# Erin L. Mazerolle, PhD — CURRICULUM VITAE


## Contact

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## Research Interests

Brain health literacy and neuroscience knowledge mobilization
Systemic factors influencing postsecondary student wellbeing
Reproducibility in brain imaging research
Neurovascular relations in the human brain
Neurological diseases such as multiple sclerosis and tremor

## Primary Appointment

| | |
|---|---|
| September 1, 2024 - present | Associate Professor, Department of Psychology (with tenure) |
| July 1, 2020 - September 1, 2024 | Assistant Professor, Department of Psychology (tenure-track)<br>St. Francis Xavier University |

## Other Appointments

| | |
|---|---|
| September 11, 2024 - September 11, 2027 | Scientific Affiliate (Research)<br>Nova Scotia Health |
| July 1, 2023 - July 1, 2027 | Cross-appointment, Department of Biology<br>St. Francis Xavier University |
| July 1, 2021 – July 1, 2025 | Cross-appointment, Department of Computer Science<br>St. Francis Xavier University |
| January 1, 2024 - June 30, 2026 | Adjunct, Department of Psychiatry<br>Dalhousie University |
| December 1, 2020 – June 30, 2025 | Adjunct (Faculty of Graduate Studies)<br>Department of Psychology and Neuroscience<br>Dalhousie University |
| April 30, 2021 – June 30, 2027 | Affiliate Member (Faculty of Graduate Studies)<br>Department of Psychology<br>University of Victoria |

## Leaves of Absence

| | |
|---|---|
| Jul 2019-Jun 2020 | Maternity leaves (no research activity) |
| Nov 2016-Nov 2017 | |

## Education

2012-2020 **Postdoctoral researcher**
Advisor: Prof. Bruce Pike
Hotchkiss Brain Institute and Radiology, University of Calgary
Neurology & Neurosurgery, McGill University

2008-2012 **PhD, Psychology/Neuroscience, Dalhousie University**
Supervisor: Prof. Ryan D'Arcy
Thesis: *Refinements to the understanding of functional MRI activation in white matter*

2005-2007 **MSc, Psychology/Neuroscience, Dalhousie University**
Supervisor: Prof. Ryan D'Arcy
Thesis: *Detecting interhemispheric transfer across the corpus callosum using high field functional magnetic resonance imaging*

2001-2005 **BSc (first class honours), Neuroscience & Computer Science, Dalhousie University**
Supervisor: Prof. Ryan D'Arcy
Thesis: *Electrophysiological characterization of temporal lobe activation during visual object recognition*

## Research Grants

*Summary*

| | |
|---|---|
| **PI** | $642 024 |
| **Co-PI** | $112 987 |
| **Co-I or Collaborator** | $832 797 |
| **Career Total** | **$1 587 808** |

*Research Grants – Principal Investigator*

2024-2029 ResearchNS Intentional Initiative Award
*fNIRS-based cerebrovascular reactivity measurements: Improved tracking of brain health*
**Mazerolle EL** (PI)
$263 288

2024-2025 ACENET's Embedded Technical Support Program
*Development of fMRI analysis multiverse software*
**Mazerolle EL** (PI)
$37 000 (in-kind)

2022-2027 Canadian Foundation for Innovation John R. Evans Leaders Fund (**CFI JELF**)
*Neurovascular research infrastructure for improving brain health*
**Mazerolle EL** (PI)
$174 661

2022-2023 StFX Students' Union OER Grant
*Development and evaluation of an OER for a cognitive neuroscience course*
**Mazerolle EL** (PI), Barker C, Hughes J
$7 575

2021-2026 Natural Sciences and Engineering Council of Canada Discovery Grant (**NSERC DG)**
*Improving reproducibility of functional magnetic resonance imaging*
**Mazerolle EL** (PI)
$140 000 + $12 500 Discovery Launch Supplement

2021-2022 University Council for Research-Category A, St. Francis Xavier University
*Improving reproducibility of functional magnetic resonance imaging*
**Mazerolle EL** (PI)
$7 000

### *Research Grants – Co-Principal Investigator*

2024-2025 Canadian Institutes of Health Research (CIHR) Planning and Dissemination Grant
*Maintain your Brain: Research-backed strategies to improve your brain's resilience*
Fitzgibbon-Collins, L (co-PI), **Mazerolle EL** (co-PI), Phelps J (co-PI), Smith EE, Monaghan J, Gilroy-Dreher S, Bhangu J, Eskes G, Gawryluk JR, Harrison L, MacGillivray M, Whitehead S, Gill-Chawla N
$24 800

2024-2025 Canadian Institutes of Health Research (CIHR) Catalyst Grant: Analysis of Canadian Longitudinal Study in Aging (CLSA) Data
*Aging exceptionally well: Identifying and characterizing "SuperAgers" in the Canadian Longitudinal Study on Aging database*
**Mazerolle EL** (co-PI), Gawryluk JR (co-PI), Berrigan LI, Geddes, M, Heydari S, MacGillivray M, Smith EE
$70 000

2022-2023 Change Lab Action Research Initiative (CLARI) Grant
*Sharing the neuroscience of living with housing instability*
**Mazerolle EL** (co-PI), Barker C (co-PI)
$7 500

2022 MITACS Accelerate
*Developing a knowledge translation activity to share the neuroscience of living with housing instability*
**Mazerolle EL** (co-PI), Barker C (co-PI)
$10 687 (total project $15 000; difference contributed by partner organization)

### *Research Grants – Co-Investigator or Collaborator*

2024-2025 CIHR Operating Grant: Brain Health/Reduction of Risk for Age-related Cognitive Impairment – Knowledge Synthesis/Mobilization Grants – Vascular Cognitive Impairment
Smith EE, Badhwar A, Gaied NB, Bennett S, Bethell J, Cheema S, Grossman L, Hykaway W, Itzhak I, Kelly CA, Lea P, Leamon T, Lindsay P, **Mazerolle EL**, Phelps J, Snowball E, Thelker C
*Empowering individuals at risk for or living with vascular cognitive impairment: A co-developed video series promoting engagement, prevention strategies, and self-management*
$100 000

2023-2024 **Declined (overlap with CIHR Operating Grant):** Alzheimer Society of Canada and Brain Canada Foundation Knowledge Translation and Exchange (KTE) Accelerator Grant
Smith EE, Badhwar A, Gaied NB, Bennett S, Bethell J, Cheema S, Grossman L, Hykaway W, Itzhak I, Kelly CA, Lea P, Leamon T, Lindsay P, **Mazerolle EL**, Phelps J, Snowball E, Thelker C
*Empowering individuals at risk for or living with vascular cognitive impairment: A co-developed video series promoting engagement, prevention strategies, and self-management*
$100 100
Recipient of the Roger Marple KTE Accelerator Award for the top application

2022-2023 **SSHRC** Institutional Grant (SIG)
Barker C (PI), **Mazerolle EL**, Carter E
*Informing foster care transitions with the neuroscience of emerging adulthood*
$7 000

2021-2024 Canadian Institutes for Health Research (**CIHR**) Project Grant
*Does menthol affect nicotine's impact on brain reinforcement mechanisms in dependent and nondependent users of electronic nicotine delivery systems?*
Barrett S (PI), Al-Hamdani M, **Mazerolle EL**, Newman AJ, Perry R
$370 000

2021-2022 National Research Council Industrial Research Assistance Program (**NRC-IRAP**)
*Budding journalism: An exploration of zine creation and its benefits among children through the use of Pressto*
Barker C (PI), **Mazerolle EL**
$5 000

2016-2019 Multiple Sclerosis Society of Canada Operating Grant
*Comorbidity, cognition and multiple sclerosis (C-COMS)*
Marrie RA (PI), Fisk JD, Graff L, **Mazerolle EL**, Kornelsen J, Bernstein CN, Bolton J, Marriott JJ, Figley C
$266 083

2014-2016 **CIHR** Catalyst Grant (Secondary Analysis of Neuroimaging Databases)
*Pre-symptomatic biomarkers for Alzheimer's disease: structural and functional changes in white matter*
Gawryluk JR (PI), **Mazerolle EL**, Ritchie LJ, Fisk JD
$84 714

## Teaching and Training Grants (Total: $2 557 431)

2024-2025 AtlanticOER Development Grant, Council of Atlantic University Libraries
*Adaptation of Open Neuroscience Initiative*
Brebner K (PI), **Mazerolle EL**, Neville-MacLean SL
$3 500

2023-2024 Take it Up a Notch Grant, StFX Teaching and Learning Centre
*Hands-on Activities for PSYC 232 and the Brain Bee*
**Mazerolle EL**, Neville-MacLean SL
$631

2022-2023 AtlanticOER Sprint Grant, Council of Atlantic University Libraries
*Hackathon to improve an introductory Psychology and Neuroscience OER's equity and accessibility*
**Mazerolle EL** (PI), Austen E, Husk J, Stevens L
$2 000

2022-2028 **CIHR** Health Research Training Platform
*Health Research Training to Address Vascular Contributions to Cognitive Decline: the Vascular Training (VAST) Platform*
Nominated principal applicant: Smith EE
Principal applicants: Badhwar A, **Mazerolle EL**, Stefanovic B
$2 400 000 + $149 300 for patient engagement activities

2021-2022 AtlanticOER Development Grant, Council of Atlantic University Libraries
*Development of an existing open electronic lab manual, "Answering Questions with Data"*
**Mazerolle EL** (PI), Lomore CD, Lee D, Neville-MacLean S, Berrigan LI
$2 000

## Publications

*Summary*

| | Total | First or co-first author | Senior or co-senior author | Trainee author |
|---|---|---|---|---|
| **Published or accepted** | | | | |
| Peer-reviewed research articles | 51 | 10 | 4 | 9 |
| Review articles | 3 | 1 | 0 | 0 |
| **Submitted** | | | | |
| Peer-reviewed research articles | 3 | 0 | 0 | 0 |
| Review articles | 1 | 0 | 0 | 1 |

***** Indicates a trainee I supervised, co-supervised, or mentored substantially

### *Articles Submitted for Peer Review*

1. Donald AMH, Williams RJ, Beaudin AE, **Mazerolle EL**, Callahan BL, Pike GB, Poulin MJ (manuscript #NBAS-D-24-00034): Sex differences in cerebrovascular function across an aerobic exercise intervention in older adults using MRI. Submitted to *Aging Brain*.
2. Figley TD, Uddin N, Wong K, Pirzada S, Kornelsen J, Carter S, Helmick CA, O'Grady CB, **Mazerolle EL**, Patel R, Bernstein CN, Fisk JD, Marrie RA, Figley CR, CCOMS Study Group (manuscript #HBM-23-08991): White matter damage in multiple sclerosis disproportionately targets intrinsically connected brain networks. Submitted to *Human Brain Mapping*.
3. McIver TA, Bernstein CN, Marrie RA, Figley CR, Uddin MN, Fisk JD, Graff LA, Patel R, **Mazerolle EL**, Kornelsen J (manuscript #1561421). Submitted to *Frontiers in Human Neuroscience.*

4. *Biard M, Detcheverry FE, Betzner W, Becker S, Grewal K, Azab S, Bloniasz PF, **Mazerolle EL**, Phelps J, Smith EE, Badhwar A (manuscript #ADJ-D-24-01267): Supporting decision-making for individuals living with dementia and their care partners with knowledge translation: an umbrella review. Submitted to *Alzheimer's & Dementia* (preprint available).

