

## **Trevor N. Carniello**

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### **LANGUAGES**

**English**

### **EDUCATION**

**MA Applied Psychology** **2020 – 2022**

Laurentian University, Sudbury, ON

**MA Thesis:** *Individual Differences in Career Choice*

**Supervisor:** Dr. Paul M. Valliant

**Ph.D. Biomolecular Sciences** **2016 – 2020**

Laurentian University, Sudbury, ON

**Ph.D. Thesis:** *Characterizing the Structural Influence of Electromagnetic Fields Application Geometry on Biological Systems*

**Supervisor:** Dr. Robert Lafrenie; Dr. Michael A. Persinger (deceased)

**MSc Biology** **2013 – 2016**

Laurentian University, Sudbury, ON

**MSc Thesis:** *Bioelectrical and biophysical interactions across spatio-temporal domains identifying the conduit for the emergence of material from the immaterial*

**Supervisor:** Dr. Michael A. Persinger

**HBsc Behavioural Neuroscience and Biochemistry** **2009 – 2013**

Cum Laude

Laurentian University, Sudbury, ON

**HBsc Thesis:** *The Effects of Weak-Patterned Electromagnetic Fields on Remote Viewing Accuracy and Quantitative Electroencephalographic Measures*

**Supervisor:** Dr. Michael A. Persinger

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### **GRADUATE COURSEWORK**

**PSYC – 5406EL: Ethical and Professional Issues**

**PSYC – 5336EL: Psychodiagnosis and Assessments in Adults**

**PSYC – 5356EL: Psychology of Individual Differences**

**PSYC – 5316EL: Psychological Disorders**

**PSYC – 5327EL: Counselling and Behavioural Interventions for Adults**

**PSYC – 5306EL: Psychodiagnosis and Assessments of Children I**  
**PSYC – 5106EL: Applied Multivariate Statistics**  
**BMOL – 6005EL: Topics in Biomolecular Sciences**  
**BMOL – 6106EL: Advanced Topics in Cell Regulation**  
**HUST – 6216EL: Independent Studies I – Parallel Patterns in Interdisciplinary Science**  
**BIOL – 5066EL: Topics in Evolutionary Biology I**  
**BIOL – 5056EL: Biology Seminars**  
**BIOL – 5106EL: Designs and Methods of Analysis**  
**BIOL – 5176EL: Complex Systems in Biology**

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### **SCHOLARSHIPS/AWARDS**

#### **Laurentian University**

**Ontario Graduate Scholarship – Master’s Level** **2020 – 2021**  
**Value: \$15, 000 CDN**

#### **Laurentian University**

**Ontario Graduate Scholarship – Doctoral Level** **2017 – 2018**  
**Value: \$15, 000 CDN**

#### **Laurentian University**

**Ontario Graduate Scholarship – Master’s Level** **2016 – 2017**  
**Value: \$15, 000 CDN**

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### **PROFESSIONAL DEVELOPMENT**

#### **Continuing Education**

- Cognitive Behavioural Therapy for Depression and Suicide Prevention, May 16 – 18, 2022 presented by Dr. Francine R. Broder, PsyD and the Beck Institute for Cognitive Behaviour Therapy
- Cognitive Behavioural Therapy for Personality Disorders, November 1, 8, & 15, 2021 presented by Dr. Robert Hindman and the Beck Institute for Cognitive Behaviour Therapy
- Executive Function & ADHD: Evidence-Based Assessment with the BRIEF2, December 1, 2020 presented by Peter Isquith
- Introduction to the MMPI-3, December 15, 2020 presented by Yossef Ben-Porath
- Addressing White Racism as Part of the Psychotherapy August 26, 2020 presented by The National Register’s Clinical Webinar Series
- Pandemics, Trauma, and Emotional Disturbance, January 20, 2021 presented by Theo Miron and Carrie Champ Morera
- Cognitive Behaviour Therapy for Anxiety, February 26 – 27, 2021 presented by Beck Institute for Cognitive Behaviour Therapy

### **Seminars Attended**

- Barbara Wand Seminar in Professional Ethics, Standards and Conduct: Trick Issues in Professional Practice. January 2022. Online Webcast. Presenter: Dr. Rick Morris
- Barbara Wand Seminar in Professional Ethics, Standards and Conduct: Ethical Practice in the Context Sexual and Gender Diversity, June 10, 2021. Online Webcast. Presenter: Dr. Allison Kirschbaum
- Barbara Wand Seminar in Professional Ethics, Standards and Conduct: Professional Self-Care, September, 2020. Online Webcast. Presenter: Dr. Sam Mikail.
- Barbara Wand Seminar in Professional Ethics, Standards and Conduct: Evidenced-Based Practice in Psychology: Implementation Options and Challenges, December, 2019. Online Webcast. Presenter: Dr. John Hunsley.

