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## **Dr. Philip Barber**

Correspondence language: English

Sex: Male

Date of Birth: 7/06

Canadian Residency Status: Canadian Citizen

Country of Citizenship: Canada, United Kingdom

## **Contact Information**

The primary information is denoted by (\*)

### **Address**

#### Primary Affiliation (\*)

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Protected when completed

## **Dr. Philip Barber**

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### **Degrees**

- 2001/8 - 2005/8      Doctorate, MD (PhD-equivalent), University of Sheffield  
Degree Status: Completed
- 1986/10 - 1991/7      Bachelor's Equivalent, MB ChB, University of Sheffield  
Degree Status: Completed

### **Credentials**

- 2006/7      Fellow of the Royal College of Physicians of Edin, Royal College of Physicians of Edinburgh
- 2005/5      FRCPC, Royal College of Surgeons and Physicians of Canada
- 2001/10      Certificate of Specialist Training (Neurology), Royal College of Physicians (UK)
- 1995/3      Member of the Royal College of Physicians, Royal College of Physicians (UK)

### **Recognitions**

- 2019/6 - 2019/6      NeuroNexus Team Award for "Best In Category" (Clinical Impact) Technological Advance, University of Calgary  
The University of Calgary
- 2017/10 - 2017/10      Nominated Member of CIHR College Of Reviewers  
Canadian Institute of Health Research
- 2016/9 - 2016/9      President's Excellence Award for Outstanding Achievement in Research - ESCAPE Trial Team  
The University of Calgary
- 2005/11 - 2009/10      Henry JM Barnett Research Scholarship Award  
Heart and Stroke Foundation of Canada
- 2005/9 - 2006/8      University of Calgary Young Innovator Award  
The University of Calgary

### **Employment**

- 2009/4      Associate Professor Neurology  
Clinical Neurosciences, Cumming School of Medicine, University of Calgary, The University of Calgary

## Affiliations

The primary affiliation is denoted by (\*)

(\*) 2009/4 Associate Professor Neurology, Clinical Neurosciences and Radiology, The University of Calgary

## Leaves of Absence and Impact on Research

2011/9 - 2012/8 Sabbatical, University College London  
I spent 12 months at the Dementia Research Centre. I studied the dementia phenotypes, the pathology of canonical disorders, and the research methodologies related to clinical and cognitive outcomes, and the MRI and proteomic biomarkers. Collaborations were subsequently developed with Henrik Zetterberg, Nick Fox and Carol Barnes

## Research Funding History

### Awarded [n=16]

2020/4 - 2025/6  
Co-applicant AmiraSpec: a fluorescence spectroscopy-based method for early detection of AD from blood

**Funding Sources:**  
W. Garfield Weston Foundation  
Weston Brain Institute  
Total Funding - 1,072,743  
Funding Competitive?: Yes  
Co-applicant : Tsutsui, Shigeki;  
Collaborator : Breitner; Camicioli, Richard; Ismail, Sahinoor; Smith, Eric;  
Principal Applicant : Stys, Peter

2021/7 - 2023/6  
Principal Investigator USEED

**Funding Sources:**  
Cumming School of Medicine  
USEED  
Total Funding - 50,000  
Funding Competitive?: Yes

2018/4 - 2023/3  
Co-applicant TEMPO-2 – A randomized controlled trial of TNK-tPA versus standard of care for minor ischemic stroke with proven occlusion

**Funding Sources:**  
Canadian Institutes of Health Research (CIHR)  
Project Scheme  
Total Funding - 2,605,000  
Funding Competitive?: Yes  
Principal Applicant : Shelagh Coutts

2021/9 - 2022/8  
Principal Investigator INOVAIT

**Funding Sources:**  
Sunnybrook Research Fund  
INOVAIT  
Total Funding - 125,000  
Funding Competitive?: Yes

2019/7 - 2022/6 PREVENT Study

|   |   |
|---|---|
| Principal Applicant                       | <p><b>Funding Sources:</b><br/> Heart and Stroke Foundation of Alberta, NWT &amp; Nunavut (HSFA)<br/> Grant in Aid<br/> Total Funding - 300,000<br/> Funding Competitive?: Yes</p>  |
| 2018/4 - 2021/3<br>Principal Applicant    | <p>Magnetic Resonance Imaging Evaluation of NA1 Neuroprotection on Infarct Growth Following Endovascular Treatment for Acute ischemic Stroke</p> <p><b>Funding Sources:</b><br/> Canadian Institutes of Health Research (CIHR)<br/> Project Scheme<br/> Total Funding - 466,650<br/> Funding Competitive?: Yes</p>  |
| 2019/4 - 2020/3<br>Principal Applicant    | <p>Cumming School Of Medicine Bridge Funding</p> <p><b>Funding Sources:</b><br/> Canadian Institutes of Health Research (CIHR)<br/> CSM Bridge Funding<br/> Total Funding - 25,000<br/> Funding Competitive?: Yes</p>   |
| 2019/4 - 2020/3<br>Principal Applicant    | <p>Campus Neuroscience</p> <p><b>Funding Sources:</b><br/> Alberta Innovates- Health Solutions<br/> Innovation and Commercialization Seed Grant<br/> Total Funding - 30,000<br/> Funding Competitive?: Yes</p>  |
| 2014/12 - 2019/11<br>Co-applicant         | <p>Canadian Stroke Trials for Optimized Results (CaSTOR)</p> <p><b>Funding Sources:</b><br/> Canadian Institutes of Health Research (CIHR)<br/> Operating Grant<br/> Total Funding - 1,500,000,000<br/> Funding Competitive?: Yes</p> <p>Principal Applicant : Michael Hill</p>   |
| 2016/7 - 2019/6<br>Principal Investigator | <p>Pre dementia Neuroimaging of Transient Ischemic Attack: The PREVENT study</p> <p><b>Funding Sources:</b><br/> Heart and Stroke Foundation of Canada (HSFC)<br/> Grant in Aid<br/> Total Funding - 293,000<br/> Funding Competitive?: Yes</p>   |
| 2014/7 - 2019/6<br>Co-applicant           | <p>Quality Improvement Clinical Research (QuICR): Alberta Stroke Program (Collaborative Research &amp; Innovation Opportunities Grant)</p> <p><b>Funding Sources:</b><br/> Alberta Innovates- Health Solutions<br/> Collaborative Research &amp; Innovation Opportunities Grant<br/> Total Funding - 5,000,000<br/> Funding Competitive?: Yes</p> <p>Principal Applicant : Michael Hill</p> |
| 2014/4 - 2019/3<br>Co-applicant           | <p>Canadian Consortium on Neurodegeneration in Aging. "Vascular Illness and its Impact on Neurodegenerative Diseases."</p>  |