### *Peer-Reviewed Research Articles*

5. *Draper EC, *Burgess HJ, Chisholm C, **Mazerolle EL**, Barker C (manuscript #JPC-24-0265): Front-line insights into the social determinants of health in housing instability: A multi-province study. Accepted to the *Journal of Primary Care and Community Health.*
6. Sheriff A-B, Scarapicchia V, **Mazerolle EL**, Christie B, Gawryluk JR (2024): A comparison of white matter microstructure and correlates with neuropsychological measures in younger and older adults. *PLOS ONE*, 19: e0305818. https://doi.org/10.1371/journal.pone.0305818 (open access)
7. *Keenan HE, Czippel A, Heydari S, Gawryluk JR, **Mazerolle EL** (2024) Intrinsic functional connectivity strength of SuperAgers in the default mode and saliency networks: a replication study. *Aging Brain*, 5:100114. https://doi.org/10.1016/j.nbas.2024.100114 (open access)
8. *Draper EC, *Burgess HJ, Chisholm C, Barker C, **Mazerolle EL** (2024) Sharing the neuroscience of living with housing instability: Collaborating with front-line workers to co-create a knowledge translation activity. *Journal of Community and Applied Social Psychology,* 32: e2781. https://doi.org/10.1002/casp.2781 (open access)
9. Barker C, *Isenor Yorke K, *Mak E, *Draper EC, **Mazerolle EL** (2024): Experimental evaluation of the impact of lived experience and personal story on neuroscience knowledge translation effectiveness: sharing the neuroscience of ADHD with pre-service teachers. *Mind, Brain, and Education*, 18: 125-134. http://dx.doi.org/10.1111/mbe.12408 (open access)
10. Kornelsen J, McIver T, Uddin MN, Figley CR, Marrie RA, Patel R, Fisk JD, Carter S, Graff L, **Mazerolle EL**, Bernstein CN, CCOMS Study Group (2023). Altered voxel-based and surface-based morphometry in inflammatory bowel disease. *Brain Research Bulletin*, 203: 110771. https://doi.org/10.1016/j.brainresbull.2023.110771 (open access)
11. Carter SL, Patel R, Fisk JD, Figley CR, Marrie RA, **Mazerolle EL**, Udden N, Wong K, Graff LA, Bolton JM, Marriot JJ, Bernstein CN, Kornelsen J (2023): Differences in resting state functional connectivity relative to multiple sclerosis and impaired information processing speed. *Frontiers in Neurology*, 14:1250894. https://doi.org/10.3389/fneur.2023.1250894 (open access)
12. Patel R, Marrie RA, Bernstein CN, Bolton JM, Graff LA, Marriott JJ, Figley CR, Kornelsen J, **Mazerolle EL**, Uddin N, Fisk JD (2023): Vascular disease is associated with differences in brain structure and lower cognitive functioning in inflammatory bowel disease: A cross-sectional study. Accepted at *Inflammatory Bowel Diseases*. https://doi.org/10.1093/ibd/izad204
13. Williams RJ, Specht JL, **Mazerolle EL**, Lebel RM, MacDonald ME, Pike GB (2023): Correspondence between BOLD fMRI task activation and cerebrovascular reactivity across the cerebral cortex. *Frontiers in Physiology*, 14. https://doi.org/10.3389/fphys.2023.1167148 (open access)

14. Patel R, Marrie RA, Bernstein CN, Bolton JM, Graff LA, Marriott JJ, Figley CR, Kornelsen J, **Mazerolle EL**, Uddin N, Fisk JD (2023): Vascular comorbidity is associated with decreased cognitive functioning in inflammatory bowel disease. *Scientific Reports, 13:* 4317. https://doi.org/10.1038/s41598-023-31160-3

15. Neufeld N, Parker A, Kwan H, **Mazerolle EL**, Gawryluk JR (2022): Longitudinal changes in grey matter and cognitive performance over four years of healthy aging. *NeuroImage: Reports,* 2: 100140. http://doi.org/10.1016/j.ynirp.2022.100140

16. Uddin N, Figley TD, Kornelsen J, **Mazerolle EL**, Helmick CA, O'Grady CB, Pirzada S, Patel R, Carter S, Wong K, Essig MR, Graff LA, Bolton JM, Marriott JJ, Bernstein CN, Fisk JD, Marrie RA, Figley CR (2022): The Comorbidity and Cognition in Multiple Sclerosis (CCOMS) neuroimaging protocol: study rationale, MRI acquisition, and minimal image processing pipelines. *Frontiers in Neuroimaging.* https://doi.org/10.3389/fnimg.2022.970385

17. Marrie RA, Patel R, Figley CR, Kornelsen J, Bolton JM, Graff LA, **Mazerolle EL**, Helmick C, Uddin N, Figley T, Marriott JJ, Bernstein CN, Fisk JD (2022): Effects of vascular comorbidity on cognition in multiple sclerosis are partially mediated by changes in brain structure. *Frontiers in Neurology*, 13: 910014. https://doi.org/10.3389/fneur.2022.910014

18. Beaudin AE, McCreary C, **Mazerolle EL**, Gee M, Sharma B, Subotic A, Zwiers A, Cox E, Nelles K, Charlton A, Frayne R, Ismail Z, Beaulieu C, Jickling GC, Camicioli R, Pike GB, Smith EE (2022): Cerebrovascular reactivity across the entire brain in cerebral amyloid angiopathy. *Neurology*, 98: e1716-e1728. https://doi.org/10.1212/WNL.0000000000200136

19. *Isenor K, **Mazerolle EL**, Barker C (2021): Pay attention to this: a knowledge translation study of ADHD and its brain basis to pre-service and in-service teachers. *in education*, 27: 80-97. https://doi.org/10.37119/ojs2021.v27i1.510 (open access)

20. Marrie RA, Patel R, Figley CR, Kornelsen J, Bolton JM, Graff LA, **Mazerolle EL**, Helmick C, O'Grady C, Uddin MN, Marriott JJ, Bernstein CN, Fisk JD (2021): Higher Framingham Risk Scores are associated with greater loss of brain volume over time in multiple sclerosis. *Multiple Sclerosis and Related Disorders,* 54:103088. https://doi.org/10.1016/j.msard.2021.103088

21. **Mazerolle EL**, Warwaruk-Rogers R, Romo P, Sankar T, Scott S, Rockel C, Pichardo S, Martino D, Kiss ZHT, Pike GB (2021): Diffusion imaging changes in the treated tract following focused ultrasound thalamotomy for tremor. *NeuroImage: Reports,* 1: 10010. https://doi.org/10.1016/j.ynirp.2021.100010 (open access)

22. Marrie RA, Whitehouse CE, Patel R, Figley CR, Kornelsen J, Bolton JM, Graff LA, **Mazerolle EL**, Marriott JJ, Bernstein CN, Fisk JD (2021): Performance of regression-based norms for cognitive functioning of persons with multiple sclerosis in an independent sample for the comorbidity and cognition in multiple sclerosis study. *Frontiers in Neurology*, 11: 621010. https://doi.org/10.3389/fneur.2020.621010 (open access)

23. Auclair-Ouellet N, Hanganu A, **Mazerolle EL**, Lang ST, Kibreab M, Ramezani M, Haffenden A, Hammer T, Cheetham J, Kathol I, Pike GB, Sarna J, Martino D, Monchi O (2021): Action fluency identifies different sex, age, global cognition, executive function and brain activation profile in non-demented patients with Parkinson's disease. *Journal of Neurology*, 268: 1036-1049. https://doi.org/10.1007/s00415-020-10245-3

24. Ma Y, **Mazerolle EL**, Cho J, Sun H, Wang Y, Pike GB (2020): Quantification of brain oxygen extraction fraction (OEF) using quantitative susceptibility mapping (QSM) and a hyperoxic challenge. *Magnetic Resonance in Medicine*, https://doi.org/10.1002/mrm.28390

25. Martino D, Rockel CP, Bruno V, **Mazerolle EL**, Jetha S, Pichardo S, Pike GB, Kiss ZHT (2020): Dystonia following thalamic neurosurgery: A single centre experience with MR-guided focused ultrasound thalamotomy. *Parkinsonism and Related Disorders*, 71: 1-3. https://doi.org/10.1016/j.parkreldis.2019.11.019

26. Ma Y, Sun H, Cho J, **Mazerolle EL,** Wang Y, Pike GB (2020): Cerebral OEF quantification: a comparison study between quantitative susceptibility mapping and dual-gas calibrated BOLD imaging. *Magnetic Resonance in Medicine*, 83: 68-82. https://doi.org/10.1002/mrm.27907

27. **Mazerolle EL**, Ohlhauser L, Mayo CD, Sheriff A, Gawryluk JR (2020): Evidence of under-reporting of white matter fMRI activation. *Journal of Magnetic Resonance Imaging*, 51: 1596-1597. https://doi.org/10.1002/jmri.26952

28. Pirzada SS, Uddin MD, Figley TD, Kornelson J, Puig J, Marrie RA, **Mazerolle EL**, Fisk JD, Helmick CA, O'Grady CB, Patel R, Figley CR, CCOMS Study Group (2020): Spatial normalization of multiple sclerosis brain MRI data depends on analysis method and software package. *Magnetic Resonance Imaging*, 68: 83-94. https://doi.org/10.1016/j.mri.2020.01.016

29. Clark CM, Guadagni V, **Mazerolle EL**, Hill MD, Hogan D, Pike GB, Poulin M (2019): Effect of aerobic exercise on white matter microstructure in the aging brain. *Behavioural Brain Research*, 373: 112042. https://doi.org/10.1016/j.bbr.2019.112042

30. *Findlater SE, Hawe RL, **Mazerolle EL**, Sultan A, Cassidy JM, Scott SH, Pike GB, Dukelow SP (2019): Comparing CST lesion metrics as biomarkers for recovery of motor and proprioceptive impairments after stroke. *Neurorehabilitation and Neural Repair*, 33: 848-861. https://doi.org/10.1177/1545968319868714

31. *Findlater SE, **Mazerolle EL**, Pike GB, Dukelow SP (2019): Proprioception and motor performance after stroke: an examination of diffusion properties in sensory and motor pathways. *Human Brain Mapping*, 40: 2995-3009. https://doi.org/10.1002/hbm.24574

32. Marrie RA, Patel R, Figley CR, Kornelsen J, Bolton JM, Graff L, **Mazerolle EL**, Marriott JJ, Bernstein CN, Fisk JD (2019): Diabetes and anxiety adversely affect cognition in multiple sclerosis. *Multiple Sclerosis and Related Disorders*, 27: 164-170. https://doi.org/10.1016/j.msard.2018.10.018

33. Mayo CD, Garcia-Barrera M, **Mazerolle EL**, Ritchie L, Fisk JD, Gawryluk JR (2019): Relationship between DTI metrics and cognitive function in Alzheimer's disease. *Frontiers in Aging Neuroscience*, 10: 436. https://doi.org/10.3389/fnagi.2018.00436 (open access)

34. **Mazerolle EL**, *Seasons GM (co-first authors), Warwaruk-Rogers R, Romo P, Nordal R, Sevick RJ, Martino D, Pichardo S, Kiss ZHT, Pike GB (2019) Focused ultrasound resolves persistent radiosurgery related change in a patient with tremor. *Radiology Case Reports*, 14: 1233-1236. https://doi.org/10.1016/j.radcr.2019.07.010 (open access)

