

Travis J. A. Craddock, Ph.D.

Curriculum Vitae

Institute for Neuro-Immune Medicine
Nova Southeastern University
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Ft. Lauderdale, Florida, USA, 33314
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Google Scholar Metrics: H-index: 13 i10-index: 16 Citations: 529

EDUCATION

- 2008-2012 **Ph.D. in Physics (Biophysics)**
University of Alberta, Department of Physics, Edmonton, Canada
Advisor: Jack Tuszynski
Dissertation: *The Physical Basis for a Nanoneuroscience of Memory*
- 2005-2008 **M.Sc. in Physics (Biophysics)**
University of Alberta, Department of Physics, Edmonton, Canada
Advisor: Jack Tuszynski
Thesis: *Information Processing Capabilities of Microtubules at Physiological Temperature*
- 1997-2002 **B.Sc. in Physics (Honors)**
University of Guelph, Department of Physics, Guelph, Canada

POSITIONS & EMPLOYMENT

- 2013-Present **Associate Director**
Clinical Systems Biology Group, Institute for Neuro-Immune Medicine
Nova Southeastern University, Ft. Lauderdale, FL
- 2013-Present **Assistant Professor**
Departments of Psychology & Neuroscience, Computer Science, and Clinical
Immunology, Nova Southeastern University, Ft. Lauderdale, USA
- 2012-2013 **Post-Doctoral Research in Computational Systems Biology**
University of Alberta, Department of Medicine, Edmonton, Canada
Supervisor: Gordon Broderick

PUBLICATIONS

Relevant Refereed Journal Articles for Computational Biophysics

1. Mark Rice, **Travis John Adrian Craddock**, Ryan del Rosario, Zach Barnes, Nancy G. Klimas, Mary Ann Fletcher, Joel Zysman, Gordon Broderick (2016) Gulf War Illness: is There Lasting Damage to Endocrine-immune Circuitry? *Systems Biomedicine*, 2(4), 80-89.
2. **Craddock, T. J.**, Harvey, J. M., Nathanson, L., Barnes, Z. M., Klimas, N. G., Fletcher, M. A., & Broderick, G. (2015). Using gene expression signatures to identify novel treatment strategies in gulf war illness. *BMC medical genomics*, 8(1), 36.
3. **Craddock, T. J.**, Del Rosario, R. R., Rice, M., Zysman, J. P., Fletcher, M. A., Klimas, N. G., & Broderick, G. (2015). Achieving Remission in Gulf War Illness: A Simulation-Based Approach to Treatment Design. *PloS one*, 10(7).
4. Vashishtha, S., Broderick, G., **Craddock, T. J.**, Fletcher, M. A., & Klimas, N. G. (2015). Inferring Broad Regulatory Biology from Time Course Data: Have We Reached an Upper Bound under Constraints Typical of In Vivo Studies?. *PloS one*, 10(5).
5. **Craddock TJA**, Hameroff SR, Ayoub AT, Klobukowski M, Tuszynski JA. *Anesthetics Act in Quantum Channels in Brain Microtubules to Prevent Consciousness*. Curr Trend Med Chem 15(6):523-33 (2015)
6. Friesen DE, **Craddock TJA**, Kalra AP, Tuszynski JA. *Biological wires, communication systems, and implications for disease*. Biosystems 127C: 14-27 (2015)
7. **Craddock TJA**, Friesen D, Mane, J, Hameroff S, Tuszynski J. *The Feasibility of Coherent Energy Transfer in Microtubules*. J Roy Soc Interface 11(100): 20140677 (2014)
8. Atayoub AT, **Craddock TJA**, Klobukowski M, Tuszynski J. *Analysis of the Strength of Interfacial Hydrogen Bonds between Tubulin Dimers Using Quantum Theory of Atoms in Molecules*. Biophys J 107(3): 740-750 (2014)
9. Fritsch P, **Craddock TJA**, del Rosario R, Rice M, Smylie AL, Folcik V, de Vries G, Fletcher MA, Klimas N, Broderick G. *Succumbing to the Laws of Attraction: Exploring the Sometimes Pathogenic Versatility of Discrete Immune Logic*. Systems Biomedicine 1(3): 0-1 (2014)
10. **Craddock TJA**, Fritsch P, Rice MA Jr., del Rosario R, Miller DB, et al. *A Role for Homeostatic Drive in the Perpetuation of Complex Chronic Illness: Gulf War Illness and Chronic Fatigue Syndrome*, PLoS ONE 9(1): e84839 (2014)
11. Tuszynski JA, **Craddock TJA**, Mane JY, Barakat KH, Tseng CY, et al., *Modeling the Yew Tree Tubulin and a Comparison of its Interaction with Paclitaxel to Human Tubulin*, Pharm Res 29:3007-3021 (2012).
12. **Craddock TJA**, St. George M, Freedman H, Barakat KH, Damaraju S, et al., *Computational Predictions of Volatile Anesthetic Interactions with the Microtubule Cytoskeleton: Implications for Side Effects of General Anesthesia*, PLoS ONE 7(6): e37251 (2012)
13. **Craddock TJA**, Tuszynski JA, Goldstein LE, Chopra D, Hameroff S, et al., *The Zinc Dyshomeostasis Hypothesis of Alzheimer's Disease*, PLoS ONE 7(3): e33552 (2012)