**Funding Sources:**

Canadian Institutes of Health Research (CIHR)

N/A

Total Funding - 750,000

Funding Competitive?: Yes

Principal Applicant : Eric Smith

2014/7 - 2018/6

Principal Applicant

Recanalization following Endovascular treatment and imaging of PErfusion, Regional InFarction and atrophy to Understand Stroke Evolution (REPERFUSE)

**Funding Sources:**

Heart and Stroke Foundation of Canada (HSFC)

Grant-in-Aid

Total Funding - 197,505

Funding Competitive?: Yes

2012/11 - 2017/11

Principal Investigator

Acute Quantitative T1 and T2 Imaging of Ischemia Repercussion

**Funding Sources:**

University of Calgary

Dept of Clinical Neurosciences; Stroke Prevention Program

Total Funding - 50,000

Funding Competitive?: Yes

Principal Applicant : Philip Barber

2014/10 - 2017/6

Co-applicant

A blood test for Alzheimer's based on fluorescence spectroscopy

**Funding Sources:**

Weston Brain Institute

Operating Grant

Total Funding - 150,000

Funding Competitive?: Yes

Principal Applicant : Peter Stys

2011/4 - 2017/3

Co-applicant

Pathophysiology and treatment of stroke recurrence

**Funding Sources:**

Canadian Institutes of Health Research (CIHR)

Operating Grant

Total Funding - 574,500

Funding Competitive?: Yes

Principal Investigator : Ursula Tuor

**Declined [n=1]**

2018/7 - 2021/6

Principal Applicant

REPERFUSE NA1

**Funding Sources:**

Heart and Stroke Foundation of Alberta, NWT & Nunavut (HSFA)

Grant in Aid

Total Funding - 300,000

Funding Competitive?: Yes

## Publications

### Journal Articles

1. Brian H Buck, Michael D. Hill, F.R. Quinn, Ken S. Butcher, Bijoy K. Menon, Sajad Gulamhusein, Muzaffar Siddiqui<sup>1</sup>, Shelagh B. Coutts<sup>2</sup>, Thomas Jeerakathil, Eric E. Smith, Khurshid Khan<sup>1</sup>, Phillip A Barber, Glenn Jickling, Lucy Reyes, Supriya Save, Paige Lesoway<sup>1</sup>, Lori Piquette<sup>1</sup>, Noreen Kamal<sup>2</sup>, Derek S. Chew, Andrew M. Demchuk, Ashfaq Shuaib and Derek V. Exner. (2021). **A Comparison of Implantable Versus External Prolonged Electrocardiographic Monitoring in Detecting Clinically -Actionable Atrial Fibrillation After Ischemic Stroke** . Journal of the American Medical Association. 231: 751-761.  
In Press  
Refereed?: Yes, Open Access?: No
2. Amy Y X Yu <sup>1</sup> , Michael D Hill <sup>2</sup> , Negar Asdaghi <sup>2</sup> , Jean-Martin Boulanger <sup>2</sup> , Marie-Christine Camden <sup>2</sup> , Bruce C V Campbell <sup>2</sup> , Andrew M Demchuk <sup>2</sup> , Thalia S Field <sup>2</sup> , Mayank Goyal <sup>2</sup> , Martin Krause <sup>2</sup> , Jennifer Mandzia <sup>2</sup> , Bijoy K Menon <sup>2</sup> , Robert Mikulik <sup>2</sup> , Francois Moreau <sup>2</sup> , Andrew M Penn <sup>2</sup> , Richard H Swartz <sup>2</sup> , Shelagh B Coutts <sup>2</sup> , Diagnosis of Uncertain-Origin Benign Transient Neurological Symptoms (DOUBT) Study Group. (2021). Sex Differences in Diagnosis and Diagnostic Revision of Suspected Minor Cerebral Ischemic Events. Neurology. 96(5): 732-739.  
Published  
Refereed?: Yes
3. Philip Barber , Sean M. Nestor, Meng Wang, Pauline Wu, Jake Ursenbach Amlish Munir, Rani Gupta, Sana Tariq, Eric E. Smith, Richard Frayne, Sandra Black, Tolulope T. Sajobi, Shelagh B Coutts,; Alzheimer's Disease Neuroimaging Initiative\*. (2021). Hippocampal Atrophy and Cognitive Function in Transient Ischemic Attack and Minor Stroke Patients over Three Years..Cerebral Circulation Cognition and Behaviour. xx: x-xx.  
Published  
Refereed?: Yes
4. Rosalie E. Morrish; Raed Joundi; Christopher D. d'esterre.; Connor C. McDougall; William F. Morrish; Philip A. Barber. (2021). Reversal of Bilateral Sudden Deafness with Thrombectomy. Canadian Journal of Neurological Sciences. 23: 231-235.  
In Press  
Refereed?: Yes, Open Access?: No
5. Samaneh Nobakht<sup>1</sup>, Morgan Schaeffer, Nils D. Forkert, Sean Nestor, Sandra Black, Phillip Barber and for the Alzheimer's Disease Neuroimaging Initiativea. (2021). **An automatic atlas- and CNN-based tool for segmentation of the hippocampus in MRI datasets according to the ADNI harmonized protocol** . Sensors. 21: 851-859.  
In Press  
Refereed?: Yes, Open Access?: Yes
6. Sana Tariq, Rani Gupta Sah, Leona Chan, Ryan McTaggart, Kenneth Butcher, Richard Aviv, Rick Swartz, Thalia Field, Jason Tarpley, Ruchir Shah, Michael Hill, Andrew Demchuk, Mayank Goyal, Christopher d'Esterre, Philip A. Barber. (2020). Recanalization following Endovascular treatment and imaging of PErfusion, Regional inFarction andatrophy to Understand Stroke Evolution – NA1 (REPERFUSE-NA1).International Journal of Stroke 2020. 15(3): 343-349.  
Published  
Refereed?: Yes
7. Ravinder Singh, Philip Barber. (2020). Hypoglycemia causing focal cerebral hypoperfusion and acute stroke symptoms.CJNS. x: x-xx.  
In Press  
Refereed?: Yes

