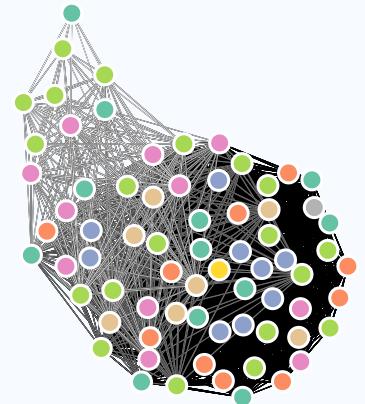


# DR. ANDREW LAPOINTE

Postdoctoral fellow at the University of Calgary specializing in multimodal imaging with experience in functional near-infrared spectroscopy, electroencephalography, accelerometry, concussion and data science



## EDUCATION

- |                      |   |                 |
|----------------------|---|-----------------|
| Current<br> <br>2019 | <ul style="list-style-type: none"><li>● <b>Postdoctoral Research Fellow</b><br/>University of Calgary</li></ul>   | Calgary, Canada |
| 2019<br> <br>2014    | <ul style="list-style-type: none"><li>● <b>PhD in Kinesiology</b><br/>University of Michigan<ul style="list-style-type: none"><li>· Thesis: The Relationship Between Repeated Subclinical Head Impacts and Electrophysiological Indices of Brain Function.</li></ul></li></ul>                                      | Ann Arbor, MI   |
| 2019<br> <br>2014    | <ul style="list-style-type: none"><li>● <b>Certificate in Injury Science</b><br/>University of Michigan</li></ul>   | Ann Arbor, MI   |
| 2015<br> <br>2012    | <ul style="list-style-type: none"><li>● <b>MSc in Interdisciplinary Health</b><br/>Laurentian University<ul style="list-style-type: none"><li>· Thesis: Examining Daily Quantitative Electroencephalographic (QEEG), Psychophysical and Anthropometric Measures over a One Week Period.</li></ul></li></ul>         | Sudbury, Canada |
| 2012<br> <br>2008    | <ul style="list-style-type: none"><li>● <b>Honours BSc in Behavioural Neuroscience</b><br/>Laurentian University<ul style="list-style-type: none"><li>· Thesis: Examining Daily Quantitative Electroencephalographic (QEEG), Psychophysical and Anthropometric Measures over a One Week Period.</li></ul></li></ul> | Sudbury, Canada |

View this CV online with links at [bookdown.org/alapo/academic-cv/cv.html](http://bookdown.org/alapo/academic-cv/cv.html)

## CONTACT

- [andrew.lapointe@ucalgary.ca](mailto:andrew.lapointe@ucalgary.ca)
- [github.com/alapo](https://github.com/alapo)
- [ORCID](https://orcid.org/0000-0002-1370-833X)
- +1 734-834-3172
- [ResearchGate](https://www.researchgate.net/profile/andrew-lapointe-1)

## PERSONAL

**Heritage:** Aboriginal  
**Languages:** English, French

## BOOKS

- |      |  |
|------|--|
| 2021 | <ul style="list-style-type: none"><li>● <b>authR</b><br/>Reproducible Science for Busy Researchers: How to Save Time using Literate Programming<ul style="list-style-type: none"><li>· My current book on literate programming which is free for consumption</li><li>· Contains links to an active <a href="#">GitHub repository</a></li><li>· The book is in draft form at the moment and is continuously updated to reflect the change in packages discussed within each chapter</li></ul></li></ul> |
|------|--|

## LANGUAGE SKILLS

R
MATLAB
Python



## PUBLISHED ARTICLES

- 2023 ● **Microstate Analyses as an Indicator of Anesthetic-Induced Unconsciousness**  
Lapointe, A.P., Li, D., Hudetz, A.G., Vlisides, P.E. *Clinical Neurophysiology*.
- 2022 ● **Letter to the Editor: Sampling rate and heart rate variability: On metrics and health outcomes**  
Burma, J.S., Lapointe, A.P., Soroush, A., Oni, I.K., Smirl, J.D., Dunn, J.F. *Journal of Biomedical Informatics*. DOI: [10.1016/j.jbi.2022.104115](https://doi.org/10.1016/j.jbi.2022.104115)
- 2022 ● **Treatment of Persistent Postconcussion Syndrome With Repetitive Transcranial Magnetic Stimulation Using Functional Near-Infrared Spectroscopy as a Biomarker of Response: Protocol for a Randomized Controlled Clinical Trial**  
du Plessis, S., Oni, I., Lapointe, A.P., Campbell, C., Dunn, J.F., Debert, C.T. *Journal of Medical Internet Research*. DOI: [10.2196/31308](https://doi.org/10.2196/31308)
- 2022 ● **Physical Activity Following Sport-Related Concussion in Adolescents: A Scoping Review**  
Miutz, L.N., Newel, K.T., Graver, S., Burma, J.S. Lapointe, A.P., and Smirl, J.D. *Journal of Applied Physiology*. DOI: [10.1152/japplphysiol.00691.2021](https://doi.org/10.1152/japplphysiol.00691.2021)
- 2022 ● **White Matter Integrity and Cerebral Haemodynamics in Pediatric Concussion: Results from Advancing Concussion Assessment in Pediatrics (A-CAP)**  
Lapointe, A.P., Ware, A.L., Duszynski, C.C., Yeates, K.O., Dunn, J.F. *Neurotrauma Reports*.
- 2021 ● **Feasibility and Utility of Extracting Heart Rate Metrics from Neuroimaging Data: Theoretical Considerations**  
Burma, J.S., Lapointe, A.P., Soroush, A., Oni, I.K., Smirl, J.D., Dunn, J.F. *Helijon*. DOI: [10.1016/j.heliyon.2021.e07148](https://doi.org/10.1016/j.heliyon.2021.e07148)
- 2021 ● **Insufficient Sampling Frequencies Skew Heart Rate Variability Estimates: Implications for Extracting Heart Rate Metrics from Neuroimaging and Physiological Data**  
Burma, J.S., Lapointe, A.P., Soroush, A., Oni, I.K., Smirl, J.D., Dunn, J.F. *Journal of Biomedical Informatics*. DOI: [10.1016/j.jbi.2021.103934](https://doi.org/10.1016/j.jbi.2021.103934)
- 2021 ● **Glioblastoma Metastases to the Spine in the Pediatric Population**  
Isaacs, A.M., Yang, R., Hirmer, T.J., Cadieux, M., Creve-Coeur, T.S., Lapointe, A.P., Opoku-Darko, M., Premji, Z., Riva-Cambrin, J., Gallagher, C.N. *Journal of Neurosurgery: Pediatrics*. DOI: [10.1007/s00381-021-05098-8](https://doi.org/10.1007/s00381-021-05098-8).
- 2021 ● **Internal Consistency of Sway Measures via Embedded Head-mounted Accelerometers: Implications for Neuromotor Investigations**  
Lapointe, A.P., Ritchie, J.N., Vitali, R., Burma, J.S., Soroush, A., Oni, I.K., Dunn, J.F. *Sensors*. DOI: [10.3390/s21134492](https://doi.org/10.3390/s21134492)
- 2021 ● **Meta-Analysis of Concussion Rates and Data Driven Risk Classification**  
Van Pelt, K.L., Puetz, T., Swallow, J., Lapointe, A.P., Broglio, S.P. *Sports Medicine*.
- 2021 ● **Primary and Metastatic Glioblastoma of the Spine in the Pediatric Population: A Systematic Review**  
Yang, R., Isaacs, A.M., Cadieux, M., Hirmer, T.J., CreveCoeur, S., Lapointe, A.P., Opoku-Darko, M., Riva-Cambrin, J., Gallagher, C.N. *Child's Nervous System*. DOI: [10.1007/s00381-021-05098-8](https://doi.org/10.1007/s00381-021-05098-8)

