:1054-62. PMID: 19598180.
37. **Chen J. J.** and Pike G. B. *Origins of the BOLD post-stimulus undershoot.* NeuroImage 2009; 46:559-68. PMID: 19303450.
38. **Chen J. J.** and Pike G. B. *Magnetic resonance T_2 relaxometry of whole human blood at 3 Tesla.* Magn Reson Med 2009; 61:249-54. PMID: 19165880.
39. **Chen J. J.**, M Wieckowska, E Meyer and Pike G. B. *Cerebral blood flow measurement using PET and fMRI: a cross-validation study.* Int J Biomed Imaging 2008; 2008: 516359. PMID: 18825270.
40. **Chen J. J.**, Smith M. R., Frayne R. *The impact of partial-volume effects in DSC MR perfusion quantification.* J Magn Reson Imaging, 2005; 22: 390-9. PMID: 16104009.
41. **Chen J. J.**, Frayne R., Smith M. R.. *Reassessing the clinical efficacy of two MR quantitative DSC PWI CBF algorithms following cross-calibration with PET images.* Phys Med Biol 2005; 50:1251-63. PMID: 15798320.
42. **Chen J. J.**, Smith M. R., Frayne R. *The advantages of frequency domain modeling in DSC MR CBF quantification.* Magn Reson Med 2005; 53: 700-7. PMID: 15723395.

Invited Book Chapters

1. **Chen J. J.** and Cohen-Adad, J. *Functional Magnetic Resonance Imaging,* Encyclopedia of Biomedical Engineering, Elsevier Major Reference Works, 2017.

Invited Lectures

1. *Non-BOLD Methods for Functional Connectivity Mapping.* Advanced Functional Connectivity Education Session, ISMRM 2018, Paris.
2. *Quantitative Mapping of Cerebrovascular Reactivity using Resting-state fMRI*, Medical University of

Vienna, Vienna, Austria (07/2017)

3. *Physiological Modulators of Resting-state fMRI,* University of Freiburg, Freiburg, Germany (07/2017)
4. *Theory and Applications of Susceptibility-weighted Imaging,* University of Toronto MR Physics Symposium (06/2017)
5. *Physiological Modulators of Resting-state fMRI*, York University, Toronto (05/2017)
6. *Current Issues in Calibrated fMRI*, Magnetic Resonance Research Center, Yale University, USA (04/2017)
7. *Imaging Brain Physiology using Resting-state fMRI.* 27th Annual International Rotman Research Conference, Toronto (03/2017).
8. *Novel MRI Methods and Multi-modal Integration in Studying Aging.* Research Imaging Rounds, Centre for Addiction and Mental Health (CAMH), Toronto (09/2015)
9. *MRI Methods for Neuroscience*, 3rd University of Toronto Undergraduate Neuroscience Conference, Toronto (11/2014)
10. *Physiology of Resting-state fMRI*, Rotman Research Rounds, Baycrest, Toronto (04/2014)
11. *MRI of Brain Structure and Function in Aging*, 23rd Annual International Rotman Research Conference, Toronto (03/2013)
12. *Multimodal Neuroimaging of Aging*, Campus Alberta Neuroscience Symposium, Edmonton (10/2012)
13. *MRI of Cerebral Hemodynamics***,** Mouse Imaging Centre, University of Toronto (03/2012)
14. *Resting-state Functional MRI in Aging,* Toronto Western Hospital (10/2012)
15. *Magnetic Resonance Imaging of Brain Physiology and the Effects of Aging,* Peter S. Allen MR Research Centre, University of Alberta, Edmonton (10/2010)
16. *MRI Strategies for Studying Brain Physiology and the Effects of Aging*, Seaman Family MR Research Centre, University of Calgary, Calgary (10/2010)
17. *The Age Dependence of Cerebral Blood Flow: Measurements using Arterial-spin Labeling*, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, USA (04/2010)
18. *Dynamic Non-invasive Measurement of Changes in Cerebral Venous Blood Volume*, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, USA (01/2010)
19. *Magnetic Resonance Imaging Measurement of Cerebral Blood Volume*, Functional Neuroimaging Unit, University of Montreal, Montreal (04/2008)