8. Morgan J. Schaeffera, Leona Chana, and Philip Barbera\*. (2020). The Neuroimaging of Neurodegenerative and Vascular Disease in the Secondary Prevention of Cognitive Decline. *Journal of Molecular Neurodegeneration*. x: x-xx.  
In Press  
Refereed?: Yes
9. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d'Esterre CD, Barber PA. (2020). Temporal Evolution and Spatial Distribution of Quantitative T2 MRI following Acute Ischemia-Reperfusion Injury. *International Journal of Stroke* 2020 2019 Dec 22:1747493019895673. doi: 10.1177/1747493019895673. [Epub ahead of print]. N/A: N/A.  
Published  
Refereed?: Yes
10. Connor C. McDougall, Leona Chan, Surbhi Sachan, Jennifer Guo, Rani Gupta Sah, Bijoy K. Menon Andrew M. Demchuk, Michael D. Hill, Mayank Goyal, Nils D. Forkert, Christopher D. d'Esterre, Philip A. Barber,. (2020). Dynamic CT Angiography Derived Perfusion Maps Predicts Final Infarct Volume – The Simple Perfusion Reconstruction Algorithm (SPIRAL). *American Journal of Neuroradiology*. x: x-xx.  
Accepted  
Refereed?: Yes
11. Lim ST, Thijs V, Murphy SJX, Fernandez-Cadenas I, Montaner J, Marquardt L, Kelly PJ, Bath PMW, Lim S-Y, Ford GA, Norrving B, Cox D, Prodan CI, Barber PA, Dawson J, Muir KW, Werring DJ, Perry R, McCabe DJH. (2020). Value of platelet function/reactivity testing at predicting risk of recurrent vascular events and outcomes after TIA or ischemic stroke: Systematic review and meta-analysis. *Journal of Neurology* 2020. x: x-xx.  
In Press  
Refereed?: Yes
12. Aravind Ganesh, Philip A. Barber, Sandra E. Black, Dale Corbett, Thalia S. Field, Richard Frayne, Vladimir C. Hachinski, Michael Hill, Zahinoor Ismail, Cheryl R. McCreary, Leonardo Pantoni, Demetrios J. Sahlas, Mukul Sharma, Richard H. Swartz, Eric E. Smith. (2020). Trial of Remote Ischaemic pre-Conditioning in Vascular Cognitive Impairment (TRIC-VCI): Protocol for a randomised controlled trial. *British Medical Journal*. N/A: N/A.  
Accepted  
Refereed?: Yes
13. Christopher D. d'Esterre, Rani Gupta Sah, Zarina Assis, Aron S. Talai, Andrew M. Demchuk, Michael D. Hill, Mayank Goyal, Ting-Yim Lee, Nils D. Forkert, Philip A. Barber. (2020). Rethinking Successful Reperfusion Post Endovascular Therapy in Ischemic Stroke using MR-DCE Perfusion. *British Journal of Radiology*. N/A: N/A.  
In Press  
Refereed?: Yes
- [14.](#) Smith EE, Barber P, Field TS, Ganesh A, Hachinski V, Hogan DB, Lanctot K, Lindsay MP, Sharma M, Swartz RH, Ismaill Z, Gauthier S, Black SE. (2020). Canadian Consensus Conference on Diagnosis and Treatment of Dementia (CCCDTD)5: Guidelines for management of vascular cognitive impairment. *Translational Research & Clinical Interventions*. N/A: N/A.  
Accepted  
Refereed?: Yes
15. Munir AM\*, Ursenbach J\*, Reid M, Sah RG, Wang M, Sitaram, A, Aftab A, Tariq, S\*, Zamboni G, Griffanti L, Smith EE, Frayne R, Sajobi TT, Coutts SB, d'Esterre CD, Barber P and Alzheimer's Disease Neuroimaging Initiative. (2019). Longitudinal Brain Atrophy Rates in Transient Ischemic Attack and Minor Ischemic Stroke Patients and Cognitive Profiles. *Frontiers of Neurology*. 10(18): N/A.  
Published  
Refereed?: Yes

16. Sana Tariq, Adrian Tsang, Meng Wang, Helen Carlson, Tolulope T. Sajobi, Richard Stewart Longman, Eric E. Smith, Richard Frayne, Shelagh B. Coutts, Philip A. Barber. (2019). **White Matter Tract Microstructure and Cognitive Performance after Transient Ischaemic Attack** . Brain. N/A: N/A.  
Submitted  
Refereed?: Yes, Open Access?: No
17. Menon BK, Al-Ajlan FS, Najm M, Puig J, Castellanos M, Dowlatshi D, Calleja A, Sohn SI, Ahn SH, Poppe A, Mikulik R, Asdaghi N, Field TS, Jin A, Asil T, Boulanger JM, Smith EE, Coutts SB, Barber PA, Bal S, Subramanians S, Mishra S, Trivedi A, Dey S, Eesa M, Goyal M, Hill MD, Demchuk AM, INTERSeCT Study Investigators. (2019). Association of Clinical, Imaging, and Thrombus Characteristics with Recanalization of Visible Intracranial Occlusion in Patients with Acute Ischemic Stroke. JAMA. 320(10): 1017-1026.  
Published  
Refereed?: Yes
18. Tariq S\*, Barber PA. (2018). Dementia Risk and Prevention by Targeting Modifiable Vascular Risk Factors (PMID: 28734089). J Neurochem. 144(5): 565-581.  
Published  
Refereed?: Yes
19. Sheikh F, Ismail Z, Mortb, ME, Barber P, Cieslak A, Fischer K, Granger R, Hogan D B, Mackie A, Maxwell CJ, Menon B, Mueller P, Patry D, Pearson D, Quickfall J, Sajobi T, Tse E, Wang M and Smith EE, for the PROMPT registry investigators. (2018). Prevalence of Mild Behavioral Impairment in Mild Cognitive Impairment and Subjective Cognitive Decline, and its association with caregiver burden. International Psychogeriatrics. 30(2): 233-244.  
Published  
Refereed?: Yes
20. Reid M, Famuyide AO, Forkert ND, Sahand Talai A, Evans JW, Sitaram A, Hafeez M, Najm M, Menon BK, Demchuk A, Goyal M, Gupta Sah R, d'Esterre CD, Barber PA. (2018). Accuracy and Reliability of Multiphase CTA Perfusion for Identifying Ischemic Core, CI Neuroradiology. Clinical Neuroradiology. N/A: N/A.  
Accepted  
Refereed?: Yes
21. Penn AM, Bibok, MB, Saly VK, Coutts SB, Lesperance ML, Balshaw RF, Votova K, Croteau NS, Trivedi A, Jackson, AM, Hegedus J, Kloudfeld E, Yu AYY, Zerna C, Modi J, Barber PA, Hoag G, Borchers CH; SpecTRA study group. (2018). Validation of a Proteomic Biomarker Panel to Diagnose Minor-Stroke and Transient Ischaemic Attack: Phase 2 of SpecTRA, a large scale translational study. Biomarkers. 0: 1-45.  
Published  
Refereed?: Yes
22. Johnston SC, Easton JD, Farrant M, Barsan W, Conwit RA, Elm JJ, Kim AS, Lindblad AS, Palesch YY; Clinical Research Collaboration, Neurological Emergencies Treatment Trials Network, and the POINT Investigators. (2018). Clopidogrel and Aspirin in Acute Ischemic Stroke and High-Risk TIA. N Engl J Med. 19:379(3): 215-225.  
Published  
Refereed?: Yes
23. Evans JW, Graham BR, Pordeli P, Al-Ajlan FS, Willinsky R, Montanera WJ, Rempel JL, Shuaib A, Brennan P, Williams D, Roy D, Poppe AY, Jovin TG, Devlin T, Baxter BW, Krings T, Silver FL, Frei DF, Fanale C, Tampieri D, Teitelbaum J, Iancu D, Shankar J, Barber PA, Demchuk AM, Goyal M, Hill MD, Menon BK; ESCAPE Trial Investigators. (2018). Time for a Time Window Extension: Insights from Late Presenters in the ESCAPE Trial. Am J Neuroradiology. 39(1): 102-106.  
Published  
Refereed?: Yes