- 2020 ● **Acute Low-pressure Hydrocephalus: A Case Series and Meta Analysis of 195 Patients**  
Keough, M.B., Isaacs, A.M., Urbaneja, G.U., Dronyk, G., **Lapointe, A.P.**, Hamilton, M.G. *Journal of Neurosurgery*.
- 2019 ● **Near Infrared Spectroscopy Reveals Brain Hypoxia and Cerebrovascular Dysregulation in Early Primary Biliary Cholangitis**  
Duszynski,C.C., Avati, V., Scholkmann, F., Dunn, J.F., **Lapointe, A.P.**, Swain, M.G. *Hepatology*. DOI: [10.1002/hep.30920](https://doi.org/10.1002/hep.30920)
- 2019 ● **Shunt Failure in Adults: Systematic Review and Metanalysis**  
Isaacs, A.M., Yang, R., Cadieux, M., Yong, H., Opoku-Darko, M., **Lapointe, A.P.**, Frizon, L., Crevecoeur, T., Merisaari, H., Premji, Z., Nagel, S., Hamilton, M.G. *Neurosurgery*.
- 2019 ● **Elevated Markers of Brain Injury as a Result of Clinically Asymptomatic High Acceleration Head Impacts in High School Football Athletes**  
Joseph, J.R., Swallow, J.S., Willsey, K., **Lapointe, A.P.**, Khalabari,S., Korley, F.K., Oppenlander, M.E., Park, P., Szerlip, N.J., Broglio, S.P. *Neurosurgery*. DOI: [10.3171/2017.12.JNS172386](https://doi.org/10.3171/2017.12.JNS172386)
- 2019 ● **Age-related Changes in Cortical Connectivity During Surgical Anesthesia**  
Li, D., Puglia, M.P., **Lapointe, A.P.**, Ip, K., Zierau, M., McKinney, A.M., Vlisides, P.E. *Frontiers in Aging Neuroscience*. DOI: [10.3389/fnagi.2019.00371](https://doi.org/10.3389/fnagi.2019.00371)
- 2019 ● **Evaluating Performance of National Ice Hockey League Players After a Concussion Versus Lower Body Injury**  
Van Pelt, K.P., **Lapointe, A.P.**, Galdys, M., Dougherty, L.A., Buckley, T.A & Broglio, S.P. *Journal of Athletic Training*. DOI: [10.4085/1062-6050-218-18](https://doi.org/10.4085/1062-6050-218-18)
- 2019 ● **Dynamic Cortical Connectivity during General Anesthesia: a Clinical Study of Surgical Patients.**  
Vlisides, P.E., Li, D., Zierau, M., **Lapointe, A.P.**, Ip, K., McKinney, A.M., Mashour, G.A. *Anesthesiology*. DOI: [10.1097/ALN.0000000000002677](https://doi.org/10.1097/ALN.0000000000002677)
- 2019 ● **Cortical Oscillations and Connectivity During Postoperative Recovery.**  
Zierau, M., Li, D., **Lapointe, A.P.**, Ip, K., McKinney, A.M., Puglia, M.P., Vlisides, P.E. *Journal of Neurosurgical Anesthesiology*. DOI: [10.1097/ANA.0000000000000636](https://doi.org/10.1097/ANA.0000000000000636).
- 2017 ● **Head Impact Density: A Model to Explain the Elusive Concussion Threshold**  
Broglio, S.P., **Lapointe, A.P.**, O'Connor, K.L., McCrea, M. *Journal of Neurotrauma*. DOI: [10.1089/neu.2016.4767](https://doi.org/10.1089/neu.2016.4767)
- 2017 ● **Brain Network Activation Technology Does Not Assist with Concussion Diagnosis and Return to Play in Football Athletes**  
Broglio, S.P., Williams, R., **Lapointe, A.P.**, Rettman, A., Moore, B., Meehan, S.K., Eckner, J.T. *Frontiers of Neurology*. DOI: [10.3389/fneur.2017.00252](https://doi.org/10.3389/fneur.2017.00252)
- 2017 ● **Kinematic Differences During a Jump Cut Maneuver Between Individuals with and without a Concussion History**  
**Lapointe, A.P.**, Nolasco, L.A., Sosnowski, A., Andrews, E., Martini, D.N., Palmieri-Smith, R.M., Gates, D.H., Broglio, S.P. *International Journal of Psychophysiology*. DOI: [10.1016/j.ijpsycho.2017.08.003](https://doi.org/10.1016/j.ijpsycho.2017.08.003)