### **WORK EXPERIENCE**

**Psychometrist and Counselor** **December 2017 – Present**

**Private Practice of Dr. Paul M. Valliant C. Psych  
Sudbury, ON**

*Performing psychological assessments and clinical interviews to understand the dynamics and behaviour of adult and adolescents involved in the Criminal Justice System. Conducting counselling sessions for Stress/Anger Management and Sex Offender Relapse Prevention to reduce recidivism in violent and sexual offenders while under community care in both individual and group settings. All responsibilities are performed under the direct supervision of Dr. Paul Valliant at his office.*

**Psychometrist (Neuropsychological Evaluations)** **September 2016 – July 2017**

**Private Practice of Dr. Matias Mariani C. Psych  
Sudbury, ON**

*Administering, scoring, and interpreting the results of neuropsychological tools and clinical interviews assessing individuals suspected of cognitive impairment subsequent to closed injury, as well as individuals suspected of having neurodegenerative disease, psychological disorders, psychiatric disorders, or neuropsychological impairments. Assisting in the composition of written neuropsychological reports.*

**Instructor – Anatomy and Physiology** **September 2017 – August 2019**

**CTS Canadian Career College  
Sudbury, ON**

*Preparing and presenting lectures to primary care paramedic students on the fundamentals of Human Anatomy and Physiology at the College level while maintaining an open, non-judgmental, and positive learning environment. Additional duties included preparing and grading section tests to assess knowledge of the functional and anatomical features of each organ system, creating and grading homework assignments, and creating and grading term papers.*

**Instructor – Psychology** **May 2019 – August 2019**

**CTS Canadian Career College  
Sudbury, ON**

*Preparing and presenting lectures to primary care paramedic students on the fundamentals of Psychology with a particular emphasis on Abnormal Psychology at the College level.*

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**ACADEMIC WORK EXPERIENCE**

**Graduate Teaching Assistant –  
Design and Analysis  
Laurentian University  
Sudbury, ON**

**January 2021 – April 2021**

*Conducted weekly seminars and reviews to assist students develop a sense of mastery conceptualizing parametric (e.g., t-tests, ANOVAs) and non-parametric (chi-squared) statistical procedures.*

**Graduate Teaching Assistant -  
Introduction to Statistics  
Laurentian University  
Sudbury, ON**

**September 2020 – December 2020**

*Conducted weekly seminars and reviews to assist students prepare for midterm and final evaluation. Emphasis was placed on the conceptualization of introductory statistical methods and mathematical operations.*

**Graduate Teaching Assistant-  
Topics in Cognitive Psychology  
Laurentian University  
Sudbury, ON**

**January 2020 – April 2020**

*Review and graded term papers in subjects related to Cognitive Psychology. Conducted two lectures on Topics related to Cognitive Psychology, most notably Memory and Moral Decision-Making.*

**Graduate Teaching Assistant-  
Forensic Psychology  
Laurentian University  
Sudbury, ON**

**September 2019 – December 2019**

*Assisted course instructor grade oral presentations on various domains associated with Forensic Psychology. Presented lecture material on the neurobiology of criminal behaviour and psychopathy. In addition, presented lecture material on assessment procedures in Forensic settings with an emphasis on risk assessments for sexual recidivism.*

**Graduate Teaching Assistant –  
Introduction to Psychology  
Laurentian University  
Sudbury, ON**

**September 2019 – April 2020**

*Assisted course instructor with grading midterm and final evaluations. Presented lecture material intruding the brain basis of behaviour. In addition, conducted guest lecture discussing the history of and current topics in Neuroscience.*

**Graduate Teaching Assistant-  
4<sup>th</sup> Thesis: Biology  
Laurentian, University  
Sudbury, ON**

**September 2018 – April 2019**

*Assisted in the development of experiments designed to investigate and answer scientific inquires across a host of biological and neuroscientific research areas (e.g., seizure histology, addictions models and their treatments, invertebrate learning and memory). In addition, helped students develop practical and applicable biological and neuroscientific research skills in a wet lab setting. Assistance was also provided to develop students' understanding and application of appropriate statistical techniques to verify the significance of their findings.*