Invited Presentations

1. **Golestani A. M.** and **Chen J. J.** *Associations between cerebrovascular reactivity and fMRI functional connectivity.* ISMRM 2017 Brain Function Study Group, Honolulu.
2. **Tak S.** and **Chen J. J.** *Contribution of neurovascular factors to resting-state fMRI functional connectivity.* OHBM 2014, Hamburg.
3. **Chen J. J.**, Rosas H. D. and Salat D. H. *Association between cerebral blood flow and age-related changes in white matter microstructure.* ISMRM 2011, Montreal; 775.
4. **Chen J. J.**, Rosas H. D. and Salat D. H. *Age effects in the amplitude and frequency of resting-state BOLD fluctuations*. ISMRM 2011, Montreal; 774.
5. **Chen J. J.**, Salat D. H. and Rosas H. D. *Quantitative cerebral blood flow changes in Huntington's disease measured using pulsed arterial spin labeling*. ISMRM 2010, Stockholm.

6. **Chen J. J.**, Rosas H. D. and Salat D. H. *Quantitative mapping of the age-dependence of cerebral blood flow using pulsed arterial spin labeling*. ISMRM 2010, Stockholm.
7. Cohalan C., **Chen J. J.** and Pike G. B. *Cerebral blood volume during human neuronal activation measured using VASO and VERVE*. ISMRM 2009, Hawaii.
8. **Chen J. J.** and Pike G. B. *Does global cerebral oxygen metabolism change during hypocapnia and hypercapnia in awake humans?* ISMRM 2009, Hawaii.
9. **Chen J. J.** and **Pike G. B**. *Measuring hemodynamic contributions to the BOLD post-stimulus undershoot. O*HBM 2008, Melbourne.
10. **Chen J. J.** and Pike G. B. *Origins of the BOLD post-stimulus undershoot.* ISMRM 2008, Toronto.
11. **Chen J. J.**, Advani K., Pike G. B. *Analysis of the biomechanical origin of the BOLD post-stimulus undershoot.* HBM 2007, Chicago.

Peer-reviewed Conference Proceedings

1. Khajehim M. and **Chen J. J.** Vascular origins of the negative BOLD fMRI response. ISMRM 2018, Paris.
2. Khajehim M. and **Chen J. J.** Vascular origins of "anti-correlations" in resting-state fMRI. ISMRM 2018, Paris.
3. Tan J., Ragot D. M. and **Chen J. J.** Regional-specific echo-time optimization in spin-echo EPI at 3 Tesla. ISMRM 2018, Paris.
4. Chad J., Pasternack O., Salat D. H. and **Chen J. J.** Age effects on cortical-tissue diffusivity. ISMRM 2018, Paris.
5. Chad J., Pasternack O., Salat D. H. and **Chen J. J.**. Selective degeneration of crossing fibers and its relationship with fractional anisotropy. ISMRM 2018, Paris.
6. Ragot D. M. and **Chen J. J.** Echo-time optimization in spin echo EPI fMRI using BOLD-sensitivity models and hypercapnic manipulation at 3 T. OHBM 2017, Vancouver.
7. Yuen N. H. and **Chen J. J.** Frequency characteristics of resting-state fMRI functional networks. ISMRM 2017, Honolulu.
8. Ragot D. M. and **Chen J. J.** Echo-time optimization for spin echo EPI fMRI using hypercapnic manipulation at 3 T. ISMRM 2017, Honolulu.
9. Chad J., Pasternak O., Salat D. H. and **Chen J. J.** White matter microstructural changes in healthy aging: The impact of free-water elimination on DTI metrics. ISMRM 2017, Honolulu.
10. Golestani A. M. and **Chen J. J.** Quantitative mapping of cerebrovascular reactivity using resting-state BOLD fMRI: A validation in healthy adults. ISMRM 2017, Honolulu.
11. Golestani A. M., Kwinta J. B. and **Chen J. J.** *The association between cerebrovascular reactivity and rs-fMRI connectivity*. ISMRM 2016, Singapore; p. 768.
12. Ragot D. M. and **Chen J. J.** *Echo-time optimization in spin-echo EPI fMRI using hypercapnic manipulations at 3 T.* ISMRM 2016, Toronto; p. 3725.
13. Faraji-Dana Z., Golestani A. M., Khatamian Y. B., Graham S. and **Chen J. J.** *Comparision of physiological noise in multiband-EPI and regular-EPI fMRI at 3 Tesla.* ISMRM 2016, Singapore; p. 3717.
14. Faraji-Dana Z., Golestani A. M., Khatamian Y. B., Graham S. and **Chen J. J.** *Slice acceleration related biases in multiband-EPI resting-state functional connectivity.* ISMRM 2016, Singapore; p.