24. Tariq S\*, d'Esterre CD\*, Sajobi TT, Smith EE, Longman RS, Frayne R, Coutts SB, Forkert ND, Barber PA. (2018). A longitudinal magnetic resonance imaging study of neurodegenerative and small vessel disease, and clinical cognitive trajectories in non demented patients with transient ischemic attack: the PREVENT study. *BMC Geriatrics*. 18 (163): 1-9.  
Published  
Refereed?: Yes, Open Access?: Yes
25. d'Esterre CD\*, Trivedi A\*, Pordeli P, Boesen M, Patil S, Ahn SH, Najm M, Fainardi E, Shankar JJS, Rubiera M, Almekhlafi MA, Mandzia J, Khaw AV, Barber P, Coutts S, Hill MD, Demchuk AM, Sajobi T, Forkert ND, Goyal M, Lee T-Y, and Menon BK. (2017). Regional Comparison of Multi-phase Computed Tomographic Angiography and Computed Tomographic Perfusion for Prediction of Tissue Fate in Ischemic Stroke (PMID 28292870). *Stroke*. 48(4): 939-945.  
Published  
Refereed?: No
26. Sah Rani Gupta, Forkert Nils Daniel, Tsang Adrian, Moiz Hafeez\*, d'Esterre Christopher\*, Barber Philip. (2017). Volume of Acute Diffusion-Weighted MRI Stroke Lesion and Infarct Evolution is Threshold-Dependent. *Clin Neuroradiol*. 0: 0-0.  
Submitted  
Refereed?: Yes
27. Sah RG, d'Esterre C, Hill M, Hafeez M, Tariq S, Forkert ND, Frayne R, Demchuk A, Goyal M, Barber P. (2017). DWI Lesion Growth Occurs Despite Recanalization in Acute Ischemic Stroke: Implications for Future Treatment Trials. *Int'l J Stroke*. N/A: N/A.  
In Press  
Refereed?: Yes
28. Smith EE, Cieslak A, Barber P, Chen J, Chen YW, Donnini I, Edwards JD, Elbayoumi H, Frayne R, Field TS, Hagedus J, Hanganu V, Ismail Z, Kanji J, Nakajima M, Noor R, Peca S, Sahlas D, Sharma M, Sposato L, Swartz RH, Zerna C, Black S, Hachinski V. (2017). Therapeutic Strategies and Drug Development for Vascular Cognitive Impairment (PMID: 28476873). *J Am Heart Assoc*. 6(5): 1-12.  
Published  
Refereed?: Yes
29. Sah RG, d'Esterre CD, Hill MD, Hafeez M, Tariq S, Forkert ND, Demchuk AM, Goyal M, Barber PA. (2017). Diffusion-Weighted MRI Stroke Volume Following Recanalization Treatment is Threshold-Dependent (PMID: 29051996). *Clinical Neuroradiology*. N/A: N/A.  
Accepted  
Refereed?: Yes
30. d'Esterre CD\*, Sah RG, Hafeez M\*, Tariq S\*, Forkert ND, Barber PA. (2017). Early Infarct Growth Measured with Diffusion-weighted MRI Occurs Despite Successful Reperfusion in Patients with Acute Ischemic Stroke. *Clinical Neuroradiology*. N/A: N/A.  
Submitted  
Refereed?: Yes
31. Tuor UI, Zhao Z, Barber PA, Qiao M. (2016). Recurrent Mild Cerebral Ischemia: Enhanced Brain Injury following Acute Compared to Subacute Recurrence in the Rat. *BMC Neuroscience*. 17(1)(28): 1-14.  
Published  
Refereed?: Yes, Open Access?: Yes
32. Al-Ajlan FS, Goyal M, Demchuk A, Minhas P, Sabiq F, Assis Z, Willinsky R, Montanera W, Rempel J, Shuaib A, Thornton J, Williams D, Roy D, Poppe A, Jovin T, Sapkota B, Baxter B, Krings T, Silver F, Frei D, Fanale C, Tampieri D, Teitelbaum J, Lum C, Dowlatshahi D, Shankar J, Barber PA, Hill M, and Menon B, ESCAPE Trial Investigators. (2016). Intra-arterial therapy and Post treatment Infarct Volumes: Insights from the ESCAPE Randomized Controlled Trial (PMID: 26892284). *Stroke*. 47(3): 777-781.  
Published  
Refereed?: No