**Graduate Teaching Assistant-  
Neurobiology  
Laurentian, University  
Sudbury, ON**

**January 2018 – April 2018**

*Assisted students further their capacity for identification and understanding of the micro-structural organization and divisions of rat brain nuclei by serially investigating and comparing histological atlases of the normal and dysfunctional rodent brains.*

**Graduate Teaching Assistant-  
Advanced Human Neuroanatomy  
Laurentian, University  
Sudbury, ON**

**September 2016 – April 2019**

*Assisted students develop an advanced understanding of the structural and functional organization of the human brain in a wet lab setting.*

**Graduate Teaching Assistant –  
Human Anatomy and Physiology  
Laurentian, University  
Sudbury, ON**

**September 2014 – April 2017**

*Examined tissue samples of the anatomical structures of the human body's organ systems and conducted experiments to demonstrate the functional importance and difference of these organ systems.*

**Graduate Teaching Assistant -  
Introduction to Biology (I)  
Laurentian, University  
Sudbury, ON**

**September 2013 – April 2014**

*Prepared, demonstrated, and assisted students conduct experiments to develop and compliment their understanding of concepts relevant to biology in both plants and animals.*

**Graduate Teaching Assistant –**

**Neuropsychopharmacology  
Laurentian, University  
Sudbury, ON**

**September 2013 – December 2013**

*Designed experiments and provided technical laboratory training for the purpose of developing students' experiential understanding of how pharmacological agents impact different aspects of behaviour, learning, memory, and regeneration of invertebrates as a means to compliment the topics and material presented in the neuropsychopharmacology course as they apply to normal and dysfunctional human brain states.*

**Teaching Assistant –  
Brain and Behaviour  
Laurentian, University  
Sudbury, ON**

**September 2013 – December 2018**

*Discussed relevant topics and techniques in neuroscience developed to identify and appreciate the relationship between how brain structure leads to behaviour (function). Furthermore, students developed a recognition and understanding of the 3-dimensional organization of the brain by identifying neuroanatomical structures, and their associated functions, present in coronal sections of fixed sheep brains.*

**Undergraduate Teaching Assistant –  
Brain and Behaviour  
Laurentian, University  
Sudbury, ON**

**September 2010 – December 2013**

*Discussed relevant topics and techniques in neuroscience developed to identify and appreciate the relationship between how brain structure leads to behaviour (function). Furthermore, students developed a recognition and understanding of the 3-dimensional organization of the brain by identifying neuroanatomical structures, and their associated functions, present in coronal sections of fixed sheep brains.*

**RESEARCH EXPERIENCE**

- Assisted with the design and execution of several 4<sup>th</sup>-year Neuroscience Undergraduate Theses at Laurentian University
- The effects of pharmaceuticals on the physiology and behaviour in invertebrate (i.e., *Dugesia tigrina*) seizure, addiction, and regeneration models
- Histological practices, techniques, and microscopy
- Theoretical biophysics
- Human health and behaviour
- Cell and tissue culturing
- The effects of weak, complex magnetic fields on biological systems
- Biomolecular techniques
- Human electrophysiology and dynamic imaging (i.e. quantitative electroencephalography, s-LORETA)
- Electrophysiology
- Vertebrate physiology and dissection
- Human and rat neuroanatomy

- Correlative neuroanatomy of normal and disease models (i.e. status epilepticus, multiple sclerosis, Parkinson's disease)
- Clinical Interviews
- Psychometrics (e.g., Forensic Psychology, Clinical Neuropsychology)
- Group and Individual Counselling
- Statistical processing
- Invertebrate models of behaviour and learning
- Vertebrate models of behaviour and learning

### **RESEARCH INTERESTS**

- The effects of weak, complex magnetic fields on biological systems
- The effects of pharmaceuticals on the physiology and behaviour in invertebrate (i.e., *Dugesia tigrina*) seizure, addiction, and regeneration models
- Novel and prophylactic treatments of neurodegenerative diseases, personality disorders, and mood disorders
- Alternative treatments for cancer (e.g., medduloblastoma)
- Early diagnosis of cancer and neurodegenerative diseases
- Molecular mechanisms of learning, memory, and neurodegenerative disease progression
- Neuropathophysiology of seizures, Alzheimer's disease, Parkinson's disease
- Micro-structural alterations of memory
- Rehabilitation following closed head injuries
- Biophysics
- Environmental influences contributing to human behaviour
- Relationship between psychometric measures of cognition, personality, and human behaviour
- The contribution of environmental factors on disease progression and personality development