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15. Faraji-Dana Z., Tam F., **Chen J. J.** and Graham S. *Importance of physiological noise correction for PLACE distortion correction in EPI-based fMRI.* OHBM 2015, Honolulu; p. 3732.
16. Golestani A. M. and **Chen J. J.** *Low-frequency physiological effects on the specificity of resting-state functional connectivity measurements.* OHBM 2015, Honolulu; p. 3733.
17. Khatamian Y. B. and **Chen J. J.** *Significance and correction of respiratory off-resonance effects in fMRI – A phantom study.* OHBM 2015, Honolulu; p. 1651.
18. Khatamian Y. B. and **Chen J. J.** *Fat suppression artifact in spin-echo BOLD EPI at 3 Tesla*. ISMRM 2015, Toronto; p. 3775.
19. Halani S, Kwinta J. B., Golestani A. M. and **Chen J. J.** *Cerebrovascular reactivity measurement using BOLD and arterial-spin labeling MRI: The effect of vascular tension.* ISMRM 2015, Toronto; p. 3703.
20. Ragot D. M., Khatamian Y. B. and **Chen J. J.** *White-matter functional connectivity during trans-collosal tasks.* ISMRM 2015, Toronto; p. 1339.
21. Chu P. P. W., Kwinta J. B., Golestani A. M. and **Chen J. J.** *Physiological modulators of resting-state fMRI functional connectivity.* ISMRM 2015, Toronto; p. 2128.
22. Golestani A. M. and **Chen J. J.** *Physiological noise correction improves reproducibility of functional connectivity measurements.* Biennial Conference on Resting-state/Brain Connectivity, 2014, Cambridge.
23. Kielar A. Chu R. K., Panamsky L., Khatamian Y. B., **Chen J. J.** and Meltzer J. A. *Stroke induced reorganization of the neural networks for sentence comprehension, and relationship to perilesional dysfunction revealed by MEG and ASL.* Academy of Aphasia Annual Meeting, 2014; doi:10.3380/conf.fpsyg.2014.64.00015.
24. Tak S. and **Chen J. J.** *Contribution of neurovascular factors to resting-state fMRI functional connectivity*. OHBM 2014, Hamburg; p. 4221.
25. Kwinta, J. B. and **Chen J. J.** *The influence of end-tidal CO_2 on cerebrovascular reactivity and functional connectivity*. OHBM 2014, Hamburg; p. 1759.
26. Golestani A. M. and **Chen J. J.** *Regional variability in delay of brain response to resting state end-tidal CO_2 fluctuations. OHBM* 2014, Hamburg; p. 4214.
27. Golestani A. M. and **Chen J. J.** *Reliability of resting-state connectivity using simultaneous multislice fMRI with ultra-short TR. OHBM* 2014, Hamburg; p. 2088.
28. Golestani A. M. and **Chen J. J.** *The end-tidal CO_2 response function in resting-state BOLD fMRI. ISMRM* 2014, Milan; p. 4206.
29. Golestani A. M. and **Chen J. J.** *Estimating the physiological response function in resting-state BOLD: the effect of acquisition speed. ISMRM* 2014, Milan; p. 3069.
30. Golestani A. M. and **Chen J. J.** *Inter-regional differences in brain response delay to end-tidal CO_2 estimated from resting-state fMRI. ISMRM* 2014, Milan; p. 4199.
31. Khatamian Y. B. and **Chen J. J.** *Respiratory volume over time effects in resting-state gradient-echo and spin-echo EPI BOLD. ISMRM* 2014, Milan; p.2998.
32. Tak S. and **Chen J. J.** *Associations of resting-state fMRI functional connectivity with flow-BOLD coupling and regional vasculature. ISMRM* 2014, Milan; p. 4207.

