Ana M Calabrese

Contact information

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Current position

Columbia University, New York. PhD candidate, Program in Neurobiology. Member of the Center for Theoretical Neuroscience. Fall 2008 - present.
Research topic: Study the effect of sound statistical properties and neuronal noise on network coding strategy in the songbird auditory system. Perform multi-neuronal electrophysiological recordings and use statistical models and information theory for data analysis.

Education

Columbia University, New York. Master of Philosophy, Program in Neurobiology, Sept. 2008 - May 2010.

Columbia University, New York. Master of Arts, Program in Neurobiology, Sept. 2008 - May 2009.

University of Buenos Aires, Buenos Aires, Argentina, Apr. 2002 - May. 2007.
MSc in Physics. GPA: 9.07 (on a 1 to 10 scale).
Thesis: A Stochastic fire-diffuse-fire model with realistic cluster dynamics.

Instituto Jesús en el Huerto de los Olivos, Buenos Aires, Argentina, 2000.
High School degree with specialization in Exact Sciences.

Previous research experience

Harvard Medical School, Children's Hospital Boston, Boston, Nov. 2007 - Jul 2008.
Project: Development of quantitative and computational tools for the analysis of EEG data from epileptic patients.

University of Buenos Aires, Physics Department, Calcium Dynamics Group. March. 2006 - May 2007.
Project: Development of a phenomenological model for the dynamics of calcium concentration.

National Commission of Atomic Energy, Laboratory of Heavy Ions Physics and Mass Spectroscopy, Argentina. Feb. 2005 - Dec 2005.
Project: Design, construction and calibration of a detector for measuring angular distribution in heavy ions collisions.

Honors and awards

Howard Hughes Medical Institute Predoctoral Fellowship, Chevy Chase, MD, Sept. 2011–Aug. 2013

Interfaces in Science and Engineering Fellowship, Columbia University, New York, NY, Jul. 2010–Jul. 2011

Undergraduate Research Fellowship, University of Buenos Aires, Buenos Aires, Apr. 2006–Apr. 2007.

Honorable Mention, XIV National Math Olympics, Argentina, 1996. (High School)

Publications

A. Calabrese & S. Woolley. Avian forebrain exhibits the same coding principles as the mammalian neocortex. Under Review in *PNAS* (2014).

A. Calabrese, J. Schumacher, D. Schneider, L. Paninski & S. Woolley. A generalized linear model for estimating spectrotemporal receptive fields from responses to natural sounds. *PLoS ONE* **6(1)**:e16104 (2011).

A. Calabrese & L. Paninski. Kalman filter mixture model for spike sorting of non-stationary data. *Journal of Neuroscience Methods*, **196(1)**:159-69 (2011).

A. Calabrese, D. Fraiman, D. Syzman & S. Ponce Dawson. A Stochastic *fire-diffuse-fire* model with realistic cluster dynamics. *Phys Rev E*, **82**:1–12 (2010).

Teaching experience

Physics Department, FCEyN, Universidad de Buenos Aires, Buenos Aires, Argentina
Teaching assistant, 2005
One term in Advanced Quantum Mechanics for Physics Students and one term in Optics and Waves for Physics students.

Physics Department, CBC, Universidad de Buenos Aires, Buenos Aires, Argentina
Teaching assistant, 2006 - 2007
Two terms in Classical Mechanics for Physics, Engeneering and Biology students.

Physics Department, FCEyN, Universidad de Buenos Aires, Buenos Aires, Argentina
Teaching assistant, 2007
One term in Classical Mechanics for Physics students.

Computer skills

- Languages: Matlab, Mathematica, some C
- Operating Systems: Mac OS X, Unix/Linux, Windows.

Other

Yacht Club Buenos Aires, Buenos Aires, Argentina
Sailing Instructor (ages 6-15 yrs), 2005-2007