### **PUBLICATIONS**

- Bajpai, R., Burke, R., **Carniello, T.**, Caswell, J., DeGracia, D. J., Dossey, L., ... & Vares, D. (2013). Tinkering with the unbearable lightness of being: meditation, mind-body medicine and placebo in the quantum biology age. *Journal of Nonlocality*, 2(2).
- Bazinet, A., **Carniello, T. N.**, Abracen, J., Looman, J., & Valliant, P. M. (2022). The contribution of psychopathic traits and substance use in the prediction of recidivism of sexual offenders. *International journal of law and psychiatry*, 81, 101779.
- Carniello, T. N.** Dynamic Phase Changes: Integrating Information in Complex Biological Systems. *Journal of Advance Physics*, 13(9).
- Carniello, T. N.** (2013). Minkowski Space & Consciousness. *Journal of Consciousness Exploration & Research*, 4(4).
- Carniello, T. N.**, Lafrenie, R. M., & Dotta, B. T. (2021). The Influence of Burst-Firing EMF on Forskolin-Induced Pheochromocytoma (PC12) Plasma Membrane Extensions. *NeuroSci*, 2(4), 383-399.

- Carniello, T. N.**, Vares, D. A., & Persinger, M. A. (2015). Quantitative support for water as the conduit of interaction for universal entanglement. *Journal of Consciousness Exploration & Research*, 6(9), 738-749.
- Caswell, J. M., **Carniello, T. N.**, & Meekers, W. F. (2015). Interdisciplinary Analysis of Annual Space Weather Activity in Relation to Mortality Associated with Cerebrovascular Disease: A Novel Model of Solar-Terrestrial Interaction. *International Letters of Chemistry, Physics and Astronomy*, 57, 85.
- Caswell, J. M., **Carniello, T. N.**, & Murugan, N. J. (2016). Annual incidence of mortality related to hypertensive disease in Canada and associations with heliophysical parameters. *International journal of biometeorology*, 60(1), 9-20.
- Caswell, J. M., **Carniello, T. N.**, Tessaro, L. W., Sidorov, L., Dotta, B. T., Vares, D. A., ... & Ooi, K. H. Conditioning of Space-Time: The Relationship between Experimental Entanglement, Space-Memory and Consciousness. Journal of Nonlocality Round Table Series, Colloquium# 4. *Journal of Nonlocality*, 3(2).
- Neufeld, T. , **Carniello, T.** and Dotta, B. (2022) A Single Hypoxic Event Ameliorates Pilocarpine Induced Hyperkinetic Movements in Planaria. *Natural Science*, 14, 149-156. doi: [10.4236/ns.2022.144014](https://doi.org/10.4236/ns.2022.144014).
- Persinger, M. A., Burke, R. C., & **Carniello, T. N.** (2012). Quantitative Convergence of Concepts in Physical Cosmology and Theology. *Journal of Cosmology*, 20, 8715-8724.
- Rouleau, N., **Carniello, T. N.**, & Persinger, M. A. (2014). Non-local pH shifts and shared changing angular velocity magnetic fields: Discrete energies and the importance of point durations. *Journal of Biophysical Chemistry*, 2014.
- Rouleau, N., **Carniello, T. N.**, & Persinger, M. A. (2016). Identifying Factors Which Contribute to the Magnitude of Excess Correlations between Magnetic Field-Paired Volumes of Water. *Journal of Signal and Information Processing*, 7(3), 136-147.
- Vares, D. A., **Carniello, T. N.**, & Persinger, M. A. (2016). Quantification of the Diminishing Earth's Magnetic Dipole Intensity and Geomagnetic Activity as the Causal Source for Global Warming within the Oceans and Atmosphere. *International Journal of Geosciences*, 7(1), 78-90.

## **DISSERTATIONS**

- Carniello, T. N.** (2020). *Characterizing the structural Influence of electromagnetic field application geometry on biological systems* (Doctoral dissertation, Laurentian University of Sudbury).
- Carniello, T. N.** (2016). *Bioelectrical and biophysical interactions across spatio-temporal domains: identifying the conduit for the emergence of material from the immaterial* (Master's dissertation, Laurentian University of Sudbury).

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## **MEMBERSHIPS / AFFILIATIONS**

**General Member (5616-G)**  
Ontario Association of Mental Health Professionals

**2018 – Current**