14. **Craddock TJA**, Tuszynski JA, Hameroff S, *Cytoskeletal signaling: Is synaptic memory encoded in microtubule lattices by CaMKII phosphorylation?*, PLoS Comp Biol 8(3): e10024212011 (2012)
15. Saha AA, **Craddock TJA**, Tuszynski JA, *An investigation of the plausibility of stochastic resonance in tubulin dimers*, Biosystems 107(2): 81–87 (2012)
16. **Craddock TJA**, Tuszynski JA, *A Critical Assessment of the Information Processing Capabilities of Neuronal Microtubules Using Coherent Excitations*, J Biol Phys 36(1): 53-70 (2010)
17. **Craddock TJA**, Beauchemin C. Tuszynski JA, *Information processing mechanisms in microtubules at physiological temperature: Model predictions for experimental tests*, Biosystems 97(1): 28-34 (2009)
18. Tuszynski JA, **Craddock TJA**, Carpenter RJ, *Bioferroelectricity at the Nanoscale*, J Theor Comput Nanosci 5: 2022-2032 (2008)

Other Refereed Journal Articles

1. Viena T, Gobin CM, Fins AI, **Craddock TJA**, Tartar A, Tartar JL. (2016) A PER3 polymorphism interacts with sleep duration to influence transient mood states in women. *Journal of Circadian Rhythms*, 14(1)
2. Tartar, J. L., Fins, A. I., Lopez, A., Sierra, L. A., Silverman, S. A., Thomas, S. V., & **Craddock, T. J.** (2015). Sleep restriction and delayed sleep associate with psychological health and biomarkers of stress and inflammation in women. *Sleep Health*.
3. **Craddock TJA**, Priel A, Tuszynski JA. *Keeping Time: Could Quantum Beating in Microtubules be the Basis for the Neural Synchrony Related to Consciousness?* J Integr Neurosci 13(2): 293-311 (2014).
4. Hameroff SR, Tuszynski JA, **Craddock TJA**. *Quantum Effects in the Understanding of Consciousness*. J Inter Neurosci 13(2): 229-252 (2014)
5. Broderick G, **Craddock TJA**, *Systems biology of complex symptom profiles: Capturing interactivity across behavior, brain and immune regulation*, Brain Behav Immun 29: 1-8 (2012).
6. **Craddock TJA**, Tuszynski JA, *Molecular Models of Information Processing at the Level of Individual Neurons*, J Syst Sci Eng 20(1): 15-31 (2012)
7. **Craddock TJA**, Tuszynski JA, Priel A, Freedman H, *Microtubule Ionic Conduction and its Implications for Higher Cognitive Functions*, J Integr Neurosci 9(2): 103-122 (2010)
8. Hameroff S, **Craddock TJA**, Tuszynski J, “Memory Bytes” - Molecular match for CaMKII phosphorylation encoding of microtubule lattices, J Integr Neurosci 9: 253-267 (2010)
9. Woolf NJ, **Craddock TJA**, Friesen DE, Tuszynski JA, *Neuropsychiatric Illness: A Case for Impaired Neuroplasticity and Possible Quantum Processing Derailment in Microtubules*, NeuroQuant 8(1): 13-28 (2010)
10. **Craddock TJA**, Tuszynski JA, *On the Role of Microtubules in Cognitive Brain Functions*, NeuroQuant 5(1): 32-57 (2007)