33. Tsutsui S, Roychoudhury S, Ota T, Jones M, Ismail Z, Cieslak A, Poulin MJ, Barber P, Smith EE, Stys PK. (2016). Detection of early Alzheimer's disease from blood using novel microspectroscopy. *Alzheimer's & Dementia, The Journal of the Alzheimer's Association*. 12(Suppl 7): 184-185.  
Accepted  
Refereed?: Yes
34. Mandzia J, Smith E, Horton M, Hanly P, Barber PA, Godzwon C, Donaldson E, Asdaghi N, Patel S, Coutts S. (2016). Imaging and Baseline Predictors of Cognitive Performance in Minor Ischemic Stroke and patients with transient ischemic attack at 90 days (PMID: 26846862). *Stroke*. 47(3): 726-31.  
Published  
Refereed?: No
35. Ganesh A, Al-Ajlan F, Sabiq F, Assis Z, Rempel JL, Butcher K, Thornton J, Kelly P, Roy D, Poppe AY, Jovin TG, Devlin T, Baxter BW, Krings T, Casaubon LK, Frei DF, Choe H, Tampieri D, Teitelbaum J, Lum C, Mandzia J, Phillips SJ, Bang OY, Almekhlafi MA, Coutts SB, Barber PA, Sajobi T, Demchuk AM, Eesa M, Hill MD, Goyal M, and Menon BK; ESCAPE Trial Investigators. (2016). Infarct in a New Territory after Treatment Administration in the ESCAPE Randomized Controlled Trial. *Stroke*. 47(12): 2993-2998.  
Published  
Refereed?: No
36. Au K, Appireddy R, Barber PA. (2016). Multifocal cerebral and bilateral middle cerebellar peduncle infarctions in CADASIL. *Can J Neurol Sci*.43(4): 574-5.  
Published  
Refereed?: No
37. Cechmanek B\*, Tuor, UI, Rushforth, D, Barber PA. (2015). Very mild hypothermia (35°C) post-ischemia reduces infarct volume and blood brain barrier breakdown following tPA treatment in the mouse. *Ther Hypothermia Temp Manag*.5(4): 203-8.  
Published  
Refereed?: No
38. 77. Goyal M, Demchuk AM, Menon BK, Eesa M, Rempel JL, M. Thornton J, Roy D, Jovin TG, Willinsky RA, Sapkota BL, Dowlathshahi D, Frei D, Kamal NR, Montanera WJ, Poppe AY, Ryckborst KJ, Silver FL, Shuaib A, Tampieri D, Williams D, Bang OY, Baxter BW, Burns PA, Choe H, Heo JH, Holmstedt CA, Jankowitz B, Kelly M, Linares G, Mandzia JL, Shankar J, Sohn SI, Swartz RH, Barber PA, Coutts SB, Smith EE, Morrish WF, Weill A, Subramaniam S, Mitha AP, Wong JH, Mark Lowerison MW, Sajobi TT, Hill MD; ESCAPE Trial Investigators. (2015). Randomized assessment of rapid endovascular treatment of ischemic stroke. *NEJM*. 372(11): 1019-30.  
Published  
Refereed?: Yes
39. Demchuk AM<sup>1</sup>, Goyal M, Menon BK, Eesa M, Ryckborst KJ, Kamal N, Patil S, Mishra S, Almekhlafi M, Randhawa PA, Roy D, Willinsky R, Montanera W, Silver FL, Shuaib A, Rempel J, Jovin T, Frei D, Sapkota B, Thornton JM, Poppe A, Tampieri D, Lum C, Weill A, Sajobi TT, Hill MD; ESCAPE Trial Investigators. (2015). Endovascular treatment for Small Core and Anterior circulation Proximal occlusion with Emphasis on minimizing CT to recanalization times (ESCAPE) trial: methodology. *Int J Stroke*. 10(3): 429-38.  
Published  
Refereed?: Yes
40. Coutts SB, Dubuc V, Mandzia J, Kenney C, Demchuk AM, Smith EE, Subramaniam S, Goyal M, Patil S, Menon BK, Barber PA, Dowlathshahi D, Field T, Asdaghi N, Camden MC, Hill MD; TEMPO-1 Investigators. (2015). Tenecteplase-tissue-type plasminogen activator evaluation for minor ischemic stroke with proven occlusion. *Stroke*. 46(3): 769-74.  
Published  
Refereed?: No

41. Ryan NS, Biessels GJ, Kim L, Nicholas JM, Barber PA, Walsh P, Gami P, Morris HR, Bastos-Leite AJ, Schott JM, Beck J, Mead S, Chavez-Gutierrez L, de Strooper B, Rossor MN, Revesz T, Lashley T, Fox NC. (2015). Genetic determinants of white matter hyperintensities and amyloid angiopathy in familial Alzheimer's disease. *Neurobiol. of Aging.* 36(12): 3140-51.  
Published  
Refereed?: No
42. Gladstone DJ, Dorian P, Spring M, Panzov V, Mamdani M, Healey JS, Thorpe KE; EMBRACE Steering Committee and Investigators\*; EMBRACE Steering Committee or Operations Committee. (2015). Atrial Premature Beats Predict Atrial Fibrillation in Cryptogenic Stroke: Results From the EMBRACE Trial. *Stroke.* 46(4): 936-41.  
Published  
Refereed?: Yes
43. Goyal M, Demchuk AM, Menon BK, Eesa M, Rempel JL, M. Thornton J, Roy D, Jovin TG, Willinsky RA, Sapkota BL, Dowlathshahi D, Frei D, Kamal NR, Montanera WJ, Poppe AY, Ryckborst KJ, Silver FL, Shuaib A, Tampieri D, Williams D, Bang OY, Baxter BW, Burns PA, Choe H, Heo JH, Holmstedt CA, Jankowitz B, Kelly M, Linares G, Mandzia JL, Shankar J, Sohn SI, Swartz RH, Barber PA, Coutts SB, Smith EE, Morrish WF, Weill A, Subramaniam S, Mitha AP, Wong JH, Mark Lowerison MW, Sajobi TT, Hill MD; ESCAPE Trial Investigators. (2015). Randomized assessment of rapid endovascular treatment of ischemic stroke. *N Engl J Med.*372(11): 1019-30.  
Published  
Refereed?: Yes
44. Tuor UI, Qiao M, Zhao Z, Denga Q, Rushforth D, Foniok T, Barber PA. (2015). Brain injury following mild recurrent transient ischemia: effect of recovery time between Ischemic insults. *Journal of Cerebral Blood Flow Metabolism.* 0: 0.  
Submitted  
Refereed?: Yes
45. Bhatia R, Shobha N, Menon BK, Bal BP, Kochar P, Palumbo V, Wong JH, Morrish WF, Hudon ME, Hu W, Coutts SB, Barber PA, Watson T, Goyal M, Demchuk AM, Hill MD. (2014). Combined full-dose IV and endovascular thrombolysis in acute ischemic stroke. *Int J Stroke.* 9(8): 974-9.  
Published  
Refereed?: Yes
46. Camden MC, Hill MD, Demchuk AM, Poppe AY, Shobha N, Barber PA, Coutts SB. (2014). Historic stroke motor severity score predicts progression in tia/minor stroke. *Canadian Journal of Neurological Sciences (CJNS).* 41(1): 19-23.  
Published  
Refereed?: Yes, Open Access?: Yes
47. Gladstone DJ, Spring M, Dorian P, Panzov V, Thorpe KE, Hall J, Vaid H, O'Donnell M, Laupacis A, Côté R, Sharma M, Blakely JA, Shuaib A, Hachinski V, Coutts SB, Sahlas DJ, Teal P, Yip S, Spence JD, Buck B, Verreault S, Casaubon LK, Penn A, Selchen D, Jin A, Howse D, Mehdiratta M, Boyle K, Aviv R, Kapral MK, Mamdani M; EMBRACE Investigators and Coordinators. (2014). Atrial fibrillation in patients with cryptogenic stroke. *N Engl J Med.*26(370(26)): 2467-77.  
Published  
Refereed?: Yes
48. Coutts SB, Barber PA, Cole-Haskayne AL, Kashyap D, Dubuc V, Engbers J, Demchuk AM, Hill MD, Suddes. (2014). CT Angiography(CTA) Based Triage of TIA Patients is Safe and Reduces Hospital Admissions. *Stroke.* 45(Suppl 12): e10.  
Published  
Refereed?: Yes