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33. R. Wright, D. Dawson, B. Ross, S. E. Black, D. T. Stuss, **Chen J. J.**, J. Chen and T. Fujioka. *Effective design of music supported rehabilitation procedures for stroke survivors. Rotman Conference*, 2013.
34. Tak S. and **Chen J. J.** *Understanding the vascular origins of resting-state BOLD fluctuations using MR angiography. OHBM* 2013, Seattle; p. 2044.
35. Khatamian Y. B. and **Chen J. J.** *Respiratory effects in resting-state fMRI: a comparison between respiration measurement techniques. OHBM* 2013, Seattle; p. 3478.
36. Coutu J. P., Triggs T. D., **Chen J. J.**, Rosas H. D. and Salat D. H. *Is default-network activity selectively linked to its white matter tracts' integrity in aging?* OHBM 2013, Seattle; p. 3690.
37. Liu T. X., Tak S. and **Chen J. J.** *Robustness of resting-state functional connectivity measurement using ASL-based BOLD.* ISMRM 2013, Salt Lake City; p. 2227.
38. Khatamian Y. B. and **Chen J. J.** *Measurement of resting-state functional connectivity using spin-echo BOLD.* ISMRM 2013, Salt Lake City; p. 2234.
39. Bhatt O., Meltzer J. A., Ross B. and **Chen J. J.** *Stability of resting-state brain activity fluctuations across time: evidence from fMRI and MEG.* ISMRM 2013, Salt Lake City; p. 2240.
40. Tak S., Wang, D. J. J., L Yan and **Chen J. J.** *Spatial variability in the contribution of cerebral blood flow fluctuations to the resting-state BOLD signal.* ISMRM 2013, Salt Lake City; p. 3346.
41. Tak S., Wang, D. J. J., L Yan and **Chen J. J.** *Resting-state functional connectivity mapping using cerebral blood flow: comparison with simultaneous-acquired BOLD in high-susceptibility regions.* ISMRM 2013, Salt Lake City; p. 2233.
42. Tak S. and **Chen J. J.** *Investigation of vascular effects on resting-state BOLD fluctuations with simultaneous CBF and BOLD.* OHBM 2012, Beijing; p. 735.
43. **Chen J. J.**, Rosas H. D. and Salat D. H. *Associations between cortical tissue microstructure and cerebral blood flow in aging.* OHBM 2012, Beijing; p. 642.
44. Triggs T. D., Greve D. N., **Chen J. J.**, Rosas H. D. and Salat D. H. *Reduced organization of the default mode network in the aging brain: associations with cognition.* OHBM 2011, Quebec; p. 878.
45. **Chen J. J.**, Rosas H. D. and Salat D. H. *Association between cerebral blood flow and age-related changes in white matter microstructure.* ISMRM 2011, Montreal; p. 775.
46. **Chen J. J.**, Rosas H. D. and Salat D. H. *Age effects in the amplitude and frequency of resting-state BOLD fluctuations*. ISMRM 2011, Montreal; p. 774.
47. **Chen J. J.**, Rosas H. D. and Salat D. H. *White matter integrity is strongly associated with regional cerebral blood flow independently of age.* Organization for Human Brain Mapping (OHBM) Annual Meeting, 2011, Quebec; p. 559.
48. **Chen J. J.,** T. D. Triggs, Rosas H. D. and Salat D. H. *Age-dependence of BOLD connectivity in the default-mode – the influence of resting CBF.* OHBM 2010, Barcelona; p. 999.
49. **Chen J. J.**, Rosas H. D. and Salat D. H. *Age dependence of cortical and subcortical cerebral blood flow – measurement using pulsed arterial spin labeling*. HBM 2010, Barcelona; p. 868.
50. **Chen J. J.**, Salat D. H. and Rosas H. D. *Quantitative cerebral blood flow changes in Huntington's disease measured using pulsed arterial spin labeling*. ISMRM 2010, Stockholm; p. 15.
51. **Chen J. J.**, Rosas H. D. and Salat D. H. *Quantitative mapping of the age-dependence of cerebral*

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blood flow using pulsed arterial spin labeling. ISMRM 2010, Stockholm; p. 609.