- 2016 ● **Landing Kinetics Differences in Individuals with and without a History of Concussion**  
**Lapointe, A.P., Sosnowski, A., Andrews, E., Martini, D.N., Broglio, S.P.** *Medicine and Science in Sports Exercise.*
- 2016 ● **Effect of Concussion on Pro Ice Hockey Player Performance**  
**OConnor, K.L., Lapointe, A.P., Galdys, M., Broglio, S.P.** *Medicine and Science in Sports Exercise.*
- 2015 ● **Marked Increases in Alpha Power Over the Left Prefrontal Region During Days Following Shift Work: A Case Report.**  
**Murugan, N.J., Rouleau, N., Karbowski, L.M., Lapointe, A.P., & Persinger, M.A.** *Journal of Sleep Disorders and Management.*
- 2014 ● **Transnational FieldREG Exploration II: Investigating the FieldREG Phenomenon in a Range of Novel Settings.**  
**Caswell, J. M., Gaona, J. M., Tessaro, L. W. E., Rouleau, N., & Lapointe, A.P.** *Journal of Consciousness, Exploration & Research.*
- 2014 ● **The Potential Effects of Human Group Emotion and Subjective Novelty on the Statistical Behaviour of a Random Event Generator: Exploratory Study**  
**Caswell, J.M., Gaona, J.M., Vares, D.A.E., Lapointe, A.P. Burke, R.C., & Tessaro, L.W.E.** *Journal of Consciousness Exploration & Research.*
- 2014 ● **Greater Electroencephalographic Coherence Between Left and Right Temporal Lobe Structures During Increased Geomagnetic Activity**  
**Saroka, K.S., Caswell, J.M., Lapointe, A.P. & Persinger, M.A.** *Neuroscience Letters.*

## ARTICLES IN REVIEW

- **The temporal neurovascular coupling response remains intact during repeated squat-stand maneuvers: implications for assessing cerebral autoregulation**  
**Burma, J.S., Rattana, S., Oni, I.K., Lapointe, A.P., Dunn, J.F., Smirl, J.D.** *Journal of Cerebral Blood Flow & Metabolism*
- **Predictors of surgical site infection following cranial surgery in severe traumatic brain injury and stroke patients**  
**Cadieux, M., Isaacs, A.M., Yang, R., Lapointe, A.P., Chunn, M., Riva-Cambrin, J., Gallagher, C.N.** *Journal of Neurological Surgery Part A*
- **Adolescent sport-related concussion and the associated neurophysiological changes: A systematic review**  
**Burma, J.S., Lapointe, A.P., Wilson, M., Penner, L.C., Kennedy, C.M., Newel, K.T., Galea, O.A., Miutz, L.N., Dunn, J.F., Smirl, J.D.** *Pediatric Neurology*
- **The benefits and barriers to implementation of multimodal NIRS/EEG as a clinical imaging tool**  
**Lapointe, A.P., Oni, I., Loewen, J.L., Dunn, J.D.** *Journal of Neuroscience Methods*
- **IQ after Pediatric Mild Traumatic Brain Injury: Frequentist, Bayesian, and Measurement Invariance Analyses**  
**Ware, A.L., McLarnon, M.J.W., Lapointe, A.P., Brooks, B.L., Yeates, K.O** *Pediatrics*

- The Influence of Hormonal Contraceptives on Concussion Outcomes in Collegiate Athletes: Data from the NCAA-DoD CARE Consortium  
Jay, J.J., Lapointe, A.P., Giza, C.C., Harris, D.P., McAllister, T., McCrea, M., Broglio, S.P., Moore, R.D., & CARE Consortium Investigators. *Medicine & Science in Sports & Exercise*
- Reproducibility of Resting State Functional Near Infrared Spectroscopy Concentration and Coherence over One Week of Measures  
Soroush, A., Lapointe, A.P., Burma, J.S., Oni, I.K., Smirl, J.D., Dunn, J.F. *Neurophotonics*
- Lost in Translation: How Chronic Traumatic Encephalopathy is Defined in the Media  
Todd, K.S., Memmni, A.K., Lapointe, A.P., Broglio, S.P. NA
- The impact of averaging fNIRS regional coherence data when monitoring people with long term post-concussion symptoms  
Dunn, J.F. Oni, I.K., Lapointe, A.P., Goodyear, B., Debert, C. *Neurophotonics*

## ARTICLES IN PREPARATION

- Simultaneous fNIRS-EEG Imaging During a Visual Checkerboard Task  
Oni, I.K., Lapointe, A.P., Duszynski, C.C., Hocke, L.M., Pittman, D.J., Goodyear, B.G., Dunn, J.F. *Brain*
- A systematic review of fNIRS in Sports-related Concussion  
Lapointe, A.P., Burma, J.S., Wilson, M., Dunn, J.F., Smirl, J.D. *Journal of Neurotrauma*
- Analyzing the Daily Variations in Quantitative Encephalographic (qEEG) Recordings During a One-Week Recovery Period Following a Sports-related Concussion  
Lapointe, A.P. Saroka, K.S., & Persinger, M.A. NA
- Cortical Dynamics, Cerebral Oximetry, and Postoperative Neurocognitive Recovery  
Vlisisides, P.E., Li, D., Maywood, M., Zierau, M., Lapointe, A.P., Brooks, J., McKinney, A.M., Thompson, A., Mentz, G., Mashour, G.A. *Anesthesiology*
- Machine learning during multimodal imaging: A combined fNIRS, EEG, ECG study  
Lapointe, A.P., Burma, J.S., Oni, I., Loewen, J.L., Dunn, J.D. *Brain*
- fNIRS differences in individuals with concussion history  
Lapointe, A.P., Burma, J.S., Oni, I., Loewen, J.L., Dunn, J.D. *Neurophotonics*
- The temporal neurovascular coupling response remains intact during transient hypo- and hyper-perfusion cyclical challenges  
Burma, J.S., Rattana, S., Oni, I.K., Lapointe, A.P., Dunn, J.F., Smirl, J.D. *Special Edition of cerebral blood flow regulation within Physiological Measures*
- Variability in cardiovascular metrics are predictive of individuals with a concussion history  
Lapointe, A.P., Burma, J.S., Oni, I., Soroush, A., Ritchie, J., Loewen, J.L., Dunn, J.D. *Journal of Neurotrauma*