35. *Seasons GM, **Mazerolle EL**, Sankar T, Martino D, Kiss ZHT, Pichardo S, Pike GB (2019): Predicting high-intensity focused ultrasound thalamotomy lesions using 2D magnetic resonance thermometry and 3D Gaussian modeling. *Medical Physics*, 46: 5722-5732. https://doi.org/10.1002/mp.13868

36. MacDonald ME, Berman AJL, **Mazerolle EL**, Williams RJ, Pike GB (2018): Modeling hyperoxia-induced BOLD signal dynamics to estimate cerebral blood flow, volume and mean transit time. *NeuroImage*, 178: 461-474. https://doi.org/10.1016/j.neuroimage.2018.05.066

37. **Mazerolle EL**, Ma Y, Sinclair D, Pike GB (2018): Impact of abnormal cerebrovascular reactivity on BOLD fMRI: a preliminary investigation of Moyamoya disease. *Clinical Physiology and Functional Imaging*, 38: 87-92. https://doi.org/10.1111/cpf.12387 (open access)

38. Scarapicchia V, **Mazerolle EL**, Fisk JD, Ritchie L, Gawryluk JR (2018): Resting state BOLD variability in Alzheimer's disease: a marker of cognitive decline or cerebrovascular status? *Frontiers in Aging Neuroscience,* 10: 39. https://doi.org/10.3389/fnagi.2018.00039 (open access)

39. Berman AJL, **Mazerolle EL**, MacDonald ME, Blockley NP, Luh W-M, Pike GB (2017): Gas-free calibrated fMRI with a correction for vessel-size sensitivity. *NeuroImage*, 160: 176-188. https://doi.org/10.1016/j.neuroimage.2017.12.047

40. Mayo CD, **Mazerolle EL**, Ritchie LL, Fisk JD, Gawryluk JR (2017): Longitudinal changes in microstructural white matter metrics in Alzheimer's disease. *NeuroImage: Clinical*, 13: 330-338. https://doi.org/10.1016/j.nicl.2016.12.012 (open access)

41. **Mazerolle EL**, Marchand Y (2015): TypingSuite: integrated software for presenting stimuli, and collecting and analyzing typing data. *Journal of Psycholinguistic Research*, 44: 127-139. https://doi.org/10.1007/s10936-014-9283-9

42. Gawryluk JR, **Mazerolle EL**, Beyea SD, D'Arcy RCN (2014): Functional MRI activation in white matter during the Symbol Digit Modalities Test. *Frontiers in Human Neuroscience*, 8: 598. https://doi.org/10.3389/fnhum.2014.00589 (open access)

43. Wojtowicz MA, Ishigami Y, **Mazerolle EL**, Fisk JD (2014): Stability of intraindividual variability in relapsing remitting multiple sclerosis. *Journal of Clinical and Experimental Neuropsychology*, 36: 455-463. https://doi.org/10.1080/13803395.2014.903898

44. Wojtowicz MA, **Mazerolle EL**, Bhan V, Fisk JD (2014): Altered functional connectivity and performance variability in relapsing remitting multiple sclerosis. *Multiple Sclerosis Journal*, 20: 1453-1463. https://doi.org/10.1177/1352458514524997

45. Holland DJ, Liu C, Song X, **Mazerolle EL**, Stevens MT, Sederman AJ, Gladden LF, D'Arcy RCN, Bowen CV, Beyea SD (2013): Compressed sensing reconstruction improves sensitivity of variable density spiral fMRI. *Magnetic Resonance in Medicine,* 70: 1634-1643. https://doi.org/10.1002/mrm.24621

46. **Mazerolle EL**, Gawryluk JR, Dillen KN, Patterson SA, Feindel KW, Beyea SD, Stevens TM, Newman AJ, Schmidt MH, D'Arcy RCN (2013): Sensitivity to white matter activation increases with field strength. *PLOS ONE,* 8(3): e58130. https://doi.org/10.1371/journal.pone.0058130 (open access)

47. **Mazerolle EL,** Wojtowicz MA, Omisade A, Fisk JD (2013): Intra-individual variability in information processing speed reflects white matter microstructure in multiple sclerosis. *NeuroImage: Clinical*, 2: 894-902. https://doi.org/10.1016/j.nicl.2013.06.012 (open access)

48. McWhinney SR, **Mazerolle EL**, Gawryluk JR, Beyea SD, D'Arcy RCN (2012): Comparing gray and white matter fMRI activation using asymmetric spin echo spiral. *Journal of Neuroscience Methods*, 209: 351-356. https://doi.org/10.1016/j.jneumeth.2012.06.014

49. Gawryluk JR, D'Arcy RCN, **Mazerolle EL**, Brewer KD, Beyea SD (2011): Functional mapping in the corpus callosum: a 4T fMRI study of white matter. *NeuroImage*, 54: 10-15. https://10.1016/j.neuroimage.2010.07.028

50. Gawryluk JR, **Mazerolle EL**, Brewer KD, Beyea SD, D'Arcy RCN (2011): Investigation of fMRI activation in the internal capsule. *BMC Neuroscience*, 12: 56. https://doi.org/10.1186/1471-2202-12-56 (open access)

51. **Mazerolle EL**, Beyea SD, Gawryluk JR, Brewer KD, Bowen CV, D'Arcy RCN (2010): Confirming white matter fMRI activation in the corpus callosum: co-localization with DTI tractography. *NeuroImage*, 50: 616-621. https://doi.org/10.1016/j.neuroimage.2009.12.102

52. Versteeg VL, Marchand Y, **Mazerolle EL**, D'Arcy RCN (2010): Profiling brain function: spatiotemporal characteristics of normal and abnormal visual evoked potentials. *Journal of Neuroscience Methods*, 190: 95-105. https://doi.org/10.1016/j.jneumeth.2010.04.015

53. **Mazerolle EL**, D'Arcy RCN, Beyea SD (2008): Detecting functional magnetic resonance imaging activation in white matter: Interhemispheric transfer across the corpus callosum. *BMC Neuroscience*, 9: 84. https://doi.org/10.1186/1471-2202-9-84 (open access)
***Highly accessed article*** *based on Biomed Central access statistics*

54. D'Arcy RCN, Bolster RB, Ryner L, **Mazerolle EL**, Grant J, Song X (2007): A site directed fMRI approach for evaluating functional status in the anterolateral temporal lobes. *Neuroscience Research*, 57: 120-128. https://doi.org/10.1016/j.neures.2006.09.018

55. **Mazerolle EL**, D'Arcy RCN, Marchand Y, Bolster RB (2007): ERP assessment of functional status in the temporal lobe: examining spatiotemporal correlates of object recognition. *International Journal of Psychophysiology*, 66: 81-92. https://doi.org/10.1016/j.ijpsycho.2007.06.003

### *Peer-Reviewed Review Articles*

1. Williams RJ, MacDonald ME, **Mazerolle EL**, Pike GB (2021): The relationship between cognition and cerebrovascular reactivity: Implications for task-based fMRI. *Frontiers in Physics,* 8: 645249. https://doi.org/10.3389/fphy.2021.645249 (open access)

2. Mark CI, **Mazerolle EL**, Chen JJ (2015): Metabolic and vascular origins of the BOLD effect: implications for imaging pathology and resting-state brain function. *Journal of Magnetic Resonance Imaging*, 42: 231-46. https://doi.org/10.1002/jmri.24786

3. Gawryluk JR[1], **Mazerolle EL[1]**, D'Arcy RCN (2014): Does functional MRI detect activation in white matter? A review of emerging evidence, issues, and future directions. *Frontiers in Neuroscience,* 8: 239. https://doi.org/10.3389/fnins.2014.00239 (open access)
[1]Co-first authors

### *Refereed Conference Papers*

1. Wang J, Berger D, **Mazerolle EL**, Soufan O, Levman J (2022): Temporally adjustable longitudinal fluid-attenuated inversion recovery MRI estimation/synthesis for multiple sclerosis. *MICCAI 2022 BrainLes Workshop*. https://arxiv.org/abs/2209.04275

### *Refereed Abstracts (podium presentations)*

1. *MacGillivray A (co-presenter), *MacDougall C (co-presenter), Hughes J, Austen E, Barker C, **Mazerolle EL** (March, 2025). Open minds and open resources: The use of OER-enabled pedagogy in upper-level postsecondary education. *2025 Open Education Talks* (virtual).
2. Chen CH (presenter), McCreary CR, **Mazerolle EL**, Gee M, Nelles K, Sharma B, Frayne R, Ismail Z, Beaulieu C, Camicioli R, Pike GB, Smith EE, Beaudin AE (2022): Longitudinal decrease in cerebrovascular reactivity to carbon dioxide in cerebral amyloid angiopathy. *8th International Cerebral Amyloid Angiopathy Conference* (Perth, Australia).
3. Barker C (presenter), **Mazerolle EL** (July, 2022). Impacts of integrating personal experiences with neuroscience knowledge translation activities. 12-minute talk, *Canadian Psychological Association 83rd Annual National Convention* (Calgary, Canada).
4. Williams RJ (presenter), **Mazerolle EL**, MacDonald ME, Berman AJL, Luh W-M, Pike GB (2017): Flow and metabolic coupling associated with positive and negative BOLD responses across retinotopic early visual cortices. Proffered paper, *Imaging Cerebral Physiology Symposium* (Cardiff, Wales).
5. **Mazerolle EL**, Beaudin AE, Basha AM, Poulin MJ, Pike GB (2016): Functional connectivity changes associated with a six-month aerobic exercise intervention in older adults are not explained by CBF or BOLD-CVR changes. *3rd Whistler Scientific Workshop on Brain Functional Organization, Connectivity, and Behaviour* (Whistler-Blackcomb, Canada).
6. **Mazerolle EL**, Gawryluk JR, D'Arcy RCN (2010): White matter fMRI activation in the internal capsule: co-localization with DTI tractography. *16th Annual Meeting of the Organization for Human Brain Mapping* (Barcelona, Spain).
7. **Mazerolle EL**, Song X, Brewer KD, Beyea SD, D'Arcy RCN (2008): Functional MRI in white matter: experimental evidence at 4T. *16th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Toronto, Canada).

### *Refereed Abstracts (poster presentations)*

1. Dahyun Park S, McCreary CR, Gee M, **Mazerolle EL**, Frayne R, Ismail Z, Jickling G, Camicioli R, Pike GB, Smith EE, Beaudin AE (submitted): Association between glymphatic function and cerebrovascular reactivity in patients with cerebral amyloid angiopathy and Alzheimer's disease. *Alzheimer's Association International Conference.*
2. Figley TD, Uddin N, Wong K, Pirzada S, Kornelsen J, Carter S, Helmick CA, O'Grady CB, **Mazerolle EL**, Patel R, Bernstein CN, Fisk JD, Marrie RA, Figley CR, CCOMS Study Group (accepted): Multiple sclerosis white matter damage disproportionately targets intrinsic brain networks. *ACTRIMS Forum*.
3. Wong K, Uddin N, Figley TD, Pirzada S, Kornelsen J, Carter S, Helmick CA, O'Grady CB, **Mazerolle EL**, Patel R, Bernstein CN, Fisk JD, Marrie RA, Figley CR, CCOMS Study Group (accepted): Multiple sclerosis white matter damage disproportionately targets intrinsic brain networks. *ACTRIMS Forum*.
4. *Keenan HE, Czippel A, Heydari S, Gawryluk JR, **Mazerolle EL** (2023): Functional connectivity differences between SuperAgers and normal agers: an unsuccessful replication. *2023 Annual Meeting of the Organization for Human Brain Mapping*, #2952

5. Rockel CP, Scott S, **Mazerolle EL**, Pichardo S, Martino D, Sankar T, Kiss ZHT, Pike GB (2023): Differential lesion volume progression following MR-guided focused ultrasound thalamotomy for essential tremor. *2023 Scientific Meeting of the International Society for Magnetic Resonance in Medicine,* #4714.