Book Chapters

1. **Travis J. A. Craddock**, Stuart R. Hameroff and Jack A. Tuszynski, *The 'Quantum Underground' : Where Life and Consciousness Originate*. in R. R. Poznanski, J. A. Tuszynski and T. E. Feinberg (eds.) Biophysics of Consciousness: A Foundational Approach (World Scientific, Singapore, 2016 *in-press*), Chapter 13.
2. Friesen DE, **Craddock TJA**, Tuszynski JA, *Cytoskeletal Electrostatic and Ionic Conduction Effects in the Cell*, in Cifra M, Scholkmann F (eds.) Fields of the Cell, (Research Signpost, 2015), Chapter 13.
3. **Craddock TJA**, Tuszynski JA, *From Nano to Neuro and Beyond: A presentation of the emerging physics of consciousness from the ground up*. in Chopra D (ed.) Brain, Mind, Cosmos: The Nature of Our Existence and the Universe (Amazon Digital Services, Inc., 2014)

Manuscripts In-Submission

1. Capolupo A, **Craddock TJA**, Kurian P, Vitiello G. *Water-mediated correlations in DNA-enzyme interactions*, Physical Review E (submitted August 15, 2016)
2. Wilson CE, Lopatkin AJ, **Craddock TJA**, Driscoll W, Eldakar OT, Lopez JV, Smith RP. *Dispersal driven interactions between access to autoinducer and nutrients transition cooperative bacteria between quorum sensing and diffusion sensing*. Proc Natl Acad Sci (submitted October 14, 2016)

Manuscripts In-preparation

1. **Craddock TJA**, Russell L, Singh SJ, Harvey JM, Rice MA Jr., McKibbin L, Barnes ZM, Nathanson L, O'Callaghan J, Miller DB, Zysman JP, Klimas NG, Fletcher MA, Broderick G. *A Logic Model of Neural-Glial Interaction Suggests Altered Homeostatic Regulation in the Perpetuation of Chronic Neuroinflammation*, in-preparation for Journal of Neuroinflammation
2. Jeffrey MG, Nathanson L, Barnes ZM, Klimas NG, Broderick G, Fletcher MA, **Craddock TJA**. *Gene Expression Modules in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Interactions of the Inflammatory and Immune System*. in-preparation for Brain, Behavior and Immunity
3. Jaundoo R, Bohmann J, Gutierrez G, Klimas NG, Broderick G, Morris M, **Craddock TJA**. *Hormone and Immune Off-target Effects of FDA Approved Drugs*. in-preparation for CPT: Pharmacometrics & Systems Pharmacology
4. Trivedi MS, **Craddock TJA**, Tartar J. *Short term sleep loss induces decreased levels of redox metabolites and induces oxidative stress*. in-preparation for Neuroscience Letters
5. Wilson CE, Lopatkin AJ, **Craddock TJA**, Driscoll W, Eldakar OT, Lopez JV, Smith RP. *Dispersal driven interactions between access to autoinducer and nutrients transition cooperative bacteria between quorum sensing and diffusion sensing*. in-preparation for Nature
6. Kurian P, Obisesan TO, **Craddock TJA**. *The Effects of Oxidative Stress and Excited Species on Microtubules: A Potential Role for Ultraweak Photon Emission in Neurodegenerative Disease?* in-preparation for Scientific Reports