## CONFERENCE AND SYMPOSIUM

- Jun 2022 ● **Exploring Functional Connectivity Among Adults With Persistent Post-Concussion Syndrome Using Functional Near Infrared Spectroscopy**  
Hotchkiss Brain Institute (HBI) Research Day  (Virtual Meeting)  
Du Plessis, S., Oni, I.K., Lapointe, A.P., Dunn, J.F., Debert, C.
- Jun 2022 ● **Frontal EEG Coherence as a predictor of contact-sport exposure**  
Canadian Concussion Network  (Montreal, QC)  
Lapointe, A.P., Dunn, J.F.
- Aug 2021 ● **Work smarter not harder: How evidence-based assessments dramatically reduce research cost and participant burden in multimodal neuroimaging protocols**  
Hotchkiss Brain Institute (HBI) Summer Student Symposium  (Virtual Meeting)  
Loewen, J., Lapointe, A.P., Burma, J., Soroush, A., Oni, I.K., Dunn, J.F.
- Oct 2022 ● **Task-specific changes in cerebral hemodynamics in pediatric mild traumatic brain injury**  
6th International Consensus Conference on Concussion in Sport  (Amsterdam, Netherlands)  
Lapointe, A.P., Ware, A.L., Duszynski, C.C., Yeates, K.O., Dunn, J.F.
- Oct 2021 ● **Development of simultaneous multimodal fNIRS/TCD acquisition system to assess brain activity and cerebrovascular regulation**  
Society of fNIRS Virtual Conference 2021  (Virtual Meeting)  
Oni, I.K., Burma, J., Lapointe, A.P., Smirl, J.D., Dunn, J.F.
- Oct 2021 ● **Theoretical and practical considerations implementing a quadmodal imaging protocol to assess concussion.**  
Society of fNIRS Virtual Conference 2021  (Virtual Meeting)  
Lapointe, A.P., Burma, J., Loewen, J., Newel, K.T., Ritchie, J.N., Vitali, R.V., Soroush, A., Oni, I.K., Dunn, J.F.
- Oct 2021 ● **Cerebral hemodynamic and white matter microstructure relationships in pediatric brain injury: Preliminary findings from Advancing Concussion Assessment in Pediatrics (A-CAP)**  
Society of fNIRS Virtual Conference 2021  (Virtual Meeting)  
Lapointe, A.P., Ware, A.L., Duszynski, C.C., Yeates, K.O., Dunn, J.F.
- Aug 2021 ● **Incorporating GPU and CPU parallel processing for neuroimaging analysis**  
University of Calgary Annual Biomedical Engineering Undergraduate Summer Research Symposium  (Virtual Meeting)  
Dunn, A., Lapointe, A.P., Oni, I.K., Dunn, J.F.

- Aug 2021
- **Improvements in the classification of concussion cohorts using self-reported daily vs weekly stress reports**  
Society for Neuroscience  (Chicago, IL)  
Loewen, J., Lapointe, A.P., Burma, J., Newel, K.T., Soroush, A., Oni, I.K., Ritchie, J.N., Dunn, J.F.
- May 2021
- **Functional Near Infrared Spectroscopy as a Biomarker of Response in Patients with Post-Concussion Syndrome Treated with Transcranial Magnetic Stimulation**  
Hotchkiss Brain Institute (HBI) Research Day  (Virtual Meeting)  
Du Plessis, S., Campbell, C., Oni, I.K., Lapointe, A.P., Kirton, A., Dunn, J.F., Debert, C.
- Jan 2021
- **Treatment of Persistent Post Concussion Syndrome with rTMS using fNIRS as a Biomarker of Response**  
Annual Canadian Traumatic Brain Injury Research Consortium (CTRC)  (Virtual Meeting)  
Du Plessis, S., Oni, I.K., Campbell, C., Lapointe, A.P., Kirton, A., Dunn, J.F., Debert, C.
- Oct 2021
- **The Potential for a Head-mounted Accelerometer to Detect Increased Sway in Concussed Populations**  
Alberta Biomedical Engineering Conference  (Banff, Canada)  
Lapointe, A.P., Ritchie, J.N., Vitali, R., Burma, J.S., Soroush, A., Oni, I.K., Dunn, J.F.
- Aug 2021
- **How Does Sport-related Concussion Alter Measures in EEG and fNIRS: Findings from Two Systematic Reviews**  
HBI, ACHRI & Owerko Centre Summer Student Symposium  (Virtual Meeting)  
Wilson, M., Burma, J.S., Lapointe, A.P., Smirl, J.D.
- Aug 2021
- **The Potential for a Head-mounted Accelerometer to Detect Increased Sway in Concussed Populations**  
HBI, ACHRI & Owerko Centre Summer Student Symposium  (Virtual Meeting)  
Ritchie, J.N., Lapointe, A.P., Vitali, R., Soroush, A., Burma, J.S., Oni, I.K., Dunn, J.F.
- Aug 2021
- **Development of a Clinically Viable Multimodal Neuroimaging Protocol: Integration of Electroencephalography**  
HBI, ACHRI & Owerko Centre Summer Student Symposium  (Virtual Meeting)  
Jiang, S., Lapointe, A.P., Soroush, A., Burma, J.S., Oni, I.K., Dunn, J.F.
- Aug 2021
- **Electroencephalography-based Functional Connectivity Demonstrates Global Alpha Desynchronization During Balance**  
University of Calgary 14th Annual Biomedical Engineering Undergraduate Summer Research Symposium  (Virtual Meeting)  
Jiang, S., Lapointe, A.P., Burma, J.S., Soroush, A., Oni, I.K., Dunn, J.F.