52. **Chen J. J.**, Salat D. H. and Rosas H. D. *Quantitative cerebral blood flow changes and the association with tissue atrophy in Huntington's disease*. Hereditary Disease Foundation 2010 Meeting, Boston.
53. Salat D. H., Triggs T. D., **Chen J. J.**, Greve D. N. and Rosas H. D.. *Alterations in functional connectivity of the retrosplenial cortex in aging.* Society for Neuroscience (SfN) Annual Meeting, 2010, San Diego.
54. **Chen J. J.**, Rosas H. D. and Salat D. H. *The role of cerebral blood flow in age-associated change in white-matter microstructure.* Society for Neuroscience (SfN) Annual Meeting, 2010, San Diego.
55. **Chen J. J.**, Rosas H. D. and Salat D. H. *Cerebral blood flow mapping using pulsed arterial spin labeling: implications for fMRI.* Dallas Aging and Cognition Conference, 2010, Dallas.
56. Cohalan C., **Chen J. J.** and Pike G. B. *Cerebral blood volume during human neuronal activation measured using VASO and VERVE*. ISMRM 2009, Hawaii; p. 13.
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58. **Chen J. J.** and Pike G. B. *Venous CBF-CBV relationship during end-tidal CO_2 manipulations in humans and its significance for BOLD fMRI.* HBM 2009, San Francisco; p. 624.
59. **Chen J. J.** and Pike G. B. *Evidence of $CMRo_2$ invariability during end-tidal CO_2 manipulations in humans.* HBM 2009, San Francisco; p. 622.
60. **Chen J. J.** and Pike G. B. *BOLD-specific flow-volume relationship during hypercapnia and hypocapnia in humans.* ISMRM 2009, Hawaii; p. 1627.
61. **Chen J. J.** and Pike G. B. *Origins of the BOLD post-stimulus undershoot.* ISMRM 2008, Toronto; p. 216.
62. **Chen J. J.** and Pike G. B. *Functional changes in cerebral blood flow and venous blood volume: what is the steady-state relationship?* OHBM 2008, Melbourne; p. 309.
63. **Chen J. J.** and Pike G. B. *Measuring hemodynamic contributions to the BOLD post-stimulus undershoot. O*HBM 2008, Melbourne, p. 656.
64. **Chen J. J.** and Pike G. B. *Steady-state relationship between cerebral blood flow and venous blood volume.* ISMRM 2008, Toronto; p. 1909.
65. **Chen J. J.**, Advani K., Pike G. B. *Characterization of the BOLD post-stimulus undershoot*. ISMRM 2007, Berlin; p. 2620.
66. **Chen J. J.** and Pike G. B. *Functional measurement of venous cerebral blood volume measurement at 3 Tesla.* HBM 2007, Chicago; p. 48.
67. **Chen J. J.** and Pike G. B. *Dynamic measurement of functional changes in venous cerebral blood volume at 3 Tesla*. ISMRM 2007, Berlin; p. 2617.
68. **Chen J. J.**, Smith M. R., Frayne R.. *Partial volume effects in quantitative magnetic resonance perfusion imaging,* IEEE EMBS International Conference, San Francisco, USA, 2004; 1406-9. PMID: 17271883
69. **Chen J. J.**, Smith M. R., Frayne R. *DSC MR contrast recirculation effects in CBF quantification based on frequency-domain modeling.* ISMRM 2004, Kyoto; 2004; 1384.
70. **Chen J. J.**, Smith M. R., S Trochet, Frayne R. *Advantages of frequency-domain modeling in*

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magnetic resonance CBF quantification. ISMRM 2003, Toronto; 2205.

71. **Chen J. J.**, Smith M. R., Frayne R. *Characteristics of frequency-domain modeling in DSC MR perfusion quantification.* Brain'03. Calgary.

Theses

1. **Chen J. J.** Cerebral Venous Blood Volume – Methodology for In Vivo Measurement and Implications for BOLD fMRI. 2009. McGill University.
2. **Chen J. J.** Magnetic Resonance Perfusion Quantification – The Advantages of Frequency-Domain Modeling and the Impact of Partial-Volume Effects. 2004. University of Calgary.

