

Zrinka Gregurić Ferenček

Curriculum vitae

Personal Information

First Name Zrinka
Last Name Gregurić Ferenček
Date of Birth October 17, 1982
Citizenship Croatian

Contact

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Education

2008–current **Ph.D., Physics**, *George Mason University*, Fairfax, VA, USA (advisor Prof. John Robert Cressman).
2001–2008 **B.S., Physics**, *University of Zagreb*, Zagreb, Croatia (advisor Dr. Silvia Tomić)
Diploma thesis: Dielectric Relaxation of Aqueous Solutions of Hyaluronic Acid.

Publications

- 2013 T. Berry, R. Cressman, Z. Gregurić Ferenček, T. Sauer, Time-scale separation from diffusion-mapped delay coordinates, *SIAM J. Appl. Dyn. Sys.* 12, 618-649 (2013).
2013 A. Eranki, N. Cortes, Z. Gregurić Ferenček, S. Sikdar, A Novel Application of Ultrasound Imaging for Musculoskeletal Imaging, *Journal of Visual Experiments* (2013).

In preparation

- 2014 Z. Gregurić Ferenček, T. Berry, T. Sauer, J.R. Cressman, Attractor Clustering in Spatiotemporal Dynamics
2014 Z. Gregurić Ferenček, J.R. Cressman, Experimental Test of Fluctuation Theorem
2014 Z. Gregurić Ferenček, M. Gertz, Z. Obeida, J.R. Cressman, Energy Constraints on Neuronal Signalling
2014 M. Daum, Z. Gregurić Ferenček, T. Berry, T. Sauer, J.R. Cressman, The interplay between power and structure during a dynamic phase transition

Conference papers

- 2012 A. Eranki, N. Cortes, Z. Gregurić Ferenček, John J Kim, S. Sikdar, Real-Time Measurement of Rectus Femoris Muscle Kinematics During Drop Jump Using Ultrasound Imaging: A Preliminary Study

- 2012 A. Eranki, N. Cortes, Z. Gregurić Ferenček, John J Kim, Siddhartha Sikdar, Real-Time Measurement of Rectus Femoris Muscle Kinematics During Drop Jump Using Ultrasound Imaging: A Preliminary Study

Presentations

- October 16, 2014 "Energy constraints on neuronal activity", **Poster** at Society for Neuroscience Annual Meeting, New Orleans, LA, USA
- November 25, 2013 "Attractor Identification from Empirical Data Using Diffusion-Mapped Delay Coordinates", **Talk** at APS Division for Fluid Dynamics Annual Meeting 2013, Pittsburgh, PA, USA
- November 13, 2013 "Ionic and Metabolic Constraints on the Susceptibility and Duration of Large Neuronal Discharges", **Poster** at Society for Neuroscience Annual Meeting, San Diego, CA, USA
- May 20, 2013 "Multistable dynamics in electroconvecting liquid crystals", **Talk** at SIAM conference on Application of Dynamical Systems 2013, Snowbird, UT, USA
- March 20, 2013 "Multistable dynamics in electroconvecting liquid crystals", **Talk** at APS March Meeting 2013, Baltimore, MD, USA
- February 1, 2013 "Energy Flow in Driven systems", **Talk** at Neuroscience Graduate Student Organisation Journal Club, Krasnow Institute, GMU, Fairfax, VA, USA
- January 24, 2013 "Attractor clustering in nematic liquid crystals", **Poster** at Building Engineered Complex Systems Workshop, National Science Foundation, Arlington, VA, USA
- October 14, 2012 "Energy constraints on neuronal activity", **Poster** at Society for Neuroscience Annual Meeting, New Orleans, LA, USA
- May 27, 2012 "Energy Flow in Neuronal Systems", **Poster** at Krasnow retreat, GMU, Fairfax, VA, USA
- February 29, 2012 "Energy Flow in Neuronal Systems", **Talk** at APS March Meeting 2012, Boston, MA, USA
- January 4, 2012 "Pattern-Steering in Nematic Liquid Crystal", **Talk** at Dynamics Days US 2012, Baltimore, MD, USA
- November 30, 2011 "Nonlinear Systems", **Poster** at Physics Club at GMU, Fairfax, VA, USA
- November 27, 2011 "Energy Flow in Neuronal Systems", **Poster** at Society for Neuroscience Annual Meeting, Washington, DC, USA
- November 22, 2011 "Identification and manipulation of dynamic modes in nematic liquid crystals", **Talk** at APS Division for Fluid Dynamics Annual Meeting 2011, Baltimore, MD, USA
- April 4, 2011 "Pattern-Steering in Nematic Liquid Crystal", **Poster** at SPACS-NRL Research Session, GMU, Fairfax, VA, USA
- March 28, 2011 "Pattern-Steering in Nematic Liquid Crystal", **Poster** at Building Engineered Complex Systems Workshop, National Science Foundation, Arlington, VA, USA
- January 28, 2011 "Non-equilibrium systems", **Talk** at Physics Colloquium - Student Talks Session, GMU, Fairfax, VA, USA
- November 22, 2010 "Experimental Test of the Fluctuation Theorem in a Driven system", **Talk** at Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, CA, USA

- September 10, 2010 "Experimental Test of the Fluctuation Theorem in a Driven system", **Talk** at Physics Colloquium - Student Talks Session, GMU, Fairfax, VA, USA
- March 17, 2010 "Fluctuations in power dissipation in a gravity driven systems", **Talk** at APS March Meeting 2010, Portland, OR, USA

Presentations of supervised students

- November 25, 2014 "Oscillations in Power and Structure During the Transition to Defect Turbulence", **Talk** at APS Division for Fluid Dynamics Annual Meeting 2014, San Francisco, CA, USA
- November 25, 2013 Marcus Daum: *Oscillations in Power and Structure During the Transition to Defect Turbulence*, APS Division for Fluid Dynamics Annual Meeting 2013, Pittsburgh, PA, USA
- 2010 Serena Saffarini: *Differential Oxygen Concentration in the CA1 and CA3 Regions of the Hippocampus During Seizure-like Events.*, ASSIP 2010, Fairfax, VA, USA

Teaching Experience

- 2008 Physics of everyday phenomena
- 2008-2009 Physics tutor
- 2009 College Physics
- 2012 University Physics II
- 2013 University Physics I

Awards

- 2014 George Mason University Dissertation Completion Grant

Computer skills

- Operating Systems Experience with Microsoft Windows and Linux operating systems
- Office Automation \LaTeX , Microsoft Office, LibreOffice/OpenOffice
- Programming Languages Experience with C/C++ and Python
- Version Control Experience with Git
- Analysis Tools and Packages Matlab, Mathematica

Languages

- Croatian Native
- English Fluent in speaking, reading, and writing

Societies

- 2010-Present American Physical Society
- 2011-Present Society for Neuroscience
- 2012-Present Society for Industrial and Applied Mathematics

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