- Aug 2021
- **Internal Consistency of Sway Measures from a Head-mounted Accelerometer in Healthy Controls**  
University of Calgary 14th Annual Biomedical Engineering Undergraduate Summer Research Symposium  
 (Virtual Meeting)  
Ritchie, J.N., Lapointe, A.P., Vitali, R., Soroush, A., Burma, J.S., Oni, I.K., Dunn, J.F.
- Aug 2021
- **[Presentation Judge]**  
5th Annual McCaig Institute Summer Student Symposium  
 (Virtual Meeting)  
N/A
- Jun 2021
- **Challenges Integrating a Multimodal Mobile Brain Imaging Protocol in the Clinical Assessment of Concussion**  
8th Annual Canadian Traumatic Brain Injury Research Consortium (CTRC)  
 (Virtual Meeting)  
Lapointe, A.P., Soroush, A., Burma, J.S., Oni, I.K., Wang, Q., Dunn, J.F.
- Jun 2021
- **A Theoretical Framework Evaluating Cerebral Haemodynamic Variability in Concussed Cohorts**  
8th Annual Canadian Traumatic Brain Injury Research Consortium (CTRC)  
 (Virtual Meeting)  
Soroush, A., Lapointe, A.P., Burma, J.S., Oni, I.K., Wang, Q., Dunn, J.F.
- Jun 2021
- **Neuroelectric and Cerebral Oxygenation Indices of Processing Speed in the Classification of Concussed Cohorts**  
8th Annual Canadian Traumatic Brain Injury Research Consortium (CTRC)  
 (Virtual Meeting)  
Oni, I.K., Lapointe, A.P., Soroush, A., Burma, J.S., Goodyear, B.G., Dunn, J.F.
- Jun 2021
- **Sentiment Analysis of Journal Articles, Press Releases, and News Articles Pertaining to CTE.**  
American College of Sports Medicine Annual Meeting 2020  
 (Virtual Meeting)  
Todd, K.S., Memmini, A.K., Lapointe, A.P., Broglio, S.P.
- Jan 2021
- **Hemodynamic Correlates of EEG Microstate Temporal Dynamics: Implications for fNIRS EEG Investigations of Resting State Networks**  
7th Annual Canadian Traumatic Brain Injury Research Consortium (CTRC)  
 (Lake Louise, AB)  
Lapointe, A.P., Oni, I.K., Pearce, S., Burma, J.S., Dunn, J.F.
- Aug 2021
- **Brain Computer Interface (BCI) Applications in Simultaneous fNIRS-EEG Imaging**  
University of Calgary Annual Biomedical Engineering Undergraduate Summer Research Symposium  
 (Calgary, Canada)  
Jamali, M., Lapointe, A.P., Oni, I.K., Dunn, J.F.
- Aug 2021
- **Multimodal Imaging using EEG, EMG and ECG**  
University of Calgary 14th Annual Biomedical Engineering Undergraduate Summer Research Symposium  
 (Calgary, Canada)  
Wang, Q., Lapointe, A.P., Oni, I.K., Dunn, J.F.

- Dec 2021
- **Congruence in Hemodynamic and Electrophysiological Signals During a Visual Task using fNIRS and EEG**  
Alberta Children's Hospital Research Institute (ACHRI) Research Retreat 2019  (Banff, AB)  
Oni, I.K., Lapointe, A.P., Pearce, S., Dunn, J.F.
- Dec 2021
- **Neuroelectric and Hemodynamic Measures of Functional Connectivity Implications for New Biomarkers in Advanced Paediatric Clinical Care**  
Alberta Children's Hospital Research Institute (ACHRI) Research Retreat 2019  (Banff, AB)  
Lapointe, A.P., Oni, I.K., Pearce, S., Burma, J.S., Dunn, J.F.
- May 2021
- **Sentiment Analysis of Journal Articles, Press Releases, and News Articles Pertaining to Chronic Traumatic Encephalopathy.**  
7th Annual Conference of the Sports Neuropsychology Society  (Seattle, WSH)  
Todd, K., Lapointe, A.P. & Broglio, S.P.
- Oct 2021
- **fNIRS-EEG During a Visual Checkerboard Task a Neurovascular Coupling Investigation**  
Biomedical Engineering Society (BMES) Conference  (Philadelphia, PA)  
Oni, I.K., Lapointe, A.P., Duszynski, C.C., Goodyear, B.G., Dunn, J.F.
- Oct 2021
- **Investigations of Neurovascular Coupling Within the Visual Cortex using Simultaneously Recorded fNIRS and EEG.**  
Alberta Biomedical Engineering Conference  (Banff, Canada)  
Oni, I.K., Lapointe, A.P., Duszynski, C.C., Goodyear, B.G., Dunn, J.F.
- Oct 2021
- **Objective Performance Assessment of a User-Friendly Pipeline in the Analysis of fNIRS Data.**  
Alberta Biomedical Engineering Conference  (Banff, Canada)  
Pearce, S.A., Randall, C., Oni, I.K., Lapointe, A.P., Duszynski, C.C., Dunn, J.F.
- Jul 2021
- **Method for Estimating Three-Dimensional Knee Rotations with Inertial Measurement Units**  
XVII Congress of the International Society of Biomechanics  (Calgary, Canada)  
Vitali, R., Lapointe, A.P., Perkins, N.
- May 2019
- **No Effect of Randomizing Concussion Symptom Presentation on Symptom Number or Severity Reporting**  
American College of Sports Medicine Annual Meeting 2019  (Orlando, FL)  
Van Pelt, K.L., Dougherty, L.A., Feinberg, G.F., Lapointe, A.P., & Broglio, S.P.
- May 2019
- **The Utility of EEG in the Advancement of fNIRS.**  
Cummings School of Medicine Radiology Day.  (Calgary, AB)  
Lapointe, A.P., Dunn, J.F.
- May 2019
- **Sentiment Analysis of Journal Articles and News Articles Pertaining to CTE**  
Sports Neuropsychology Society Symposium  (Washington, DC)  
Todd, K., Lapointe, A.P. & Broglio, S.P.