6. Beaudin AE, McCreary CR, Chen CH, **Mazerolle EL**, Gee M, Sharma B, Frayne R, Ismail Z, Beaulieu C, Camicioli R, Pike GB, Smith EE (2022): Relationship between brain structural connectome and cerebrovascular reactivity in cerebral amyloid angiopathy. *8th International Cerebral Amyloid Angiopathy Conference* (Perth, Australia).

7. Beaudin AE, McCreary CR, **Mazerolle EL**, Gee M, Sharma B, Subotic A, Zwiers A, Cox E, Nelles K, Charlton A, Frayne R, Ismail Z, Beaulieu C, Jickling GC, Camicioli R, Pike GB, Smith EE (2020): Spatial differences in cerebrovascular reactivity to carbon dioxide between patients with cerebral amyloid angiopathy (CAA) and healthy controls. *7th International Cerebral Amyloid Angiopathy Conference*.

8. Beaudin AE, McCreary CR, **Mazerolle EL**, Sharma B, Subotic A, Zwiers A, Cox E, Charlton A, Frayne R, Ismail Z, Pike GB, Smith EE (2020): Relationship between cerebrovascular reactivity to carbon dioxide and cognitive function in cerebral amyloid angiopathy. *7th International Cerebral Amyloid Angiopathy Conference*.

9. Housh S, Beaudin AE, McCreary CR, **Mazerolle EL**, Sharma B, Subotic A, Zwiers A, Cox E, Charlton A, Frayne R, Ismail Z, Pike GB, Smith EE (2020): Cerebrovascular reactivity to carbon dioxide in patients with cerebral amyloid angiopathy and Alzheimer's disease. *7th International Cerebral Amyloid Angiopathy Conference*.

10. Ma Y, **Mazerolle EL**, Cho J, Sun H, Wang Y, Pike GB (2020): Quantification of brain oxygen extraction fraction (OEF) using QSM and a hyperoxic challenge. *26th Annual Meeting of the Organization for Human Brain Mapping* (virtual conference).

11. Pirzada S, Uddin N, Figley TD, Kornelsen J, Puig J, Marrie RA, **Mazerolle EL**, Fisk JD, Helmick CA, O'Grady CB, Patel R, Figley CR, CCOMS Study Group (2020): Differences between brain MRI spatial normalization approaches in the presence of MS pathologies. *Americans Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum* (West Palm Beach, USA).

12. Pirzada S, Uddin N, Patel R, Fisk JD, Figley TD, Kornelsen J, Marrie RA, **Mazerolle EL**, Helmick CA, O'Grady CB, Puig J, Figley CR, CCOMS Study Group (2020): Network-based measures of white matter microstructure reflect individual differences in executive function among persons with MS. *ACTRIMS Forum* (West Palm Beach, USA).

13. Specht JL, Williams RJ, **Mazerolle EL**, Pike GB (2019): Hypercapnic normalization to correct for caffeine-induced changes in task-based BOLD fMRI responses. *27th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

14. Ma Y, Sun H, Cho J, **Mazerolle EL**, Wang Y, Pike GB (2019): Whole-brain OEF quantification: a comparison study between QSM and dual-gas calibrated BOLD. *27th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

15. Sun H, MacDonald ME, **Mazerolle EL**, Sabourin K, Pike GB (2019): Localization of GPi for MRgFUS pallidotomy: a comparison between high-resolution FGATIR, R2*, and QSM at 3 T. *27th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

16. *Seasons GM, **Mazerolle EL**, Warwaruk-Rogers R, Romo P, Sankar T, Martino D, Kiss ZHT, Pichardo S, Pike GB (2019): Predicting high intensity focused ultrasound thalamotomy lesions using magnetic resonance thermometry and 3D Gaussian modelling. *International Society for Therapeutic Ultrasound Conference* (Barcelona, Spain).

17. *Findlater, SE, **Mazerolle EL,** Pike GB, Dukelow SP (2018): Proprioception after stroke – examining diffusion properties in sensory and motor pathways. *American Society of Neurorehabilitation Annual Meeting* (San Diego, USA).

18. **Mazerolle EL**, Warwaruk-Rogers R, Sevick R, Sankar T, Pichardo S, Zaaroor M, Martino D, Kiss ZHT, Pike GB (2018): MR-guided focused ultrasound for essential tremor: Initial MRI observations. *6th International Symposium on Focused Ultrasound* (Reston, USA).

19. Swytink-Binnema (Weiner) CA, Macsemchuk CA, **Mazerolle EL**, Pike GB, Kiss ZH, Pichardo S (2018): Navigational analysis and sensory responses of MR-guided focused ultrasound thalamotomy: Early results. *6th International Symposium on Focused Ultrasound* (Reston, USA).

20. Beaudin AE, McCreary C, **Mazerolle EL**, Zwiers A, Charlton A, Frayne R, Ismail Z, Pike GB, Smith EE (2018): Blood oxygen level dependent (BOLD) cerebrovascular reactivity to carbon dioxide in patients with cerebral amyloid angiopathy (CAA): a pilot study. *6th International CAA Conference* (Lille, France).

21. Beaudin AE, McCreary C, **Mazerolle EL**, Zwiers A, Charlton A, Frayne R, Ismail Z, Pike GB, Smith EE (2018): Cerebrovascular reactivity to carbon dioxide in patients with cerebral amyloid angiopathy: preliminary data from the functional assessment of vascular reactivity to $CO_2$ study (FAVR$CO_2$). *International Conference on Promoting Healthy Brain Aging and Preventing Dementia* (Banff, Canada).

22. Mayo CD, **Mazerolle EL**, Ritchie LJ, Fisk JD, Gawryluk JR (2018): Is white matter microstructure in Alzheimer's disease associated with cognitive function? *International Neuropsychological Society* (Prague, Czech Republic).

23. Williams RJ, Specht J, MacDonald ME, Lebel RM, **Mazerolle EL**, Pike GB (2018): Accounting for vascular reactivity to clarify the role of the subcortical regions in attention. *24th Annual Meeting of the Organization for Human Brain Mapping* (Singapore), #1761.

24. Clark CM, **Mazerolle EL**, Hill M, Hogan DB, Pike GB, Poulin MJ (2017): Aerobic exercise and white matter integrity in the aging brain. *Canadian Stroke Congress* (Calgary, Canada).

25. Auclair-Ouellet N, Hanganu A, **Mazerolle EL**, Sarna J, Kibreab M, Cheetham J, Kathol I, Haffenden A, Pike GB, Monchi O (2017): Action verbal fluency is related to the functional integrity of the cognitive cortico-striatal loop in Parkinson's disease. *21st International Congress of Parkinson's Disease and Movement Disorders* (Vancouver, Canada).

26. Mayo CD, **Mazerolle EL**, Ritchie LJ, Fisk JD, Gawryluk JR (2017): Relationship between DTI metrics, executive function, and memory in Alzheimer's and older adults. *23rd Annual Meeting of the Organization for Human Brain Mapping* (Vancouver, Canada).

27. Scarapicchia V, **Mazerolle EL**, Fisk JD, Gawryluk JR (2017): BOLD variability in Alzheimer's disease: a marker of cognitive decline or cerebrovascular status? *23rd Annual Meeting of the Organization for Human Brain Mapping*, #1767 (Vancouver, Canada).

28. Berman AJL, **Mazerolle EL**, MacDonald ME, Blockley NP, Luh W-M, Pike GB (2017): Correcting for imperfect spin echo refocusing in gas-free fMRI calibration. *25th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Honolulu, USA).

29. Bright MG, **Mazerolle EL**, Sobczyk O, Fan AP, van Osch MJP, Mark CI, Huber L, Berman AJL, Bulte DP, Pike GB, Gauthier CJ, Blockley NP (2017): Clinical mapping of cerebrovascular reactivity using MRI: a framework for reaching consensus. *25th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Honolulu, USA).

30. *Bird JE, **Mazerolle EL**, Luh W-M, Pike GB (2016): Calibrated functional magnetic resonance imaging of the motor cortex in multiple sclerosis. *22nd Annual Meeting of the Organization for Human Brain Mapping* #2912 (Geneva, Switzerland).

31. MacDonald ME, Berman AJL, **Mazerolle EL**, Williams RJ, Pike GB (2016): Modeling resting cerebral perfusion from BOLD signal dynamics during hyperoxia. *24th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* #1700 (Singapore).

32. Mayo C, **Mazerolle EL**, Ritchie L, Fisk JD, Gawryluk JR (2016): An investigation of the relationship between microstructural white matter and cognitive performance in Alzheimer's disease. *Canadian Psychological Association 77th Annual Convention* #13429 (Victoria, Canada).

33. Mayo C, **Mazerolle EL**, Ritchie L, Fisk JD, Gawryluk JR (2016): Longitudinal microstructural white matter changes in Alzheimer's disease. *22nd Annual Meeting of the Organization for Human Brain Mapping* #2912 (Geneva, Switzerland).

34. **Mazerolle EL**, Beaudin AE, Basha AM, Poulin MJ, Pike GB (2016): BOLD-CVR, CBF, and functional connectivity changes associated with a six-month aerobic exercise intervention in older adults: Results from the Brain in Motion study. *International Conference for Promoting Healthy Brain Aging and Preventing Dementia* (Banff, Canada).

35. **Mazerolle EL**, *McLean MA, Williams RJ, Berman AJL, Luh W-M, Pike GB (2016): Revisiting the effect of visual attention on the flow-metabolism ratio. *22nd Annual Meeting of the Organization for Human Brain Mapping* #1712 (Geneva, Switzerland).

36. Scarapicchia V, **Mazerolle EL**, Ritchie L, Fisk JD, Gawryluk JR (2016): Resting-state BOLD variability in Alzheimer's disease versus normal aging. *22nd Annual Meeting of the Organization for Human Brain Mapping* #1726 (Geneva, Switzerland).

37. Williams RJ, **Mazerolle EL**, MacDonald ME, Luh W-M, Pike GB (2016): Positive and negative BOLD and CBF responses across the early visual regions. *22nd Annual Meeting of the Organization for Human Brain Mapping* #2732 (Geneva, Switzerland).

38. MacDonald ME, Berman AJL, Williams RJ, **Mazerolle EL**, Pike GB (2015): Blood oxygen level dependent (BOLD)-quantitative susceptibility mapping (QSM) with different head orientations. *23rd Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Toronto, Canada).

39. Mayo C, Frazier J, **Mazerolle EL**, Ritchie L, Fisk JD, Gawryluk JR (2015): Grey and white matter changes in Alzheimer's disease compared to normal aging. *21st Annual Meeting of the Organization for Human Brain Mapping* (Honolulu, USA).

40. **Mazerolle EL**, Ma Y, Sinclair D, Pike GB (2015): Task-dependent neurovascular uncoupling in Moyamoya disease. *23rd Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Toronto, Canada) #2820.

41. Ragot DM, **Mazerolle EL**, Chen JJ (2015): Investigating task-based activation and functional connectivity in the white matter using fMRI at 3 Tesla. *23rd Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Toronto, Canada).