## Book Chapters

1. Barber PA. (2014). Inflammatory Mediators and Dysfunction of the Neurovascular Unit following Ischaemia Reperfusion. Woodrooffe, Nicola, Amor, Sandra. Neuroinflammation and CNS Disorders. : xx. Published, Wiley Blackwell, United Kingdom

## Clinical Care Guidelines

1. member of the review committee. CCCDTD5 Vascular Cognitive Impairment Recommendations. (2020). Contributors: Literature review and co-author of national statement and publication of recommendations  
Description / Contribution Value: Canadian National Guidelines on Vascular Cognitive Impairment.  
Relevant to this application as acute stroke is a major cause of both cognitive impairment and disability

## Conference Publications

1. McDougall C, D'Esther C, Barber PA. The Simple Perfusion Reconstruction Algorithm (SPIRAL): Equivalency with Cine CT perfusion. American Society of Neuroradiology, United States  
Abstract, Invited?: Yes
2. Reid M, McDougall C, Forkert, N, Frayne R, Coutts, S, Sah RG, d'Esther CD, Longman S, Sajobi T, Barber P. The Association Between Decreased Cerebral Blood Flow in Transient Ischemic Attack Patients and Cognition. International Stroke Conference,  
Abstract  
Refereed?: Yes, Invited?: No
3. McDougall C, Maxwell E, Reaume N, Gupta R, d'Esther C, Barber P. Three Phase Computed Tomographic Angiography Perfusion Maps Predict Final Infarction in the Acute Ischemic Stroke Setting. International Stroke Conference, Honolulu, United States  
Abstract  
Refereed?: Yes, Invited?: No
4. Bathia R, Bal SP, Menon BK, Shobha N, Puetz V, Dzialowski I, Steffenhagen N, Tymchuk S, Idris S, Coutts SB, Barber P, Watson T, Smith EE, Demchuk AM. CTASI-ASPECTS s more predictive of final aspects and neurological outcome than NCCT-ASPECTS in acute ischemic stroke caused by proximal vessel occlusions (Platform). European Stroke Conference,  
Abstract
5. Bal SP, Bhatia R, Shobha N, Menon BK, Puetz V, Dzielowski I, Tymchuk S, Idris S, Coutts SB, Barber PA, Watson T, Smith EE, Demchuk AM. CTA-SI aspects is superior to NCCT aspects for predicting final infarct extent in patients with CT scans less than 90 minutes from onset. International Stroke Conference,  
Abstract  
Refereed?: Yes
6. Mandzia JL, Smith EE, Barber PA, Godzwon C, Donaldson E, Aram H, Coutts SB. Detailed Ninety Day Cognitive Performance in Patients with minor stroke and transient ischemic attack (TIA). European Stroke Conference 2013, London, United Kingdom  
Abstract
7. Qiao M, Zhao Z, Barber PA, Barua D, Foniok T, Kirk D, Sun S, Tuor UI. A model of recurrent stroke: MRI and histological changes in rats subjected to an initial minor and subsequent moderate insult. BRAIN 2009, Chicago, United States  
Abstract  
Refereed?: Yes
8. Kaur J, Tuor U, Zhao Z, Pedersen J, Barber PA. Magnetic resonance imaging of tissue plasminogen-activator induced toxicity following ischemia stroke: Influence of Aging. J Neuroscience,  
Abstract  
Refereed?: Yes

9. Brooklyn McDougall, Meaghan Reid, Connor C. McDougall, Hongfu Sun, Noaah Reaume, Rani Gupta Sah, Shelagh Coutts, Christopher D. d'Esterre, Philip Barber. **Quantitative Susceptibility Maps of Iron Deposition predicts rate of Whole Brain Atrophy Rates and Cognition in Transient Ischemic Attack Patients.** . American Society of Neuroradiology, United States  
Conference Date: 2021/5  
Abstract  
Refereed?: Yes, Invited?: Yes
10. Black SAG, Templeton GW, Hernandez Y, Fischer K, Barber P, Ismail Z, Smith EE, Zetterberg H, Stys P, Tsutsui S. AmiraSpecTM: A Blood-based diagnostic for Alzheimer's disease using spectral microscopy. Alzheimer's Association International Conference (AAIC 2018), Chicago, United States  
Conference Date: 2018/7  
Abstract  
Refereed?: Yes, Invited?: No
11. Tariq S, Tsang A, Wang M, Ursenbach J, Sitaram A, Aftab A, Samantray S, Shamsi M, Dutta N, Sah R, Anderson L, Longman R, Smith E, Coutts S, Frayne R, Sajobi T, Barber P. White Matter Integrity Using Diffusion Tensor Imaging Following Transient Ischemic Attack. European Stroke Organisation Conference (ESOC 2018), Gothenburg, Sweden  
Conference Date: 2018/5  
Abstract  
Refereed?: Yes, Invited?: No
12. Tariq S, Tsang A, Wang M, Ursenbach J, Sitaram A, Aftab A, Samantray S, Shamsi M, Dutta N, Sah R, Anderson L, Longman R, Smith E, Coutts S, Frayne R, Sajobi T, Barber P. Diffusion Tensor Imaging Tractography and Cognition of Transient Ischemic Attack Patients. European Stroke Organisation Conference (ESOC 2018), Gothenburg, Sweden  
Conference Date: 2018/5  
Abstract  
Refereed?: Yes, Invited?: No
13. d'Esterre C, Aziz Z, Gupta R, Hafeez M, Forkert N, Barber PA. Re-thinking successful reperfusion post endovascular therapy in ischemic stroke with MR-DCE perfusion. 4th European Stroke Organisation Conference (ESOC 2018), Gothenburg, Sweden  
Conference Date: 2018/5  
Abstract  
Refereed?: Yes, Invited?: No
14. Tsutsui S, Roychoudhury S, Ota T, Jones M, Ismail Z, Cieslak A, Poulin MJ, Barber P, Smith EE, Stys PK. Detection of early Alzheimer's disease from blood using novel microspectroscopy (oral presentation). Alzheimer's Association International Conference (AAIC), Toronto, Canada  
Conference Date: 2017/7  
Abstract  
Refereed?: Yes, Invited?: No
15. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d'Esterre CD, Barber PA. Diffusion-weighted Imaging of Early Secondary Lesion Growth after Endovascular Therapy or Thrombolysis in Patients with Ischemic Stroke. European Stroke Organisation Conference, Prague, Czech Republic  
Conference Date: 2017/5  
Abstract  
Refereed?: Yes, Invited?: No