7. **Craddock TJA**, Kurian P, Preto J, Sahu K, Hameroff SR, Klobukowski M, Tuszynski JA. *Effect of Anesthetics on London Dispersion Oscillation in Tubulin and it's Implications for Post-Operative Cognitive Dysfunction.* in-preparation for Scientific Reports

GRANTS & FUNDING

Active

- 09/2016 – 09/2019 ***Improving Diagnostics and Treatments for GWI Females by Accounting for the Effects of PTSD***
 Department of Defense - GW150199 (Craddock PI)
 \$500,000
Role: PI (20% salary support)
- 09/2016 – 09/2019 ***Disentangling the Effects of PTSD from GWI for Improved Diagnostics and Treatments***
 Department of Defense - GW150144 (Craddock PI)
 \$450,000
Role: PI (20% salary support)
- 07/2015 – 06/2018 ***High Fidelity Design of Multi-modal Restorative Interventions in Gulf War Illness***
 Department of Defense - GW140142 (Broderick PI)
 \$810,000
Role: Co-I (15% salary support)
- 07/2015 – 06/2018 ***Testing the Model: A Phase I/II Randomized Double Blind Placebo Control Trial of Therapeutics: Liposomal Glutathione and Curcumin***
 Department of Defense - GW140153P1 (Klimas PI)
 \$1,073,000
Role: Co-I (10% salary support)
- 09/2014 – 04/2018 ***Gender Differences in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome***
 National Institutes of Health - R01 NS090200-01 (Fletcher PI)
 \$1,984,256
Role: Co-I (7% salary support)
- 09/2013 - 09/2017
 ext. 09/2018 ***Understanding Gulf War Illness: An Integrative Modeling Approach***
 Department of Defense - W81XWH-13-2-0085 (Morris PI)
 \$4,102,527
Role: Co-I (23% salary support)

INVITED TALKS

- 2016 *Using gene expression signatures to identify novel treatment strategies in Gulf War* (Presentation – Invited August 12, 2016) 12th International Association of Chronic Fatigue Syndrome / Myalgic Encephalomyelitis Research and Clinical Conference, Fort Lauderdale, FL, USA (October 27-30, 2016)
- Introduction to Research Data Analysis Workshop* (2 hr. lecture)
Miami-Dade College STEM Ladder Workshops, Miami, FL, USA (July 28, 2016)
- A Systems Biology Approach to ME/CFS* (20 min. presentation) Biomedical Research into Myalgic Encephalomyelitis Colloquium 6, London, United Kingdom (June 2, 2016)
- Ultraviolet Driving Mechanism of Self-Organization Within Living/Conscious Systems?* (40 min. presentation) The Science of Consciousness Preconference Workshop: Quantum Biology - Nature of Life. Tucson, AZ, USA (April 25, 2016)
- Potential Effects of Excited Species on Microtubules and their Role in Tauopathic Disease* (30 min presentation) Precision Medicine: A Howard University Mathematical Biology Workshop. Washington, DC, USA (April 9, 2016)
- Harnessing Multi-system Regulation to Identify Optimal Treatment Courses for Complex Chronic Illnesses* (25 min presentation) Advancing Computational Biology at Howard University Conference. Washington, DC, USA (April 8, 2016)
- 2015 *Coherent Energy Transfer in Microtubule Tryptophan Lattices Coupled to a Noisy Environment* (30 min. presentation) Conference on Complex Systems 2015: Quantum Complexity Workshop. Tempe, AZ, USA (October 1, 2015)
- Coherent Energy Transfer in Microtubule Tryptophan Lattices Coupled to a Noisy Environment* (45 min presentation). Florida International University, Department of Physics Colloquium. Miami, FL, USA (September 25, 2015)
- Mechanisms of quantum coherence in tubulin and microtubules & the possible relevance to anesthesia* (30 minute plenary presentation). Towards a Science of Consciousness 2015. Helsinki, Finland (June 12, 2015)
- Introduction to Research Data Analysis Workshop* (2 hour lecture)
Miami-Dade College STEM Ladder Workshop. Miami, FL, USA (July 28, 2015)
- 2014 *Keeping Time: Quantum Beating in Microtubules and its relation to Higher Cognitive Processes* (35 min. presentation), Towards a Science of Consciousness – Pre-conference Workshop: Microtubules and Quantum Biology, Tucson, AZ, USA (April 21, 2014)