42. **Mazerolle EL**, La Piana R, Tampieri D, Mok K, Cortes M, Klein D, Pike GB (2014): Atypical BOLD fMRI response is co-localized with abnormal resting perfusion in patients with arteriovenous malformations. *22nd Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Milan, Italy) #2035.

43. **Mazerolle EL**, Ma Y, Yan L, Wang JJ, Pike GB (2014): Physiological noise correction and repeatability of BOLD cerebrovascular reactivity measurement. *20th Annual Meeting of the Organization for Human Brain Mapping* (Hamburg, Germany) #2018.

44. Wojtowicz MA, **Mazerolle EL**, Fisk JD (2014): Attention network efficiency and performance variability is associated with white matter microstructure in persons with multiple sclerosis. *2014 Joint Annual ACTRIMS-European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) Meeting* (Boston, USA).

45. Wojtowicz MA, **Mazerolle EL**, Omisade A, Fisk JD (2014): Performance variability is associated with white matter integrity in persons with Multiple Sclerosis. *International Neuropsychological Society 42nd Annual Meeting* (Seattle, USA).

46. Stikov N, Giorgio A, Campbell JSW, **Mazerolle EL**, De Stefano N, Pike GB (2013): Magnetization transfer ratio tractometry in multiple sclerosis. *21st Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Salt Lake City, USA) #4846.

47. **Mazerolle EL**, Wojtowicz MA, Omisade A, Fisk JD (2012): Microstructural correlates of information processing speed in relapsing-remitting multiple sclerosis: a tract-based spatial statistics study of the computerized test of information processing. *42nd Annual Meeting of the Society for Neuroscience* (New Orleans, USA).

48. Patterson SA, **Mazerolle EL**, Beyea SD, Bowen CV (2012): Whole-brain artefact-suppressed SSFP fMRI in a single paradigm run: alternating SSFP. *20th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Melbourne, Australia).

49. Wojtowicz MA, **Mazerolle EL**, Fisk JD (2012): Resting-state connectivity in the default mode network is related to performance variability in multiple sclerosis. *3rd Biennial Conference on Resting State Brain Connectivity* (Magdeburg, Germany).

50. **Mazerolle EL**, Bowen CV, DeBay DR, Feindel KW, Rioux JR, Semba K, Rasmusson D, D'Arcy RCN (2011): Hemodynamic changes can be detected in rat white matter using a hypercapnic challenge. *19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

51. **Mazerolle EL**, Brewer KD, Beyea SD, Gawryluk JR, Bowen CV, DeBay DR, Feindel KW, Rioux JR, Semba K, Rasmusson D, D'Arcy RCN (2011): Hemodynamic changes in white matter during a breath-hold task do not result from partial volume effects: Implications for white matter fMRI. *17th Annual Meeting of the Organization for Human Brain Mapping* (Quebec City, Canada).

52. Gawryluk JR, **Mazerolle EL**, Beyea SD, D'Arcy RCN (2011): White matter fMRI: linking advances in research with neuropsychological measures. *17th Annual Meeting of the Organization for Human Brain Mapping* (Quebec City, Canada).

53. Holland D, Liu C, **Mazerolle EL**, Song X, Stevens MTR, Bowen CV, Sederman A, Gladden L, Beyea SD (2011): Compressed sensing reconstruction improves variable density spiral functional MRI. *19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

54. Holland D, Liu C, **Mazerolle EL**, Song X, Stevens MTR, Bowen CV, Sederman A, Gladden L, Beyea SD (2011): Highly sparse spiral fMRI reconstructed with compressed sensing: Trajectory optimization for BOLD contrast. *19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Montreal, Canada).

55. D'Arcy RCN, Gawryluk JR, Song X, **Mazerolle EL**, Beyea SD, Clarke D (2010): White matter fMRI in a callosotomy patient. *16th Annual Meeting of the Organization for Human Brain Mapping* (Barcelona, Spain).

56. Gawryluk JR, Dillen K, Brewer KD, **Mazerolle EL**, Beyea SD, D'Arcy RCN (2009): Exploring functional differentiation in the corpus callosum using white matter fMRI. *15th Annual Meeting of the Organization for Human Brain Mapping* (San Francisco, USA).

57. Gawryluk JR, Dillen K, Brewer KD, **Mazerolle EL**, Beyea SD, D'Arcy RCN (2009): White matter fMRI: exploring functional differentiation in the corpus callosum. *17th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Honolulu, USA).

58. **Mazerolle EL**, Gawryluk JR, Brewer KD, D'Arcy RCN, Bowen CV, Beyea SD (2009): Co-localization of white matter fMRI activation and tractography in the corpus callosum. *15th Annual Meeting of the Organization for Human Brain Mapping* (San Francisco, USA).

59. D'Arcy RCN, **Mazerolle EL**, *Pelot N (2008): Tracking inter-hemispheric transfer with high-density event-related brain potentials. *14th Annual Meeting of the Organization for Human Brain Mapping* (Melbourne, Australia).

60. Marchand Y, D'Arcy RCN, *Versteeg V, **Mazerolle EL** (2008): Profiling brain function for source imaging in EEG and MEG: a similarity ranking method for evaluating individual activation. *14th Annual Meeting of the Organization for Human Brain Mapping* (Melbourne, Australia).

61. Marchand Y, *Versteeg V, D'Arcy, RCN, **Mazerolle EL**, Stroink G (2008): A similarity ranking method for evaluating EEG/MEG source localization maps in both sensory and cognitive tasks. *16th International Conference on Biomagnetism* (Sapporo, Japan).

62. **Mazerolle EL**, D'Arcy RCN, Song X, Beyea SD (2008): Detecting fMRI activation in white matter: interhemispheric transfer of functionally lateralized stimuli across the corpus callosum. *14th Annual Meeting of the Organization for Human Brain Mapping* (Melbourne, Australia).

63. **Mazerolle EL**, D'Arcy RCN (2007): Characterizing the relationship between block and fast event-related fMRI activation using a mixed design. *13th Annual Meeting of the Organization for Human Brain Mapping* (Chicago, USA).

64. **Mazerolle EL**, D'Arcy RCN, Bowen CV, Beyea SD (2007): Can high field functional MRI detect interhemispheric transfer of visual and motor information? *15th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Berlin, Germany).

65. **Mazerolle EL**, D'Arcy RCN, *Cameron-Vendrig J, Beyea SD (2007): Tracking the spatiotemporal dynamics of visual and motor interhemispheric transfer: a multimodal study of functional connectivity. *13th Annual Meeting of the Organization for Human Brain Mapping* (Chicago, USA).

66. D'Arcy RCN, Bolster RB, Ryner L, **Mazerolle EL** (2005): Functional MRI evaluates temporal lobe function during a picture-word matching task. *45th Annual Meeting of the Society for Psychophysiological Research* (Lisbon, Portugal).
67. D'Arcy RCN, Bolster RB, Ryner L, Runke DS, Song X, **Mazerolle EL** (2005): Hidden pattern identification in fMRI: what's in the posterior parietal lobe? *13th Scientific Meeting of the International Society for Magnetic Resonance in Medicine* (Miami Beach, USA).
68. **Mazerolle EL**, D'Arcy RCN, Bolster RB (2005): Electrophysiological correlates of visual object recognition. *45th Annual Meeting of the Society for Psychophysiological Research* (Lisbon, Portugal).
69. **Mazerolle EL**, D'Arcy RCN, Connolly JF, Service E, Ryner L (2005): An event-related fMRI study of orthography and phonology in silent reading. *45th Annual Meeting of the Society for Psychophysiological Research* (Lisbon, Portugal).

### *Non-Refereed Abstracts (podium presentations)*

1. **Mazerolle EL**, Warwaruk-Rogers R, Sevick R, Sankar T, Pichardo S, Zaaroor M, Martino D, Kiss ZHT, Pike GB (2018): MR-guided focused ultrasound for essential tremor: initial MRI observations. *Movement Disorders NeuroTeam Collaboration Retreat*, University of Calgary.
2. **Mazerolle EL**, La Piana R, Tampieri D, Mok K, Cortes M, Klein D, Pike GB (2013): Pre-treatment BOLD fMRI mapping results can be misleading in patients with abnormal hemodynamics: improving interpretability with arterial spin labeling perfusion MRI. *Denis Melançon Neuroradiology Conference*, Montreal Neurological Institute.
3. **Mazerolle EL**, La Piana R, Tampieri D, Mok K, Cortes M, Klein D, Pike GB (2013): Interpreting pre-treatment fMRI mapping results in patients with abnormal cerebral perfusion. *Neurosurgery Research Day*, Montreal Neurological Institute.
4. **Mazerolle EL**, Gawryluk JR, Dillen K, Beyea SD, D'Arcy RCN (2012): Understanding why white matter fMRI is scarcely reported: sensitivity to white matter activation increases with field strength. *Psychology and Neuroscience 38th Annual Graham Goddard In-House Conference*, Dalhousie University.
5. **Mazerolle EL**, Gawryluk JR, Dillen K, Brewer KD, D'Arcy RCN, Bowen CV, Beyea SD (2009): Co-localization of white matter fMRI activation and DTI tractography in the corpus callosum. *Annual Research Day*, Department of Diagnostic Radiology, Dalhousie University.
6. **Mazerolle EL**, Marchand Y, Keselj V (2009): Classification of keystroke dynamics. *Annual In-House Conference*, Psychology Department, Dalhousie University.
7. **Mazerolle EL**, Song X, Brewer KD, Beyea SD, D'Arcy RCN (2008): Functional MRI in white matter: experimental evidence at 4T. *Annual Research Day*, Department of Diagnostic Radiology, Dalhousie University.
8. **Mazerolle EL**, D'Arcy RCN (2007): Determining neuro-cognitive connectivity: an event-related fMRI study at 4T. *Annual In-House Conference*, Psychology Department, Dalhousie University.

### *Non-Refereed Abstracts (poster presentations)*

1. *Bright-Doucette H, Phelps J, Becker S, Guan DX, Dorzdowska BA, Smith EE, *Mazerolle EL* (2024) Enhancing Cultural relevancy in a video series on vascular cognitive impairment: A study in We'koqma'q First Nation. *National Gathering of Graduate Students*, Vancouver, Canada.
2. *Casey H, **Mazerolle EL**, Gawryluk JR (2024) Vascular brain health in Veterans with traumatic brain injury and post-traumatic stress disorder: a project outline. *VAST Conference*, Banff, Canada.
3. Becker S, Dompe B, Hykaway W, Kelly CA, Monaghan JM, Norman M, Drozdowska BA, Guan DX, Badhwar A, **Mazerolle EL**, Phelps J, Smith EE (2024) Understanding diverse perspectives on an educational video intended to raise awareness and knowledge of vascular cognitive impairment. *VAST Conference*, Banff, Canada.
4. *Oleksiuk C, *Abalaesi ID, *Biard M, Housni I, Badhwar A, **Mazerolle EL** (2023) Systematically evaluating VCID-related YouTube videos – English version. *VAST Conference*, Montreal, Canada.
5. Phelps J, Hykaway W, Oleksiuk C*, Badhwar A, Smith EE, **Mazerolle EL** (2023) Vascular cognitive impairment knowledge translation video project: definition, early symptoms, and diagnosis. *VAST Conference*, Montreal, Canada.
6. **Mazerolle EL**, Pike GB (2014): Quantitative fMRI of disrupted brain metabolism in multiple sclerosis. *Alberta endMS Retreat*, Banff, Alberta.
7. **Mazerolle EL**, Ma Y, Yan L, Wang JJ, Pike GB (2014): Physiological noise correction and repeatability of BOLD cerebrovascular reactivity measurement. *10th Annual Hotchkiss Brain Institute Research Day*, University of Calgary.
8. **Mazerolle EL**, La Piana R, Tampieri D, Mok K, Cortes M, Klein D, Pike GB (2014): Atypical BOLD fMRI response is co-localized with abnormal resting perfusion in patients with arteriovenous malformations. *4th Alberta Imaging Symposium*, Edmonton, Canada.
9. **Mazerolle EL**, Wojtowicz MA, Omisade A, Fisk JD (2012): White matter microstructural correlates of cognitive deficits in multiple sclerosis. *3rd Annual University of Toronto Neuroinflammation Symposium & endMS Regional Research and Training Network Retreat*, King City, Canada.
10. **Mazerolle EL**, D'Arcy RCN, Bolster RB (2006): Event-related potential methods for evaluating functional status in epilepsy. *Annual In-House Conference*, Psychology Department, Dalhousie University.