Patents

1. **Chen J. J.,** Golestani A. M. and Wei L. L. Methodology for quantitative mapping of cerebrovascular reactivity using resting-state fMRI (pending, US Patent Office, application No. 15/3480,17, serial No. 62/253,440).

TEACHING AND TRAINING

Teaching Experience

2017-pres. *Lecturer,* Magnetic Resonance Imaging course (**MBP1024Y**), University of Toronto
2014-pres. *Organizer and instructor*, Baycrest MRI Users' Meetings
2014-pres. *Lecturer,* Research Training Centre, Baycrest

Summary of Trainees (n = 40)

Trainee	Primary Supervision	Co-supervision	Mentor	Completed
Postdoctoral	4	0	0	2
PhD	2	1	1	0
Master's	3	0	2	2
Undergraduate	19	0	0	9
Student supervisory committees	4			
Thesis examination committees	4			

RECOGNITIONS

2016-2021 Canada Research Chair (Tier 2) ($500,000 CAD)
2008-2009 Jean Timmins Costello Fellowship ($10,000 CAD)
2008 Principal's Graduate Award ($3,000 CAD)
2005-2008 NSERC Canada Graduate Scholarship – Doctoral (CGS-D) ($105,000 CAD)
2005-2006 McGill University Recruitment Fellowship ($5,000 CAD)
2005 Governor General's Gold Medal (No monetary value)
2004 The Alberta Informatics Circle of Research Excellence Award ($12,000 CAD)
2004-2005 NSERC Canada Graduate Scholarship – Master's (CGS-M) ($21,000 CAD)

RESEARCH FUNDING HISTORY

Funded

2018 – 2020 ***Co-investigator:*** Ontario Neurotrauma Foundation Research Grant (PIs: Robin Green (Toronto Rehab), Asaf Gilboa (Baycrest))
Addressing research gaps in moderate to severe traumatic brain injury rehabilitation

2017-2021 ***Principal Investigator:*** Canada Research Chair in Neuroimaging of Aging

2017 ***Principal Investigator:*** CFI John Evans Leadership Fund (Project leader: Jennifer Ryan (Baycrest))
Roles of neural, physiological and behavioural variability in cognitive health

2017-2020 ***Co-investigator:*** CIHR Project Grant (PI: Bradley Buchsbaum (Baycrest))
Hippocampal-neocortical interactions and the precision of human memory in aging

2016-2023 ***Principal Investigator*****:** CIHR Foundation Grant (FRN# 148398)
Mapping the resting brain: A new frontier for studying neurovascular physiology and age-related brain diseases

2016-2021 ***Co-investigator:*** CIHR Project Grant (PI: Brian Levine (Baycrest))
Individual differences in autobiographical memory: cognitive, behavioural and neural correlates and their relationship to aging

2014-2016 ***Co-investigator:*** CIHR Catalyst Grant (PI: Bradley MacIntosh (Sunnybrook))
Identifying new physiological biomarkers of Alzheimer's disease from functional and perfusion MRI

2013-2018 ***Principal Investigator*****:** CIHR Operating Grant (FRN# 126164)
Physiological Basis of Resting-State fMRI

2012-2019 ***Principal Investigator*****:** NSERC Discovery Grant (FGPIN# 418443)
Investigating the neuronal and vascular contributions to spontaneous fMRI signal fluctuations underlying functional connectivity

2012-2014 ***Co-investigator:*** Centre for Stroke Recovery Hakim Research Award (PI: Jed Meltzer (Baycrest))
Characterizing functional lesions in stroke using MEG and fMRI

2012-2013 ***Principal Investigator*****:** Centre for Stroke Recovery Stimulus Fund
Novel functional imaging methods for non-invasive monitoring of stroke recovery

2009-2012 ***Principal Investigator*****:** CIHR Postdoctoral Fellowship
Magnetic resonance imaging of cerebrovascular contributions to aging and Alzheimer's Disease

Under Review

2017- 2022 ***Co-investigator*****:** Ontario Brain Institute CONNECT Grant (PIs: Tom Schweizer (St. Michael's), Robin Green (Toronto Rehab))
Title: *Multimodal Neuroimaging of Concussion*