- 2013 *A Physical Basis for a Nanoneuroscience of Memory and Consciousness* (40 min. plenary presentation) Towards a Science of Consciousness 2013. Agra, India (March 7, 2013)
- 2012 *Volatile Anesthetic Interaction with Tubulin* (40 min. presentation) Michigan Technological University Physics Colloquium, Houghton, MI, USA (October 18, 2012)
- Coherent Energy Transfer: Photosynthesis to Consciousness* (20 min. presentation) Towards a Science of Consciousness Pre-conference Workshop: Quantum Consciousness Update. Tucson, AZ, USA (April 10, 2012)
- 2011 *Coherent Energy Transfer: From Photosynthesis to Microtubules* (30 min. presentation), Quantum Biology Workshop, Towards a Science of Consciousness – Post-conference Workshop. Stockholm, Sweden (May 7, 2011)
- 2010 *Phosphorylation sites on tubulin: a molecular code for memory and consciousness?* (20 min. presentation) Towards a Science of Consciousness Pre-conference Workshop: Update on Microtubules and Quantum Biology – Part II. Tucson, AZ, USA (April 13, 2010)
- Cytoskeletal Putative Binding Sites of General Anesthetics* (40 min. presentation) Towards a Science of Consciousness Pre-conference Workshop: Update on Microtubules and Quantum Biology – Part I. Tucson, AZ, USA (April 12, 2010)

CONFERENCE ACTIVITY/PARTICIPATION

Papers Presented

- 2015 *Fire in the head: exploring the role of homeostatic drive in the perpetuation of neuroinflammation and brain disorders*. (Poster) Miami Veterans Affairs Research Day, Miami, FL, USA (May 18, 2015)
- 2014 *The Feasibility of Quantum Coherent Effects in Microtubules and their Potential Role in Neuron Function* (20 min. presentation) Towards a Science of Consciousness 2014. Tucson, AZ, USA, (April 25, 2014)
- Getting Down to Detail: Exploring the Sometimes Pathogenic Versatility of Discrete Immune Logic* (Poster) International Association for Chronic Fatigue Syndrom/Myalgic Encephalomyelitis 2014 Conference. San Francisco, CA, USA (March 20-23, 2014)
- Succumbing to the Laws of Attraction: Gender Differences in Homeostatic Drive and the Perpetuation of Chronic Illness* (Poster) International Association for Chronic Fatigue Syndrom/Myalgic Encephalomyelitis 2014 Conference. San Francisco, CA, USA, (March 20-23, 2014)