- May 2019
- **Functional Near-Infrared Spectroscopy**  
Biochemistry and Molecular Biology Departmental Graduate Association: Method Day  (Calgary, AB)  
Lapointe, A.P.
- May 2019
- **Long Term Effects of Concussion on Eye Tracking Patterns**  
American College of Sports Medicine Annual Meeting 2019   
Dougherty, L.A., Van Pelt, K.L., Lapointe, A.P., Feinberg, G.F., Memminni, A., Breedlove, K.M. & Broglio, S.P.
- May 2019
- **Examining Persistent Deficits in Gait Utilizing Inertial Measurement Units**  
American College of Sports Medicine Annual Meeting 2019   
Feinberg, G.F., Lapointe, A.P., Van Pelt, K.L., Dougherty, L.A., Memminni, A., Breedlove, K.M. & Broglio, S.P.
- Mar 2019
- **The Influence of Hormonal Contraceptives on Concussion Outcomes in Collegiate Athletes: Data from the NCAA-DoD CARE Consortium.**  
13th World Congress on Brain Injury International Brain Injury Association.   
Jay, J.J., Lapointe, A.P., McAllister, T., McCrea, M., Broglio, S.P., Moore, R.D., & CARE Consortium Investigators.
- Mar 2019
- **Neurodevelopmental Disorders and Risk of Concussion: Findings from the NCAA-DOD Concussion Consortium**  
13th World Congress on Brain Injury International Brain Injury Association.   
Gunn, B., Lapointe, A.P., McAllister, T., McCrea, M., Broglio, S.P., Moore, R.D., & CARE Consortium Investigators.
- Jan 2019
- **Attendee**  
The Canadian Traumatic Brain Injury Research Consortium   
N/A
- Oct 2018
- **Pupillary Changes after Nonconcussive High-Acceleration Head Impacts in High School Football Athletes.**  
Congress of Neurological Surgeons Annual Meeting   
Joseph, J.R., Swallow, J.S., Willsey, K., Lapointe, A.P., O'Connor, K., Szerlip, N.J., Broglio, S.P.
- Jul 2018
- **Method for Calculating Three-Dimensional Knee Rotations with Body-Worn Measurement Units**  
8th World Congress on Biomechanics   
Vitali, R., Lapointe, A.P., Perkins, N.
- May 2018
- **The Effect of One Season of Football Exposure on Quality of Life Measures**  
Sports Neuropsychology Society Symposium   
Lapointe, A.P., Vokulich, P., Williams, R.M., Rettmann, A., Swallow J., & Broglio S.P.
- May 2021
- **Pupillary Light Reflex Changes after High Magnitude Sub-Concussive Impacts in High School Football Players**  
Sports Neuropsychology Society Symposium   
Swallow J.S., Joseph, J.R., Willsey, K., Lapointe A.P., O'Connor K.L., Szerlip, N.J., & Broglio S.P.

- May 2018
- **Performance Impact from Concussions - NFL Defensive Backs**  
MIDAS Health Sciences Challenge Symposium  
Wittrup, E.M., Lapointe, A.P., Broglio, S.P.  
 (Ann Arbor, MI)
- Apr 2018
- **Pupillary Light Reflex Changes after High Magnitude Sub-Concussive Impacts in High School Football Players**  
Kinesiology Graduate Showcase  
Swallow J.S., Joseph, J.R., Willsey, K., Lapointe A.P., OConnor K.L., Szerlip, N.J., & Broglio S.P.  
 (Ann Arbor, MI)
- Apr 2018
- **Analysis of JumpCut Maneuver for Center of Mass**  
Kinesiology Graduate Showcase  
Groll, T., Lapointe A.P., Nolasco, L.A., Sosnowski, A., Andrews, E., Martini, D.N., Palmeiri-Smith, R., Gates, D.H., & Broglio, S.P.  
 (Ann Arbor, MI)
- Apr 2018
- **A Season of Football Has No Effect on Quality of Life Measures**  
Kinesiology Graduate Showcase  
Lapointe A.P., Vokulich, P., Williams, R.M., Rettmann, A., Swallow J., & Broglio S.P.  
 (Ann Arbor, MI)
- Oct 2017
- **Exposure to Contact Sports Predicts the Reliability of Daily Quantitative Electroencephalographic Measurements**  
World Congress of Neurology  
Lapointe, A.P., Saroka, K., Broglio, S.P., & Persinger, M.A.  
 (Kyoto, Japan)
- Oct 2017
- **Time Between Impacts as a Factor in Kinematic Models Predicting Concussion**  
World Congress of Neurology  
Lapointe, A.P., OConnor, K.L., & Broglio, S.P.  
 (Kyoto, Japan)
- Aug 2017
- **A Meta-analytic Approach to Sport Concussion Risk Categories**  
MICHR Summer Research Program  
Swallow J., OConnor K., Lapointe, A.P., Broglio S.P.  
 (Ann Arbor, MI)
- Jul 2017
- **Serum Biomarker Changes are not Associated with Head Impact Exposure in High School Football Athletes**  
National Neurotrauma Society  
Joseph, J.R., Swallow, J.S., Lapointe, A.P., Willsey, K., Park, P., Szerlip, N.J., Broglio, S.P.  
 (Salt Lake City, Utah)
- May 2017
- **National Hockey League Players Concussion And Lower-Body Injury Risk Across the 2012–2015 Seasons.**  
American College of Sports Medicine Annual Meeting 2017  
OConnor, K.L., Lapointe, A.P., Bhargava, T., & Broglio, S.P.  
 (Denver, Colorado)