16. Tariq S, Tsang A, Ursenbach J, Dutta NR, Andersen LB, Longman RS, Frayne R, Barber PA. Diffusion Tensor Imaging of White Matter Tracts in Transient Ischemic Attack Patients. International Stroke Conference, Houston, United States  
Conference Date: 2017/2  
Abstract  
Refereed?: Yes, Invited?: No
17. Tsutsui S, Roychoudhury S, Ota T, Jones M, Ismail Z, Cieslak A, Poulin MJ, Barber P, Smith EE, Stys PK. Novel detection technique of early Alzheimer's disease from blood using fluorescence spectral microscopy. Prion 2016, Tokyo, Japan  
Conference Date: 2016/5  
Abstract  
Refereed?: Yes, Invited?: No
18. Campeau S, Barber P, Carlson H, Zhang Y, Sah RG, Tariq S, Tsang A, Mahajan A, Khan S. Longitudinal analysis of microstructure and tissue homogeneity white matter among patients with TIA and minor stroke. Campus Alberta Neuroscience 2016 International Conference – Promoting Healthy Brain Aging and Preventing Dementia, Research and Translation, Banff, Canada  
Conference Date: 2016/5  
Abstract  
Refereed?: Yes, Invited?: No
19. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d'Esterre CD, Barber PA. Growth of ischemic Stroke using DWI and Quantitative R2 Imaging to Characterize Infarct Evolution. European Stroke Organisation Conference 2016, Barcelona, Spain  
Conference Date: 2016/5  
Abstract  
Refereed?: Yes, Invited?: No
20. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, Santos E, d'Esterre CD, Barber PA. Magnetic resonance imaging in acute ischemia: percentage volume change per hour of infarct growth is independent of apparent diffusion coefficient thresholds. European Stroke Organisation Conference 2016, Barcelona, Spain  
Conference Date: 2016/5  
Abstract  
Refereed?: Yes, Invited?: No
21. Tuor UI, Zhao Z, Barber PA, Qiao M. Recurrent mild cerebral ischemia: enhanced brain injury following acute compared to subacute recurrence in the rat (oral presentation). The 11th World Congress on Brain Injury, The Hague, Netherlands  
Conference Date: 2016/3  
Abstract  
Refereed?: Yes, Invited?: No
22. Mahajan A\*, Campeau S\*, Gupta R, Carlson HL, Khan S, Tsang A, Zhang Y, Kirton A, Coutts S, Barber PA. Detecting Diseased Tissue in Normal Appearing White Matter of TIA and Minor Stroke Patients Using Texture Analysis. International Stroke Conference 2016, Los Angeles, United States  
Conference Date: 2016/2  
Abstract  
Refereed?: Yes, Invited?: No
23. Sah RG, Khan S, Mahajan A, Forkert ND, Tsang A, Hafeez M, Tariq S, d'Esterre CD, Barber PA. Assessing acute infarct growth and evolution using apparent diffusion coefficient and quantitative R2 imaging. International Stroke Conference, Los Angeles, United States  
Conference Date: 2016/2  
Abstract  
Refereed?: Yes, Invited?: No

24. Famuyide A, d'Esterre D, Qazi E, Najm M, Khan K, Menon B, Barber P. Delayed Phase Blood Pool Assessment of Multiphase-CTA in Acute Stroke Provides Further Information Beyond Non-Contrast CT. International Stroke Conference 2016, Los Angeles, United States  
Conference Date: 2016/2  
Abstract  
Refereed?: Yes, Invited?: No
25. Sah RG, Khan S, Mahajan A, Forkert ND, Hafeez M, Tsang A, d'Esterre CD, Barber PA. Rate of Infarct Growth in Acute Ischemic Stroke is Independent of Apparent Diffusion Coefficient Threshold. International Stroke Conference 2016, Los Angeles, United States  
Conference Date: 2016/2  
Abstract  
Refereed?: Yes, Invited?: No
26. Sah RG, Khan S, Mahajan A, Forkert ND, Tsang A, Hafeez M, Tariq S, d'Esterre CD, Barber PA. Assessment of the infarct growth using MR diffusion-weighted and quantitative R2 imaging. International Stroke Conference, Los Angeles, United States  
Conference Date: 2016/2  
Abstract  
Refereed?: Yes, Invited?: No
27. Munir AM\*, Zamboni G, Griffanti L, Zhang Y, Tariq S\*, Smith E, Frayne R, Sajob T, Coutts S, Barber PA. TIA and minor stroke patients experience higher brain atrophy rates than healthy controls (oral presentation). 7th World Congress of the International Society for Vascular Behavioural and Cognitive Disorders (VAS-COG), Tokyo, Japan  
Conference Date: 2015/9  
Abstract  
Refereed?: Yes, Invited?: No
28. Munir AM\*, Zamboni G, Griffanti L, Zhang Y, Tariq S\*, Smith E, Frayne R, Sajob T, Coutts S, Barber PA. Cognitive Decline at 3 years in TIA and Minor Stroke Patients (oral presentation). 7th World Congress of the International Society for Vascular Behavioural and Cognitive Disorders (VAS-COG) 2015, Tokyo, Japan  
Conference Date: 2015/9  
Abstract  
Refereed?: Yes, Invited?: No
29. Tuor UI, Qiao M, Zhao Z, Barber PA, Foniok T, and Rushforth D. Brain Injury Following Recurrent Cerebral Ischemia: Effect of Recovery Time Between Ischemic Insults. BRAIN, Vancouver, Canada  
Conference Date: 2015/9  
Abstract  
Refereed?: Yes, Invited?: No
30. Tuor UI, Qiao M, Zhao Z, Barber PA, Foniok T, and Rushforth D. Brain Injury Following Recurrent Cerebral Ischemia: Effect of Recovery Time Between Ischemic Insults (oral presentation). Proceedings of the XXVII International Symposium on Cerebral Blood Flow and Metabolism, Vancouver, Canada  
Conference Date: 2015/6  
Abstract  
Refereed?: Yes, Invited?: No
31. Blayney S, Hill MD, Barber PA, Demchuk AM, Engbers J, Coutts SB. Triage of TIA clinic referrals using clinical features identifies true vascular events. European Stroke Organization Conference 2015 (Apr 17-19), Glasgow, United Kingdom  
Conference Date: 2015/4  
Abstract  
Refereed?: Yes, Invited?: No