- Fire in the Head: Exploring the Role of Homeostatic Drive in the Perpetuation of Neuroinflammation in Brain Disorders* (Poster) Miami 2014 Winter Symposium – Molecular Basis of Brain Disorders. Miami, FL, USA (January 26-29)
- 2012 *The Zinc Dyshomeostasis Hypothesis of Alzheimer's Disease* (Poster) Campus Alberta Neuroscience Symposium, Edmonton, AB, Canada (October 30, 2012)
- Chromophores, Quantum Coherence and Microtubules: A Theoretical Investigation of a Quantum Mechanism of Signal Propagation Along a Microtubule* (20 min. presentation) Towards a Science of Consciousness 2012, Tucson, AZ, USA (April 10, 2012)
- 2011 *Volatile anesthetic interactions with tubulin and coherent energy transfer* (20 min. presentation) Towards a Science of Consciousness 2011, Stockholm, Sweden (May 4, 2011)
- Quantum Mechanisms of Electronic Signal Propagation Along a Microtubule* (Poster) American Physical Society March Meeting 2011, Dallas, TX, USA, (March 21-25, 2011)
- 2010 *Probing for Functional sites of Consciousness with Anesthetics: The Role of the Cytoskeleton* (Poster) Association for the Scientific Study of Consciousness 14th Annual Meeting, Toronto, ON, Canada (June 24-27, 2010)
- The Effect of General Anesthetics on Intracellular Signaling via Cytoskeletal Ionic Conduction* (Poster) 8th International Conference on Mechanisms of Anesthesia, Toronto, ON Canada (June 15-18, 2010)
- 'Memory Bytes' – A Molecular Match for Activated CaMKII Encoding Microtubule Lattices* (20 min. presentation) Towards a Science of Consciousness 2010, Tucson, AZ, USA (April 12-17, 2010)
- 2009 *Computational Determination of Putative Binding Sites of Anesthetics to the Cytoskeleton* (Poster) 7th Canadian Computational Chemistry Conference, Halifax, NS, Canada (July 20-24, 2009)
- Cytoskeletal Putative Binding Sites of General Anesthetics* (20 min. presentation) at Chemical Biophysics Symposium 2009, Toronto, ON, Canada (April 24-26, 2009)
- 2007 *The Quantum Basis of Consciousness: Quantum Based Microtubule Cellular Automata at Physiological Temperature* (Poster) Towards a Science of Consciousness 2007, Budapest, Hungary (July 23-27, 2007)
- Examining the Effect of Physiological Temperature on the Dynamics of*

Microtubules (25 min. presentation) Quantum Mind 2007, Salzburg, Austria, (July 17-21 2007)

- 2006 *Cellular Automata Model of a Microtubule using a Double Potential Well Found in Tubulin* (Poster) Towards a Science of Consciousness 2006, Tucson, AZ, USA, (April 2006)

CAMPUS & DEPARTMENTAL TALKS

- 2016 *Introduction to Computational Neuroscience* (2 hour lecture) Behavioral Neuroscience Summer Camp at Nova Southeastern University, Ft. Lauderdale, FL, USA (July 18, 2016)
- 2015 *Quantum Consciousness* (1 hour guest lecture). NEUR 2500 Introduction to Neuroscience at Nova Southeastern University, Ft. Lauderdale, FL, USA, (November 24, 2015)
- That's Logical: Towards an Integrative Model of Neuro-Endocrine Immune Interaction* (1 hour presentation) Nova Southeastern University's Institute for Neuro-Immune Medicine Lecture Series. Ft. Lauderdale, Florida, USA (March 6, 2015)
- Virtual You: Modelling the Role of Homeostatic Drive in the Perpetuation of Chronic Illness* (15 min presentation) Nova Southeastern University's Institute for Neuro-Immune Medicine Patient Conference 2015: Cellular Energy and Its Impact on Health. Ft. Lauderdale, Florida, USA (February 7, 2015)
- 2013 *Introduction to Quantum Consciousness – Part 2* (1 hr. presentation) The Neuroscience Journal Seminar Series at Nova Southeastern University, Ft. Lauderdale, Florida, USA (November 20, 2013)
- Introduction to Quantum Consciousness – Part 1* (1 hr. presentation) The Neuroscience Journal Seminar Series at Nova Southeastern University, Ft. Lauderdale, Florida, USA (October 16, 2013)
- Computational Systems Biology: Crossing Boundaries* (40 min. presentation) Graduate School of Computer and Information Sciences Meeting at Nova Southeastern University, Ft. Lauderdale, Florida, USA (October 15, 2013)
- A Role for Homeostatic Drive in the Perpetuation of Complex Chronic Illness* (40 min. presentation) The MathBio Seminar Series at the University of Alberta, Edmonton, AB, Canada, (February 4, 2013)

Towards an Integrative Model of Gulf War Illness (40 min. presentation) Institute of Neuro-Immune Medicine Seminar at Nova Southeastern University, Fort Lauderdale, USA, (January 28, 2013)

2012 *Volatile Anesthetic Interaction with Tubulin* (45 min. presentation) University of Alberta Condensed Matter Physics Seminar, Edmonton, AB, Canada, (February 2, 2012)