- May 2017
- **Gender Specific Differences in Knee Kinematics Between Participants With And Without A Concussion History.**  
American College of Sports Medicine Annual Meeting 2017  (Denver, Colorado)  
Lapointe, A.P., Nolasco, L., Sosnowski, A., Andrews, E., Martini, D.N., Palmeiri-Smith, R., Gates, D.H., & Broglio, S.P.
- Oct 2016
- **Acute Association Between Football Head Impact Density and Learning Performance**  
Massey Regional TBI Conference 2016  (Ann Arbor, MI)  
OConnor, K.L., Lapointe, A.P., & Broglio, S.P.
- Oct 2016
- **Biomechanical Differences in a Jump Cut Motion in Those with and without a History of Concussion**  
5th International Consensus on Concussion in Sport  (Berlin, Germany)  
Lapointe, A.P., Nolasco, L., Sosnowski, A., Andrews, E., Martini, D.N., Gates, D.H., & Broglio, S.P.
- Jun 2016
- **Landing Kinetics Differences in Individuals with and without a History of Concussion**  
American College of Sports Medicine Annual Meeting 2016  (Boston, MA)  
Lapointe, A.P., Sosnowski, A., Andrews, E., Martini, D.N., & Broglio, S.P.
- Jun 2021
- **Effect of Concussion on Pro Ice Hockey Player Performance.**  
American College of Sports Medicine Annual Meeting 2016  (Boston, MA)  
OConnor, K.L., Lapointe, A.P., Galdys, M., & Broglio, S.P.
- Jun 2016
- **Attendee**  
11th Annual Sports-Related Concussion and Spine Injury Conference hosted by the Harvard Medical School  (Boston, MA)  
N/A
- Jan 2014
- **Examining the Impact of a Sports-related Concussion on Daily Electroencephalographic Profiles**  
American Academy of Neurology's 1st Annual Sport Concussion Conference  (Chicago, IL)  
Lapointe, A.P., Saroka, K., & Persinger, M.A.
- Sep 2014
- **Examining the Effectiveness of the Quantitative Electroencephalograph (QEEG) in the Detection of Mild Traumatic Brain Injuries Past and Current Research**  
Brain Injury Association of Canada  (Gatineau, QC)  
Lapointe, A.P., Saroka, K., & Persinger, M.A.
- Jun 2013
- **Étude Électro-encéphalographique d'un Individu Suite à une Commotion Cérébrale**  
Laurentian University's Research Week  (Sudbury, ON)  
Lapointe, A.P.

Jan 2013

- **Acute Effects and Recovery after a Sports Related Concussion Neurocognitive and Quantitative Brain Electrical Activity Study**

Human Kinetics Conference, Laurentian University

📍 (Sudbury, ON)

Lapointe, A.P.

## 💡 INVITED SPEAKER PRESENTATIONS

2019

- **William Aberhart : Sport Medicine**

Novel Applications of fNIRS and EEG

📍 Calgary, AB

- Gave a talk to high school students on neuroimaging methods
- Described alternative academic routes outside of medical school

2015

- **La Cité Collégiale : Administration**

Communication administrative

📍 Ottawa, ON

2015

- **La Cité Collégiale : L'apprentissage d'âge scholaire**

Un programme d'activité adapté au développement des enfants

📍 Hawkesbury, ON

2013

- **La Cité Collégiale : Développement de l'enfant III**

Les stages de développement de l'enfant et son rapport neuroanatomique

📍 Cornwall, ON

2011

- **La Cité Collégiale : Développement de l'enfant II**

Les théories de développement de l'enfant et son rapport au comportement en classe

📍 Cornwall, ON

## 🎓 GRANTS

2022

- **Hotchkiss Brain Institute Conference Travel Award**

\$500 CAD

📍 University of Calgary

- Received financial support to attend a concussion conference in Amsterdam

2022

- **Alberta Children's Hospital Research Institute Trainee Travel Award**

\$500 CAD

📍 University of Calgary

- Received financial support to attend a concussion conference in Amsterdam

2021

- **OpenBCI Equipment Sponsorship**

~\$4,934 USD

- Walk through of training a convolutional neural network to achieve state of the art recognition of activities from accelerometer data.

2021

- **Alberta Children's Hospital Research Institute Workshop Support**

~ \$500 CAD

- I received support to aid in the development of my 9-week workshop series

- 2021
- **Hotchkiss Brain Institute Research, Education And Leadership In NeuroSciencE (REALISE)**  
~ \$500
    - I received support to aid in the development of my 9-week workshop series
- 2020
- **Canadian Space Agency, TCS 1: Medical Diagnostic Tools for Deep Space Missions – Spacecraft Medical Imaging System**
    - I was a member of the team that recently submitted a planning document for the Canadian Space Agency, TCS 1: Medical Diagnostic Tools for Deep Space Missions – Spacecraft Medical Imaging System.
    - I worked with Dr. Sarty (PI) and a team to create a concept for a medical imaging module for long term missions
- 2017
- **Rackham Graduate Pre-Candidate Research Grant**  
\$1500 USD
  - **Shirley Cooper Graduate Student Travel Award**  
\$250 USD
  - **Kinesiology Graduate Student Travel Award**  
\$800 USD
  - **Rackham Conference Travel Grant**  
\$800 USD
  - **Kinesiology Graduate Student Travel Award**  
\$800 USD
- 2014  
|  
2012
- **Laurentian University Graduate Teaching Assistantship/Graduate Fellowship**

## ☰ CONTRIBUTIONS TO SCIENCE MEDIA

- 2021
- **How Does the Cyton Compare vs. Industry-standard ECG Systems...?**  
OpenBCI Newsletter
    - Our research paper was prominently highlighted in our industry partners monthly newsletter
- 2021
- **Development and testing of a multimodal neuroimaging protocol**  
OpenBCI
    - Research from my OpenBCI Sponsorship Program was highlighted on the company website
- 2016
- **Concussion repercussions: Studies explore lower extremity effects**  
Lower Extremity Review
    - Featured in June 2016 edition