### *Reports*

1. *Kawaja N, *Draper E, Barker C, **Mazerolle EL** (2022): *Budding journalism: an exploration of zine creation and its benefits among children through the use of Pressto*. Prepared for Pressto.

## Invited Talks and Panels

19 Oct 2023 Sino-American White Matter fMRI Symposium (virtual)
*White matter fMRI: Early work*

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| 9 Feb 2023 | Advanced Medical Imaging Seminar Series, University of Calgary (virtual)<br>*fMRI: Reproducibility and Rigor* |
| 21 Mar 2023 | Science Atlantic Sessions for All (virtual)<br>*Hack a Hackathon Template* (co-presenter with Dr. Erin Austen, StFX)<br>https://scienceatlantic.ca/news/science-atlantic-sessions-for-all-hack-a-hackathon-template/ |
| 26 Oct 2022 | Maple League Better Together presenter (virtual)<br>*Open Educational Resources*<br>https://www.youtube.com/watch?v=e0T22u8HJ_M&t=1s |
| 13 Oct 2022 | St. Francis Xavier University Biology Seminar Series<br>*Incisionless Brain Surgery: High Intensity Focused Ultrasound for Essential Tremor* |
| 5 May 2022 | Science Atlantic Undergraduate Psychology Conference (virtual)<br>*Incisionless Brain Surgery* (keynote presentation) |
| 18 Aug 2021 | Presenter, *Introduction to Open Educational Resources Workshop* (virtual)<br>St. Francis Xavier University |
| 17 Aug 2021 | Panel member, Open Educational Resources grant kick-off event (virtual),<br>Cape Breton University |
| 15 Jan 2021 | Department of Psychology, University of Victoria<br>*MR-guided focused ultrasound for tremor: Impact on brain microstructure* |
| 24 Sep 2020 | Facilitator, *Community Check-In and Reflection* (with Drs. Erin Austen and Angie Kolen)<br>Maple League Virtual Teaching and Learning Centre |
| 6 Feb 2019 | Department of Psychology, St. Francis Xavier University (Antigonish, Nova Scotia)<br>*Neurovascular underpinnings of functional brain connectivity and neurological disease: an MRI perspective* |
| 18 Oct 2018 | Advanced Imaging Seminar Series, University of Calgary<br>*MR-guided focused ultrasound thalamotomy for tremor: Initial MRI observations* |
| 10 Aug 2017 | Department of Pharmacology and Therapeutics, University of Manitoba (Winnipeg)<br>*Neurovascular underpinnings of functional brain connectivity and neurological disease: an MRI perspective* |
| 19 Apr 2016 | Active Living for Healthy Brains: A Community Engagement Event (Calgary)<br>*BOLD-CVR, CBF, and functional connectivity changes associated with a six month aerobic exercise intervention in older adults* |
| 2 Jun 2015 | International Imaging Cerebral Physiology Network Symposium (Toronto)<br>*Task-dependent neurovascular (un)coupling in moyamoya disease: implications for $CO_2$ reactivity studies* |
| 26 Jun 2014 | Department of Psychology, University of Victoria<br>*Disentangling blood supply and brain function in cerebrovascular disease using quantitative functional MRI* |

3 Jun 2014 — 4th Alberta Imaging Symposium (Edmonton)
*Disentangling blood supply from brain function: advanced fMRI techniques applied to cerebrovascular disease*

12 Apr 2012 — Atlantic endMS Regional Research and Training Centre Journal Club (Halifax)
*Brain connectivity and cognitive function in multiple sclerosis*
Co-presented with Magdalena Wojtowicz

16 May 2011 — Brain Imaging Centre lecture series, Montreal Neurological Institute
*Can fMRI detect activation in white matter?*

9 Feb 2010 — Kanwisher lab meeting, Massachusetts Institute of Technology
*White matter fMRI*

15 Jun 2007 — Seminar series, Institute for Biodiagnostics, NRC (Winnipeg, Manitoba)
*Can multimodal brain imaging detect interhemispheric transfer?*

## Research-Related Training Courses and Certifications

2022 — Module for Sex and Gender in the Analysis of Secondary Data
CIHR Institute for Gender and Health

2022 — Implicit Bias Training for Peer Reviewers
CIHR

2014 — Level 2 MRI operator
Seaman Family MRI Research Centre, University of Calgary

2013, 2023 — Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)

2013 — RespirAct™ Training & Certification Course (gas manipulations and end-tidal measurements)
Thornhill Research Inc., Toronto

2008 — FSL Course (MRI data analysis)
Queensland Brain Institute, University of Queensland

2005 — BrainVision User Workshop (EEG data analysis)
Lisbon, Portugal

## Awards and Honours

### *Faculty Awards*

2023-2025 — Jules Léger Scholar, St. Francis Xavier University (teaching release for research)

2023 — President's Research Award, St. Francis Xavier University

2023 — Nominated for the Outstanding Teaching Award, St. Francis Xavier University

2022 — Finalist in the Emerging Professional category, Discovery Centre Awards

2021-2024 — St. Francis Xavier University Research, Publication, or Teaching Award

### *Postdoctoral Fellowships*

2016-2017 Alberta Innovates-Health Solutions Postgraduate Fellowship

2014-2016 Alberta Innovates-Health Solutions Postgraduate Fellowship (incentive program)

2014-2016 NSERC Postdoctoral Fellowship

2014-2016 NSERC Collaborative Research and Training Experience (CREATE) International and Industrial Imaging Training (I3T) Fellowship

2014 Multiple Sclerosis Society of Canada Postdoctoral Fellowship (declined)

2012-2013 Canadian Imperial Bank of Commerce Fellowship in Brain Imaging

### *Graduate Scholarships*

2010-2011 Izaak Walton Killam Predoctoral Scholar (2 x $25 000)

2008-2010 NRC Graduate Student Scholarship Supplement – Doctoral (3 x $7 500)

2009-2010 President's Award – Dalhousie University ($12 039)

2008-2009 NSERC Alexander Graham Bell Canada Graduate Scholarship – Doctoral (2 x $35 000)

2008 L'Oréal-UNESCO "For Women in Science" Mentor Fellowship ($5 000)

2008 Molly Neuroscience Traineeship – Dalhousie University ($8 000)

2006-2007 NSERC Post-Graduate Scholarship – Masters ($17 300)

2005-2009 Honorary Izaak Walton Killam Predoctoral Scholar ($2 700)

2005-2007 NRC Graduate Student Scholarship Supplement – Masters (2 x $5 000)

2005-2006 Julie Payette NSERC Graduate Research Scholarship ($25 000)

2005 D.O. Hebb Post-Graduate Prize ($1 000)

### *Graduate School Honours*

2011 Top student poster (white matter study group) – 19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine

2009 Fellow of the Summer Institute in Cognitive Neuroscience University of California, Santa Barbara

2008 Top 80 Women to Watch – Chatelaine Magazine

2007 Canadian Psychological Association Certificate of Academic Excellence – Masters Thesis

### *Travel and Conference Registration Awards*

2016 Travel award - 2016 International Conference for Promoting Healthy Brain Aging and Preventing Dementia ($350)

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|---|---|
| 2014 | Educational Stipend – 22nd Scientific Meeting of the International Society for Magnetic Resonance in Medicine ($445 USD) |
| 2014 | Hotchkiss Brain Institute REALISE (Research, Education and Leadership in Neuroscience) External Module Registration funding ($500) |
| 2012 | Atlantic endMS Regional Research and Training Centre Trainee Travel Award ($1 993) |
| 2011 | Dalhousie Association of Graduate Students Travel Grant ($100) |
| 2011 | Educational Stipend – 19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine ($450 USD) |
| 2010 | Trainee Abstract Award – 16th Annual Meeting of the Organization for Human Brain Mapping ($600 USD) |
| 2009 | Nova Scotia Health Research Foundation Research Capacity Award ($793) |
| 2008 | Trainee Abstract Award – 14th Annual Meeting of the Organization for Human Brain Mapping ($1 000 USD) |
| 2007-2008 | Dalhousie Faculty of Graduate Studies Travel Grant (2 x $750) |
| 2007 | Educational Stipend – 15th Scientific Meeting of the International Society for Magnetic Resonance in Medicine ($638 USD) |

### *Undergraduate Scholarships and Awards*

| | |
|---|---|
| 2004 | Dalhousie Neuroscience Institute Prize ($300) |
| 2003 | Dalhousie University Lilyan E. White Prize in Neuroscience ($200) |
| 2001-2005 | Dalhousie University renewable entrance scholarship (4 x $5 000) |
| 2001-2005 | Faculty of Science Dean's List |

## Teaching and Mentoring

### *Academic Teaching Summary*

| | |
|---|---|
| Unique courses taught | 8 |
| Courses developed from scratch | 2 |
| Courses with substantial development | 6 |

### *Academic Teaching*

**St. Francis Xavier University**

PSYC 231: Brain and Behaviour I
Instructor, lecture (2024)

PSYC 232: Brain and Behaviour II
Instructor, laboratory (2024); lecture and laboratory (2025)

PSYC 230: Brain and Behaviour (winter semester)
Instructor, lecture and laboratory (2023)

PSYC 384: Selected Topics (Cognitive Neuroscience)
Instructor, lecture (2023, 2024)

PSYC 292: Statistics for Psychology Research
Instructor, lecture & laboratory (2021, 2022)

PSYC 394: Advanced Statistics for Psychology Research
Instructor, lecture & laboratory (2020, 2021, 2022, 2023, 2024)

PSYC 421: Advanced Topics in Cognition (Cognitive Neuroscience)
Instructor, seminar (2021)

PSYC 391/491: Junior and Senior Seminar
Instructor, seminar (2022, 2023)

PSYC 490: Honours thesis
Coordinator (2022-2023, 2023-2024)

**Guest Lectures**

PHYS 250: Medical Imaging, St. Francis Xavier University
Topic: MRI and fMRI (2024)

CSCI 161: Intro to Programming, St. Francis Xavier University
Topic: Neuroscience research (2023, 2 sections)

CSCI 340: Evolutionary Computation, St. Francis Xavier University
Topic: Neuroscience research (2023)

MDSC 689.11: Medical Imaging Applications, University of Calgary
Topic: MRI and fMRI (2016)
Topic: Diffusion MRI (2014)

NEURO 451: Model Systems in Neurobiology, University of Calgary
Topic: MRI and fMRI (2014, 2015)

PSYO/NESC 3137: Research Methods in Cognitive Neuroscience, Dalhousie University
Topic: ERP source localization (2010)