MEDIA COVERAGE

2015 *Are the Androids Dreaming Yet?*, J. Tagg, Hurst Farm Books
 2014 *Bridging the blood-brain barrier*, V. Wolters, International Innovation 128
 2012 *Consciousness, Biology and Fundamental Physics*, S.Ragget, AuthorHouse
 2012 *New Theories for origins of Alzheimer's*, A. McIlroy, Globe and Mail
 2012 *The Molecular Architecture of Memory*, F. Brynie, Psychology Today
 2012 *The "beans" in motion that preserve the memories* (Translation), M.P. Palimarini, Corriere della Sera

TEACHING EXPERIENCE

2013-Present **Assistant Professor**
 Department of Psychology & Neuroscience, Nova Southeastern University, Ft. Lauderdale, USA

- **Graduate Certificate in Computational Molecular Biology**
- **Senior Seminar in Behavioral Neuroscience**
- **Independent Study in Behavioral Neuroscience**

 2010-2013 **Term Instructor**
 Department of Engineering, Grant MacEwan University, Edmonton, Canada

- **Engineering Mechanics - Statics**
- **Engineering Mechanics - Dynamics**

 2009 **Sessional Instructor**
 Department of Science, University of Alberta – Augustana Campus, Camrose, Canada

- **Mechanics**

 2006-2013 **Instructor**
 Math and Applied Science Centre (MASC), University of Alberta, Edmonton, Canada

- Particles and Waves**
- Waves, Motion Optics and Sound**
- Newtonian Mechanics and Relativity**
- Electricity and Magnetism**
- Engineering Dynamics**

- 2005-2012 **Teaching Assistant**
 Department of Physics, University of Alberta, Edmonton, Canada
-Particles and Waves
-Waves, Motion Optics and Sound
-Newtonian Mechanics and Relativity
-Fluids and Waves
-Electricity and Magnetism
- 2002-2004 **Teaching Assistant**
 Department of Physics, University of Guelph, Ontario, Canada
-An Introduction to Mechanics
-Introductory Electricity and Magnetism
-Introductory Physics

RESEARCH EXPERIENCE

- 2002-2004 **Research Assistant**
 Department of Physics, University of Guelph, Ontario, Canada
 Supervisor: Gabriel Karl
 Project: Transition from the Sudden to the Adiabatic Approximation in β -Decay

PEER REVIEW ACTIVITY

Grant Application Review

- 2015 American Chemical Society, Petroleum Research Fund (1 application)

Ad-hoc Review Relevant to Computational Biophysics

- 2016 Biosystems (1 manuscript)
 2016 Journal of Pharmacy and Pharmacology (1 manuscript)
 2013, 2015 Theoretical Biology and Medical Modeling (4 manuscripts)
 2012-2014 BMC Systems Biology (7 manuscripts)
 2014 Physical Review E (1 manuscript)
 2014 Current Trends in Medicinal Chemistry (1 manuscript)
 2014 IEEE Transactions of NanoBioscience (1 manuscript)
 2014 Cellular and Molecular Biology Letters (1 manuscript)
 2013 Journal of Chemical and Information Modeling (1 manuscript)
 2013 Systems Biomedicine (1 manuscript)

Ad-hoc Review Relevant to Neuroscience

- 2015 Psychoneuroendocrinology (1 manuscript)
 2015 Frontiers in Psychology (1 manuscript)
 2015 Military Medical Research (1 manuscript)
 2014 Frontiers in Integrative Neuroscience (1 manuscript)
 2014 Journal of Clinical Anesthesiology (1 manuscript)

2014 Brain Disorders & Therapy (1 manuscript)
2013 American Journal of Psychiatry (1 manuscript)
2013 Behavioral Sciences (1 manuscript)
2012 Brain, Behavior and Immunity (1 manuscript)

DEPARTMENTAL/UNIVERSITY SERVICE

2015-Present NSU High Performance Computing Architecture Design Planning
Committee
2015-Present College of Psychology Research Committee
2013-Present GWIRP Consortium Publication Committee Member

REFERENCES

Gordon Broderick, Ph.D.

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Nova Southeastern University
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Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health
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