32. Coutts SB, Dubuc V, Mandzia J, Kenney C, Demchuk AM, Smith EE, Subramaniam S, Goyal M, Patil S, Menon BK, Barber PA, Dowlatshahi D, Field TS, Asdaghi N, Camden MC, Hill MD. Thrombolysis for minor ischemic stroke with proven acute symptomatic occlusion using TNK-tPA (TEMP-1). European Stroke Organization Conference 2015 (Apr 17-19), Glasgow, United Kingdom  
Conference Date: 2015/4  
Abstract  
Refereed?: Yes, Invited?: No
33. Coutts SB, Barber PA, Cole-Haskayne A, Demchuk AM, Dubuc V, Engbers J, Hill MD, Kashyap D, Suddes M for the Calgary Stroke Program. CT angiography (CTA) based triage of TIA patients is safe and reduces hospital admissions. World Stroke Conference 2014, Istanbul, Turkey  
Conference Date: 2014/10  
Abstract  
Refereed?: Yes, Invited?: No
34. Coutts SB, Barber PA, Cole-Haskayne AL, Kashyap D, Dubuc V, Engbers J, Demchuk AM, Hill MD, Suddes M. CT Angiography(CTA) Based Triage of TIA Patients is Safe and Reduces Hospital Admissions. Canadian Stroke Congress 2014, Vancouver, Canada  
Conference Date: 2014/10  
Abstract  
Refereed?: Yes, Invited?: No

## Intellectual Property

### Patents

1. System and Method for Generating Perfusion Functional Maps from Temporally Resolved Helical Computed Tomographic Images. United States. 26927-P57946US00. 2019/01/29.  
Patent Status: Granted/Issued

### Presentations

1. (2020). The PREVENT Dementia Study. Q4 Intercontinental Summit on Aging & Gerontology (A Virtual Conference) Saturday, November 21st 2020, 9:00am - 6:00pm CET (Central European Time), Switzerland  
Main Audience: Knowledge User  
Invited?: Yes, Keynote?: No
2. (2017). Modifiable vascular risk factors and biomarkers in vascular cognitive impairment. Dementia and Cognition: A Vascular Perspective (39th Int'l Symposium of the GRSNC (May 8-9, 2017) Montreal, Quebec, Canada  
Main Audience: Knowledge User  
Invited?: Yes, Keynote?: Yes
3. (2016). Tight Junctions in Ischemia Reperfusion. International Stroke Conference 2016, United States  
Main Audience: Knowledge User  
Invited?: Yes, Keynote?: Yes
4. (2014). Preventing Recurrent Stroke. Canadian Neurological Society Federation, Banff, Alberta, Canada  
Main Audience: Knowledge User  
Invited?: Yes, Keynote?: Yes
5. (2012). Can we extend the Acute Stroke Treatment Window?. Grand Rounds, Greater Manchester Health Sciences, UK, United Kingdom  
Main Audience: Knowledge User  
Invited?: Yes, Keynote?: Yes



## Knowledge and Technology Translation

2020/5 Director, Involvement in/Creation of Start-up  
 Activity Description: Andromeda Medical Imaging-start up medical imaging and innovation company

## Student/Postdoctoral Supervision

### Bachelor's Honours [n=2]

2020/5 - 2021/4 Alisia Chan, University of Calgary  
 Principal Supervisor Thesis/Project Title: Cerebral Blood Flow Measurements in the REPERFUSE Na1 Study  
 Present Position: Neuroscience Undergraduate

2020/5 - 2021/4 Brooklyn McDougall, University of Calgary  
 Principal Supervisor Thesis/Project Title: The PREVENT Study  
 Present Position: Undergraduate Student

### Master's Thesis [n=4]

2021/9 - 2022/8 Raneem Sheronick, University of Calgary  
 Principal Supervisor Thesis/Project Title: Global Brain Networks and Cognition  
 Present Position: Research Assistant

2017/4 - 2019/6 Meaghan Reid, University of Calgary  
 Principal Supervisor Thesis/Project Title: Predementia Neuroimaging in Transient Ischemic Attach (PREVENT) study  
 Present Position: Graduate Student (MSc, Medical Sciences Program, University of Calgary)

2015/1 - 2018/5 Sana Tariq, University of Calgary  
 Principal Supervisor Thesis/Project Title: Predementia Neuroimaging of TIA-the PREVENT study  
 Present Position: Master's Student (successfully defended thesis April 2018)

2013/7 - 2015/12 Mohammad (Amlish) Munir, University of Calgary  
 Principal Supervisor Thesis/Project Title: Brain Atrophy Rates in Minor Stroke and TIA  
 Present Position: Master's Student

### Doctorate [n=2]

2018/1 - 2022/6 Connor McDougall, University of Calgary  
 Principal Supervisor Thesis/Project Title: Single time resolved mCTA Perfusion Algorithm  
 Present Position: PhD Student

2016/9 - 2021/7 Samaneh Norbakt, University of Calgary  
 Principal Supervisor Thesis/Project Title: Pre dementia Neuroimaging of TIA  
 Present Position: PhD student

### Post-doctorate [n=2]

2020/5 - 2021/4 Christopher D'Esterre, University of Calgary  
 Principal Supervisor Thesis/Project Title: The SPIRAL Project  
 Present Position: CEO of Andromeda Medical Imaging

2015/1 - 2018/10 Rani Gupta, University of Calgary  
Principal Supervisor Thesis/Project Title: **Recanalization following Endovascular treatment and imaging of  
PERfusion, Regional infarction and atrophy to Understand Stroke Evolution (REPERFUSE)**  
Present Position: Post Doctoral Scholar-University of Calgary