**Lab Instructorships**

PSYO 2000: Methods in Experimental Psychology, Dalhousie University (2008)

**Teaching Assistantships**

PSYO 2501: Statistical Methods, Dalhousie University (2008)
Provided small group and one-on-one support to students during office hours

PSYO/NESC 3137: Research Methods in Cognitive Neuroscience, Dalhousie University (2006)
Led lab activities
Provided small group and one-on-one support to students during office hours

### *Open Educational Resources (OER)*

Currently drafting lab manual for Brain and Behaviour (collaboratively with Sherry Neville-MacLean)

Edited first draft of Cognitive Neuroscience (collaboratively written with the students of PSYC 384)

Adapted Answering Questions with Data textbook

Adapted and added content to Answering Questions with Data lab manual

Tailored Answering Questions with Data lab manual for PSYC 394

Contributed to Data Management Syllabus

Contributed to Decentering Whiteness within Research Methods Courses

### *Trainee and Highly Qualified Personnel Supervision*

**Postdoctoral researchers**

2024-present Dr. J. Payne
Psychology, St. Francis Xavier University

**Master's students**

2023-present H. Casey, **VAST Scholar** (co-supervision with Dr. Jodie Gawryluk)
Psychology, University of Victoria

2014-2016 J. Bird (co-supervision with Dr. Bruce Pike)
Medical Sciences, University of Calgary
*Subsequent MD at the University of Calgary*

**Honours students**

2024-2025 C. MacDonald
Computer Science, St. Francis Xavier University

2023-2024 C. Oleksiuk
Health, St. Francis Xavier University

2022-2023 E. Draper
Psychology, St. Francis Xavier University
*Currently a graduate student in neuroscience at McGill*

2022-2023 H. Burgess (co-supervision with Dr. Conor Barker)
Psychology and Neuroscience, Dalhousie University

Summer 2022 H. Keenan
Psychology, St. Francis Xavier University
*Currently enrolled in the clinical neuropsychology graduate program at the University of Victoria*

2020-2021 K. Isenor (co-supervision with Dr. Conor Barker)
Psychology, St. Francis Xavier University
*Recently completed a BEd, Acadia University*

**Directed study students**

2024-2025 H. Bright-Doucette
*Cultural relevancy of a series of educational videos about vascular cognitive impairment*

| | |
|---|---|
| Fall 2024 | A. Hubbard<br>*Normative data collection to enable the study of SuperAgers in the Canadian Longitudinal Study on Aging* |
| Fall 2024 | A. MacGillivray and C. MacDougall<br>*Impact of open pedagogy: School psychology sample* |
| Winter 2024 | A. MacGillivray, C. MacDougall, and E. Beck<br>*Impact of open pedagogy: Cognitive neuroscience sample* |
| Fall 2023 | V. Adams<br>*Neurophysiology* |
| Fall 2022 | C. Oleksiuk<br>*Systematic review of YouTube videos on vascular cognitive impairment* |
| Winter 2022 | E. Draper<br>*Reproducible MRI research* |

**Summer research students**

| | |
|---|---|
| 2024 | C. Oleksiuk, **Irving Oil Research Mentorship Award** (co-supervision with Dr. Sebastian Harenberg)<br>Health, St. Francis Xavier University |
| 2024 | C. MacDonald, **Irving Oil Research Mentorship Award** (co-supervision with Dr. Laura Estill and Kaitlin Fuller)<br>Computer Science, St. Francis Xavier University |
| 2024 | L. Gosse, **NSERC Undergraduate Summer Research Award**<br>Health, St. Francis Xavier University |
| 2024 | G. Polomski, **VAST Undergraduate Scholar** (co-supervision with Dr. Jodie Gawryluk, University of Victoria)<br>Biology, St. Francis Xavier University |
| 2023 | C. Oleksiuk, **Scotia Scholars Award** (co-supervision with Dr. Sebastian Harenberg)<br>Health, St. Francis Xavier University |
| 2023 | B. Florence, **VAST Experiential Learning Stipend** (placement: RK MacDonald Nursing Home)<br>Health, St. Francis Xavier University |
| 2023 | L. Bessai, **VAST Undergraduate Scholar** (co-supervision with Dr. Steffany Bennett, University of Ottawa)<br>University of Ottawa |
| 2022 | E. Draper (co-supervision with Dr. Conor Barker)<br>Psychology, St. Francis Xavier University |
| 2022 | H. Burgess (co-supervision with Dr. Conor Barker)<br>Psychology and Neuroscience, Dalhousie University |
| 2022 | S. Kenny (co-supervision with Dr. Conor Barker)<br>Education, St. Francis Xavier University |

2022 C. Oleksiuk, **VAST Patient Engagement Stipend** (co-supervision with Dr. AmanPreet Badhwar, Université de Montréal)
Health, St. Francis Xavier University

2022 D. Abalasei, **VAST Patient Engagement Stipend** (co-supervision with Dr. AmanPreet Badhwar, Université de Montréal)
Université de Montréal

2022 M. Biard, **VAST Patient Engagement Stipend** (co-supervision with Dr. AmanPreet Badhwar, Université de Montréal)
Université de Montréal

2022 H. Bright-Doucette, **VAST Experiential Learning Stipend** (placement: We'koqma'q First Nation Health Centre)
Psychology, St. Francis Xavier University

2021 T. Pye
Psychology, St. Francis Xavier University

2021 H. Keenan, **Scotia Scholars Award**
Psychology, St. Francis Xavier University

2021 K. Isenor (co-supervision with Dr. Conor Barker)
Psychology, St. Francis Xavier University

2014 A. Kuczynski (co-supervision with Dr. Bruce Pike)
University of Calgary

**Co-op students (engineering)**

2019 H. Cooke (co-supervision with Dr. Bruce Pike)
University of Calgary

2018-2019 G. Seasons (co-supervision with Dr. Bruce Pike; one year term)
University of Calgary

2018 M. Taylor (co-supervision with Dr. Bruce Pike)
University of Calgary

**Research assistants and technicians**

2024-present A. Chaudhary, Research Project Manager
Psychology, St. Francis Xavier University

2024 A. Stone, Senior Research Assistant
Psychology, St. Francis Xavier University

2023 E. Stewart-Arsenault, Research Technician
Psychology, St. Francis Xavier University

2023 D. MacLean, BSc Honours (Chemistry), Research Technician
Psychology, St. Francis Xavier University

2022-2024 H. Keenan, BSc, Research Assistant
Psychology, St. Francis Xavier University

2022 E. Levesque BA, Research Assistant
Psychology, St. Francis Xavier University

2021-2022 G. Seasons BEng, Senior Research Assistant
Psychology, St. Francis Xavier University
*Currently completing an MSc in neuroscience at the University of Calgary*

2014-2019 Day-to-day supervision of research assistants in Bruce Pike's lab (M. McCowan, M. McLean, K. Sabourin)
University of Calgary

**Other HQP training and supervision**

2024 S. Neville-MacLean
Content developer for open educational resources
Psychology, St. Francis Xavier University

2022 M. Dysart (co-supervised by Dr. Leanne Stevens)
Content developer for open educational resources
Psychology and Neuroscience, Dalhousie University

2022 N. Kawaja (co-supervised by Dr. Conor Barker)
NRC-IRAP intern
Education, St. Francis Xavier University

2021 S. Neville-MacLean
Content developer for open educational resources
Psychology, St. Francis Xavier University

2015-2019 S. Findlater
I provided diffusion MRI analysis training and mentorship to this PhD student
Neuroscience, University of Calgary

### *Graduate Student Committees*

2024-present L. Elliot, PhD student, Department of Psychology and Neuroscience, Dalhousie University (supervised by Dr. Aaron Newman)

2023-present D. Aminshayanjahromi, MSc committee, Department of Computer Science, St. Francis Xavier University (supervised by Dr. James Hughes)

2023-present N. Saadat, PhD committee, Department of Psychology, University of Victoria (supervised by Dr. Jodie Gawryluk)

2022-present F. St. Peter, master's student (part-time), Department of Computer Science, St. Francis Xavier University (supervised by Dr. Jacob Levman)

2022-2023 L. Elliot, master's student, Department of Psychology and Neuroscience, Dalhousie University (supervised by Dr. Aaron Newman)

2021-2022 N. Saadat, minor comps committee, Department of Psychology, University of Victoria (supervised by Dr. Jodie Gawryluk)

2021-2022 A. Sheriff, master's student, Department of Psychology, University of Victoria (supervised by Dr. Jodie Gawryluk)

2020-2022 A. Omidi, master's student, Department of Computer Science, St. Francis Xavier University (supervised by Dr. James Hughes)

### *External Examiner*

2024 M. Ethier-Gagnon, master's student, Department of Psychiatry, Dalhousie University (supervised by Dr. Sherry Stewart)

### *Other Teaching – University Environment*

2024 Vascular Cognitive Impairment
Summer Seminar Series, Department of Psychology, St. Francis Xavier University

2022 Data Management and Zotero
*I presented these topics to the students participating in the **Educational Psychology Research Institute**, hosted by Dr. Conor Barker*

14 Jun 2016 Presenter, Seaman Family MRI Research Centre safety refresher, University of Calgary

26 Jun 2015 Leader, hands-on workshop for diffusion MRI analysis, Calgary Analysis Workgroup, University of Calgary

15 Jan 2015 Leader, workshop on analysis for BOLD cerebrovascular reactivity data, Calgary Analysis Workgroup, University of Calgary

2014-2019 Trainer for Level 1 and 2 MRI operator certification, Seaman Family MRI Research Centre, University of Calgary

2014-2016 Co-founder and Lead Coordinator of the Calgary Analysis Workgroup, University of Calgary (monthly workshops on data analysis for MRI)

### *Other Teaching – Youth Science Outreach*

2024 Techsploration Team Role Model
*I hosted eight grade 9 girls and two teachers for a day of activities, demos, and job shadowing*

2023 Techsploration Alumnae Conference Mentor (Pictou NSCC)
*I participated in a round-robin, sharing information about my career with ~100 high school girls*

2023 Volunteer, Mi'kmaw Kinamatnewey University Prep Luncheon
*I led neuroscience demos for Mi'kmaw high school students considering attending StFX*

2023 Mentor, X-Chem STEM Outreach Camp, Antigonish
*I worked with the undergraduate researchers in my lab to develop and lead 1-hour neuroscience activities for campers in grades 1-2 and 9-12 (two camps)*

2023, 2024 Faculty lead, Antigonish Brain Bee
*I co-founded and co-organized the Antigonish Brain Bee. Students from PSYC 230 (Brain and Behaviour) contributed to the planning and running of the event as a Service Learning Activity. Eleven high school students from three schools joined us at StFX for a day of fun competition and neuroscience learning. I also visited six classrooms at Dr. John Hugh Gills Regional High School to promote the Brain Bee.*