- 2016
- **Kines HITS SXSW**  
Movement (Fall 2016)
    - Author: Pratiksha Menon
    - Research was highlighted in the fall edition of Movement magazine (pp. 18-19)
- 2014
- **En Los Límites de la Ciencia (At the Limits of Science)**  
Television
    - Science television program in Spain; international research collaboration (Transnational Anomalies Research – FieldREG initiative)
    - Featured on a single episode
- 2014
- **En Los Límites de la Ciencia (At the Limits of Science)**  
Television
    - Science television program in Spain; international research collaboration (Transnational Anomalies Research – FieldREG initiative)
    - Featured on a single episode
- 2014
- **Cope Radio**  
Television
    - International research collaboration (Transnational Anomalies Research – The Premonitions project)
    - Featured on multiple radio segments including interviews with team researchers

## ☰ AD-HOC REVIEWER

- **International Journal of Environmental Research and Public Health (IJERPH)**
- **Sensors**
- **Applied Sciences**
- **Neuropsychologia**
- **Journal of Athletic Training**
- **Journal of Neurotrauma**

## ↳ MEMBERSHIPS AND COLLABORATIONS

Current  
2019

- **Experimental Imaging Centre**  
Postdoctoral Research Fellow

📍 University of Calgary

Current   2019	● <b>Integrated Concussion Research Program</b> Mentor, Member	📍 Calgary, AB
2020   2016	● <b>Anesthesiology Department, University of Michigan</b> Perioperative EEG Research Consultant	📍 Ann Arbor, MI
2019   2015	● <b>NeuroTrauma Research Laboratory</b> Graduate Research Assistant	📍 Ann Arbor, MI
2015   2013	● <b>Transnational Anomalies Research</b> Researcher, Experimental Engineer, Technician, Hardware Design.	
2015   2011	● <b>Neuroscience Research Group</b> Full-time member, researcher, experiment design, hardware engineer, experiment hardware fabrication, website builder, website maintenance, data analysis, tech support, author, EEG technician	📍 Sudbury, ON

## ✉ TEACHING EXPERIENCE

2014	● <b>Physiologie de l'exercice II [EDPH 2507]</b> Human Kinetics Program • Served as Teaching Assistant • Charged with laboratory sections	📍 Laurentian University
2014   2012	● <b>Physiologie de l'exercice I [EDPH 2506]</b> Human Kinetics Program • Laboratory Instructor	📍 Laurentian University
2014   2013	● <b>Physiologie de l'exercice</b> Human Kinetics Program • Tutoring	📍 Laurentian University
2014   2010	● <b>Introduction to Statistics</b> Psychology Department • Tutoring	📍 Laurentian University
2013	● <b>Science d'exercice [EDPH 1006]</b> Human Kinetics Program • TA and lectured	📍 Laurentian University
2013	● <b>Physiologie de l'exercice I [EDPH 2506]</b> Human Kinetics Program • TA and lectured • Topics covered from penalized regression to boosted trees and neural networks • Highest level course offered in department	📍 Laurentian University

2013  
|  
2012

● **Physiologie de l'exercice I [EDPH 2506]**

Human Kinetics Program



- TA and lectured
- Covered modern statistical computing algorithms
- 4th year PhD level class

2013

● **University Teaching Preparation Program “Teaching in the University Classroom”**

Laurentian University’s Centre for Academic Excellence



- Week long course on effective teaching methods in University setting

## ► YOUTUBE

2021

● **The Advantages of Reproducible Science Workflows**

- **Description:** During this module I will go through several reasons why you should consider reproducible science workflows. We will go over project organization using the template you downloaded in module #1. At the end of this module you should gain an understanding of why and how to organize your projects

2021

● **Finding Help Online**

- **Description:** At some point you will run into a problem. This module will go over where and when to ask for help when you run into an issue. One of the main advantages of R over other programming languages is its immense community. In this module I will go over the essentials of finding answers to your specific problems. Students will be encouraged to post a question on GitHub with a specific issue they have encountered throughout the course. We will show examples of “reprex” which stands for “reproducible example”.

2021

● **Installation and Project Workflows**

- **Description:** One of the largest barriers to using these workflows is the initial setup. You will go through the process of installing the required programs, scripts and files that will be used throughout this workshop. This process is fairly easy, but can also be irritating. With my help you should be able to get through this in about 2 hours.

2021

● **RMarkdown Essentials**

- **Description:** Over this module we will go over each of the elements that go into an interactive document. This includes: Inserting figures and tables, inserting citations, how to change formatting and knitting your document.

2021

● **Introductory Statistics #1**

- **Description:** During this module we will go over the process of running an ANOVA and its assumptions. At the end of this module you should gain an understanding of how and when to run an ANOVA on your data. In addition, examples of reporting your ANOVA outputs in APA format will be showcased.

- 2021 ● **Introductory Statistics #2**
- **Description:** An extension of the previous module, we will go over how to proceed when the output of your ANOVA displays a significant interaction between factors
- 2021 ● **Data Wrangling**
- **Description:** Data from experiments is rarely organized in the fashion you require to run statistics. In this module we will go over how to “wrangle” or “clean” your data into a suitable format to create tables and figures.
- 2021 ● **Plotting using the Grammar of Graphics**
- **Description:** During this module we will briefly go over the essentials of ggplot, the main package used to create figures within R.

## RECENT MENTORSHIP & SUPERVISION

- 2021 |  
2021 ● **Jamey Loewen**  University of Calgary
- 2021 |  
2020 ● **Atyeh Soroush**  University of Calgary
- 2020 ● **Jessica Ritchie**  University of Calgary
- 2020 ● **Stephen Jiang**  University of Calgary
- 2020 ● **Megan Wilson**  University of Calgary
- 2019 ● **Mobina Jamali**  University of Calgary
- 2018 ● **Qingfei Wang**  University of Calgary