

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Travis John Adrian Craddock		POSITION TITLE Assistant Professor, Center for Psychological Studies/Graduate School of Computer and Information Sciences, Nova Southeastern University	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Guelph, Guelph, Ontario, Canada	BSc(Honors)	02/02	Physics
University of Guelph, Guelph, Ontario, Canada	Research	11/04	Subatomic Physics
University of Alberta, Edmonton, Alberta, Canada	MSc	06/08	Physics (Biophysics)
University of Alberta, Edmonton, Alberta, Canada	PhD	06/12	Physics (Biophysics)
University of Alberta, Edmonton, Alberta, Canada	Postdoc	04/13	Systems Biology

NOTE: The Biographical Sketch may not exceed four pages. Follow the formats and instructions below.

A. Personal Statement

Recently an Assistant Professor, I received my BSc in Co-op Physics from the University of Guelph. I finished a MSc and PhD in the field of Biophysics at the University of Alberta under the supervision of Dr. Jack Tuszynski. My past research activities have investigated subatomic radioactive decay, radiation health safety, subneural biomolecular information processing, and nanoscale neuroscience descriptions of memory, consciousness and cognitive dysfunction. My postdoctoral work was conducted under the supervision of Dr. Gordon Broderick in his Laboratory for Clinical Systems Biology in the Department of Medicine, Faculty of Medicine and Dentistry at the University of Alberta. My work with Dr. Broderick focused on using a theory driven systems biology approach to investigate neuroendocrine-immune interaction dynamics in neuroinflammation and its relation complex diseases such as Gulf War Illness, and Chronic Fatigue Syndrome. This work was funded by the US Department of Defense.

B. Positions and Honors**Research**

2013-Present Assistant Professor
Center for Psychological Studies, Nova Southeastern University, Ft. Lauderdale, Florida

2012-2013 Senior Research Assistant; Broderick Laboratory for Clinical Systems Biology
Department of Medicine, University of Alberta, Edmonton, Alberta, Canada

2006-2011 Research Assistant
Department of Physics, University of Alberta, Edmonton, Canada

2003-2004 Research Assistant
Department of Physics, University of Guelph, Guelph, Canada

2001 Summer Student
Department of Environment, Health and Safety, TRIUMF, Vancouver, Canada

1999 & 2000 Developmental Student
Nuclear Division, Ontario Power Generation, Toronto, Canada

1999 Developmental Student
Nuclear Division, Ontario Hydro, Pickering, Canada

Teaching

- 2010-2013 Term Instructor
Department of Engineering, Grant MacEwan University, Edmonton, Canada
- 2006-2013 Review Instructor
Math and Applied Science Centre (MASC), University of Alberta, Edmonton, Canada
- 2005-2011 Teaching Assistant
Department of Physics, University of Alberta, Edmonton, Canada
- 2009 Sessional Instructor
Department of Science, University of Alberta – Augustana Campus, Camrose, Canada
- 2002-2004 Teaching Assistant
Department of Physics, University of Guelph, Guelph, Canada

C. Selected Peer-reviewed Publications

Peer Reviewed Journal Publications

1. 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).
2. **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)
3. **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)
4. **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)
5. Saha AA, **Craddock TJA**, Tuszynski JA, An investigation of the plausibility of stochastic resonance in tubulin dimers, *Biosystems* 107(2): 81–87 (2012)
6. Hameroff S, **Craddock TJA**, Tuszynski J, “Memory Bytes” - Molecular match for CaMKII phosphorylation encoding of microtubule lattices, *J Integr Neurosci* 9: 253-267 (2010)
7. **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)
8. **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)

Invited Peer Reviewed Journal Publications

9. 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).
10. **Craddock TJA**, Tuszynski JA, Molecular Models of Information Processing at the Level of Individual Neurons and Their Significance, *J Syst Sci Eng* 20(1): 15-31 (2012)
11. **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)
12. 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)
13. Tuszynski JA, **Craddock TJA**, Carpenter RJ, Bioferroelectricity at the Nanoscale, *J Theor Comput Nanosci* 5: 2022-2032 (2008)
14. **Craddock TJA**, Tuszynski JA, On the Role of the Microtubules in Cognitive Brain Functions, *NeuroQuant* 5(1): 32-57 (2007)