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| 2023 | Guest speaker, Biology 12, Dr. John Hugh Gills Regional High School<br>*I shared my experience with careers in neuroscience and research and facilitated an activity on the neuroscience of housing instability.* |
| 2022 | Mentor, X-Chem STEM Outreach Camp, Antigonish<br>*I worked with the undergraduate researchers in my lab to develop and lead an afternoon of neuroscience activities for campers in grades 3-4.* |
| 2016 | Guest Speaker and Mentor at youth entrepreneurship and innovation camp, MindFuel, Calgary |
| Spring 2015 | Mentor, Coder Dojo (weekly youth computer programming club), Calgary Public Library |
| 2008-2015 | Guest Speaker and Mentor for elementary, junior, and senior high school science classes (Halifax and Calgary, six events) |
| 2005-2013 | Demonstrator, Tour Guide, and Mentor for youth events in the lab, including Shad Valley, Girl Guides of Canada, and university open houses (Halifax and Montreal, seven events) |
| 2009-2011 | Lead Coordinator (2010-2011) and Volunteer Judge (2009) for Dalhousie University's CIHR Brain Bee |
| 2009-2011 | Youth Outreach Volunteer for Brain Awareness Week, Society for Neuroscience, Halifax Chapter |
| 2006-2010 | Guest Speaker and Mentor at youth science camps and clubs with SuperNOVA at Dalhousie University and Adventures in Engineering and Science, University of Ottawa (six events) |
| 2005-2008 | Founding Leader/Mentor of Industry, Technology and Science (ITS) for GIRLS! SuperNOVA at Dalhousie University<br>*This is a monthly all-girl science and technology adventure club (ages 10-14) that was the winner of the Canadian Women's Foundation Girls' Fund grant.* |
| 2006-2008 | Instructor, Actua science and engineering camps (week-long day camps at Ottawa Boys and Girls Club, Ontario; Charlottetown Boys and Girls Club, Prince Edward Island; Indian Brook First Nation, Nova Scotia; Native Council of Prince Edward Island; Pictou Landing First Nation, Nova Scotia) |
| Fall 2007 | Head Instructor for Actua science clubs, Wabano Aboriginal Health Centre and Ottawa Inuit Children's Centre (Ottawa) |
| 2006 | Lead Organizer, Thinking about Neuroscience with Dr. Roberta Bondar (special youth outreach event for over 120 girls and their parents, Halifax) |

### *Selected Professional Development Related to Teaching*

| | |
|---|---|
| 2024 | Working with and for International Students<br>Diversity Engagement Centre, St. Francis Xavier University |
| 2023 | Certified in Mental Health First Aid for Adults who Interact with Youth (14 hour course) |

| | |
|---|---|
| Nov 2021 | Teaching Retreat: Black Students Matter<br>Teaching and Learning Centre, St. Francis Xavier University |
| 2021-09-02 | Moodle: H5P, Workshop Module, and Media Gallery Module<br>Teaching and Learning Centre, St. Francis Xavier University |
| May 2021 | Teaching Retreat: Mawita'yk Mawkina'masultimk (Come together; learn together)<br>Teaching and Learning Centre, St. Francis Xavier University |
| Spring 2021 | Culturally Responsive Pedagogies Reviewee<br>*The director of the Teaching and Learning Centre and a student consultant audited my course materials and provided feedback and recommendations* |
| 2020-2021 | Mentee in the Guiding Wings Program<br>Teaching and Learning Centre, St. Francis Xavier University |
| 2020-2021 | Various Maple League teaching and learning workshops, including:<br>*Course Planning I: The Story of Your Course* (2020-07-07)<br>*Course Planning II: Constructive Alignment* (2020-07-09)<br>*High-Impact Practices* (2020-07-08)<br>*Anti-Black Racism in Education* (2020-07-16)<br>*First Generation Students* (2020-07-21)<br>*Open Educational Resources* (2021-03-04 and 2021-03-11) |
| Summer 2020 | Participant, Developing Our Courses Together Online Remotely (DOCTOR)<br>Faculty Development Committee, St. Francis Xavier University |
| 2013 | Instructional Skills Workshop (four-day workshop on evidence-based teaching)<br>Teaching and Learning Centre, University of Calgary |

## Professional Activities and Service

### *Professional Associations*

| | |
|---|---|
| 2007-2016, 2021-2022 | Member, Organization for Human Brain Mapping |
| 2014-2015 | Member, University of Calgary Academic Women's Association |
| 2005-2015 | Member, International Society for Magnetic Resonance in Medicine |
| 2012 | Member, Society for Neuroscience |
| 2005 | Member, Society for Psychophysiological Research |

### *Grant Reviewer*

| | |
|---|---|
| 2024 | Dutch MS Research Foundation (1 application) |
| 2024 | Research Nova Scotia (1 application) |
| 2023 | NSERC Discovery Grants (2 applications) |
| 2023 | Mitacs (2 applications) |
| 2022 | New Frontiers in Research Fund (1 application) |

### *Editorial Service*

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|---|---|
| Ad-hoc | Reviewer, Nature Communications (1 article) |
| Ad-hoc | Reviewer, Imaging Neuroscience (2 articles) |
| Ad-hoc | Reviewer, NeuroImage (10 articles) |
| Ad-hoc | Reviewer, Journal of Magnetic Resonance Imaging (5 articles) |
| Ad-hoc | Reviewer, Stroke (1 article) |
| Ad-hoc | Reviewer, Multiple Sclerosis Journal (1 article) |
| Ad-hoc | Reviewer, Science Advances (1 article) |
| Ad-hoc | Reviewer, Human Brain Mapping (1 article) |
| Ad-hoc | Reviewer, Cerebral Cortex (1 article) |
| Ad-hoc | Reviewer, Magnetic Resonance Imaging (1 article) |
| Ad-hoc | Reviewer, PLOS One (1 article) |
| Ad-hoc | Reviewer, Journal of Neuroscience Methods (1 article) |
| Ad-hoc | Reviewer, Frontiers in Neuroinformatics (1 article) |
| Ad-hoc | Reviewer, Frontiers in Physiology (1 article) |
| 2013-2014, 2018 | Abstract reviewer, Annual Meetings of the Organization for Human Brain Mapping |

### *Service to the Professional Community*

| | |
|---|---|
| 2022-present | Member, Executive Committee<br>**Vas**cular Cognitive Impairment **T**raining (VAST) Platform (national, CIHR-funded Health Research Training Platform) |
| 2023 | Reviewer, VAST Postdoctoral Researcher Stipend Selection Committee |
| 2022 | Chair, VAST Summer Student Stipend Selection Committee |
| 2022 | Chair, VAST Graduate Student and Postdoctoral Researcher Stipend Selection Committee |
| 2022 | Member, Science Atlantic Undergraduate Psychology Conference organizing committee<br>*Organized the pre-conference hackathon and led the organization of the career panel event* |
| 2021 | Member, OER Community of Practice, Maple League |
| 2018-09-25 | Attendee, NSERC Athena SWAN workshop (provided feedback on creating a Canadian version of this UK program to address equity, diversity, and inclusion)<br>University of Calgary |

### *University Service*

| | |
|---|---|
| 2024 | Program Evaluation Committee member for one faculty member in Health |

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|---|---|
| 2024 | Reviewer, Summer Student Research Awards (34 science applications), St. Francis Xavier University |
| 2023-2026 | Member, Jules Léger Committee, St. Francis Xavier University |
| 2023-2025 | Secretary, Faculty of Arts, St. Francis Xavier University |
| 2023 | Volunteer, Open House, St. Francis Xavier University |
| 2023 | Reviewer, Summer Student Research Awards (58 science applications), St. Francis Xavier University |
| 2022 | Search committee member, tenure-track position in the Interdisciplinary Health Program, St. Francis Xavier University |
| 2022-2025 | Faculty of Arts representative, Academic Computing Committee, St. Francis Xavier University |
| 2021-2022 | Advisory committee member, Interdisciplinary Health Program, St. Francis Xavier University |
| Summer 2021 | Organizer, Brain Imaging Journal Club (monthly activities), St. Francis Xavier University |
| 2021 | Member, working group to develop a Master's of Health degree at St. Francis Xavier University |
| 2021 | Member, Academic Plan micro-committee, St. Francis Xavier University |
| 2022-03-11 | Attendee, President's Action Committee on Anti-Racism (PACAR) consultation session, St. Francis Xavier University |
| 2020- 2021 | Neighbours Helping Neighbours (COVID-19 isolation support)<br>*Full support volunteer* (delivering groceries, etc., to six students)<br>*Wellness volunteer* (phone check-ins for an additional three students) |
| 2020-2021 | Mentor, first-year student mentorship program, St. Francis Xavier University (two students) |

### *Departmental Service*

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|---|---|
| 2022-present | Graduate school advisor, Department of Psychology, St. Francis Xavier University |
| 2022-present | Honours academic advisor, Department of Psychology, St. Francis Xavier University |
| 2020-2023, | Student achievement coordinator, Department of Psychology, St. Francis Xavier University |
| 2024 | Search committee member, limited term appointment in research methods/cognition, Department of Psychology, St. Francis Xavier University |
| 2023 | Search committee member, lab instructor, Department of Psychology, St. Francis Xavier University |
| 2022 | Search committee member, two tenure-track and three limited term appointments in developmental, social, or health psychology, Department of Psychology, St. Francis Xavier University |

2022-2024 X/Twitter account monitor, Department of Psychology, St. Francis Xavier University

2021-2024 Member, curriculum review committee, Department of Psychology, St. Francis Xavier University
*Conceived of, developed, administered, and analyzed a survey to ensure student voices are incorporated into the ongoing curriculum redesign*

2021-2022 Research ethics committee member, Department of Psychology, St. Francis Xavier University

2021 Search committee member, limited term appointment in social psychology, Department of Psychology, St. Francis Xavier University

2021 Search committee member, limited term appointment in developmental psychology, Department of Psychology, St. Francis Xavier University

2020-2023 Executive committee member, Department of Psychology, St. Francis Xavier University

2020-2023 NSERC representative, Department of Psychology, St. Francis Xavier University

2020-2021 Secretary, Department of Psychology, St. Francis Xavier University

2014-2015 Trainee representative, NSERC CREATE I3T steering committee, University of Calgary

2009-2010 Student representative, Research Ethics Board, Department of Psychology, Dalhousie University

2008-2009 Student representative, Graduate Program Committee, Department of Psychology, Dalhousie University

2005-2006 Student representative, Research Ethics Board, Department of Psychology, Dalhousie University

### *Speaking Engagements, Community Outreach, and Media Events*

2024 Nova Scotia Institute of Science Lecture Series
*Heart Health is Brain Health*
Antigonish, NS

2023, 2024 MayFest Science World
*I led a station with hands-on neuroscience activities for all ages at this fundraiser for the local hospital.*

2021 Pay attention to this: The neuroscience of ADHD
Professional development event for BEd students, St. Francis Xavier University

2016 Adult neuroplasticity: a double-edged sword
Outreach presentation to the staff of Alpha House Society, a Calgary-based housing and addictions non-profit organization

2016 Adult neuroplasticity: a double-edged sword
Outreach presentation to the senior leadership team of the Calgary Urban Project Society (CUPS), an anti-poverty non-profit organization

| | |
|---|---|
| 2016 | The Robot and MRI study<br>Outreach presentation to the Stroke Recovery Association (Calgary) |
| 2014 | Guest Speaker at the Cumming School of Medicine funding announcement, University of Calgary |
| 2014 | Guest Speaker at the Campus Alberta Innovates Program (CAIP) chair announcement for Profs. Bruce Pike and Marc Strous (Calgary) |
| 2010 | Student spokesperson for the Molly Appeal fundraising campaign, Dalhousie Medical Research Foundation |
| 2008 | Guest Speaker at the Canadian Women's Foundation luncheon (Halifax) |
| 2008 | Tour Guide/Demonstrator for the grand opening of the Biomedical MRI Research Laboratory, National Research Council, Halifax (including special guest the Hon. Peter MacKay, Minister of National Defence) |