

Mandana Ahmadi

Curriculum Vitae

Gatsby Computational Neuroscience Unit, UCL
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London WC1N 3AR
United Kingdom

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Education:

Okinawa Computational Neuroscience Course (June 2010)

OIST, Okinawa, Japan

Focus: Mathematical Modeling of Behavior, emphasis on dynamical systems.

Course project: Modeling the transfer of learned behavior to novel situations. (Best project award among 28 selected participants)

Computational Neuroscience (Sep. 2007 – present)

PhD candidate

Gatsby Computational Neuroscience Unit, UCL, London, UK

Focus: Major: mathematical models of optimal decision making, emphasis on speed-accuracy trade off and decision making in the face of reducible and irreducible uncertainties. Minor: statistical inference and Bayesian methods

Physics (Jan. 2006 – May 2007)

BSc, High Honors

University of Maryland, College Park, USA

Thesis: Effect of external inputs on a non-linear dynamical system described by Ginzburg-Landau equation

Physics (Oct. 2004 – Dec. 2005)

Montgomery College, Rockville, USA

GPA: 4.0/4.0

(My transcript shows that I have taken almost all of the psychology courses offered at the Montgomery College)

Pharmacy (2000 – 2002)

Ahvaz Jondishapour University of Medical Sciences, Ahvaz, Iran

(During this time I took courses in human anatomy, physiology, neurology, as well as biochemistry)

High-School and Pre-University (1995 – 1999)

National Organization for Development of Exceptional Talents, Shiraz, Iran

Skills

Development: (Taken at University College London)

- Personal and Professional Management Skills Residential Course
- Leadership and Management Residential Course
- Facilitation Skills Training & Development

Teaching: Teaching Assistant
 Computational Neuroscience Course, Gatsby Computational Neuroscience Unit (Fall semester 2008)

Research Experience: **Models of decision making; statistical inference; data analysis**
 University College London, London, UK (Jan. 2008 – Present)

Modeling nonlinear dynamical systems
 University of Maryland, College Park, USA (Feb. 2006 – June 2007)

Modeling activity patterns in the brain using statistical mechanics
 Nordic Institute for theoretical physics, Copenhagen, Denmark
 (Nov.2003 – Aug. 2004, June 2003 – Oct. 2003, Oct. 2002 – Dec. 2002)

Modeling neuron dynamics
 New York University, Center for Neural Science, New York, USA (Oct. 2003 – Nov. 2003)

Pharmacological brain research
 Ahvaz Jondishapour University of Medical Sciences, Ahvaz, Iran; Dep. of Physiology (Jan. 2002 – May.2002)

Awards and Honors: At University of Maryland, College Park, USA:

- Departmental High Honors, May 2007
- The Monroe Martin Prize for completing the best undergraduate research in physics, May 2007
- The Clifford and Camille Kendall Dean’s Scholarship, 2006-2007
- The Honor Society of Phi Kappa Phi
- Physics Transfer Student Merit Award, 2006

At Montgomery College, Maryland, USA:

- The Montgomery College Departmental Award for Excellence in Mathematics, 2006
- The Montgomery College Foundation Merit Scholarship, 2006
- The Lester Petkofsky Award, 2006
- The Clifford K. Beck Scholarship, For excellence in Physics, 2005
- Women’s Studies Program Award for Excellence in Scholarship & Research, 2005
- National Dean’s List, USA
- Phi Theta Kappa (International Honor Society of the Two Year College)

The 13th International Kharazmi Festival Award, for the invention “Third Eye” (handheld ultrasound device to guide blind people), Jan. 2000, Tehran, Iran

Professional membership: Society for Neuroscience
 British Neuroscience Association

- Invited talks:** Cambridge University, Cambridge, UK (May 2010, Feb. 2012)
- Functional Imaging Laboratory, London, UK (May 2009)
- Cambridge University, Cambridge, UK (July 2008)
- Refereed Journal Articles:**
- Lerchner, A., Sterner, G., Hertz, J. and Ahmadi, M. (2006) "Mean field theory for a balanced hypercolumn model of orientation selectivity in primary visual cortex", *Network: Computation in Neural Systems* 17:131–150 .
- Lerchner, A., Ursta, C., Hertz, J., Ahmadi, M., and Ruffiot, P., Enemark, S. (2006) "Response variability in balanced cortical networks", *Neural Computation* 18(3):634-59.
- Lerchner, A., Ahmadi, M., and Hertz, J. (2004) "High conductance states in a mean field cortical network model", *Neurocomputing* 58-60: 935-940
- Book chapter:** Hertz, J., Lerchner, A., and Ahmadi, M. (2004) "Mean field methods for cortical network dynamics", chapter in Erdi, P., et al. (Eds) *Computational Neuroscience: Cortical Dynamics*, Springer, Berlin
- Abstracts:**
- Ahmadi, M., Latham, P.E. (2011) "Implicit punishments, decision boundaries, and human behaviour", *COSYNE Abstracts II-46*
- Ahmadi, M., Latham, P.E. (2010) "Learning to Decide when to decide", *Soc. Neurosci. Abstracts 503.12/KKK62*
- Latham, P.E., Roudi, Y., Ahmadi, M., Pouget, A. (2007) "Deciding when to decide", *Soc. Neurosci. Abstracts 740.10/YY10*
- Mohammad Pour Kargar, H., Ahmadi, M., Kesmati, M. (2005) "The effect of sesame oil injection (i.p.) on fear conditioning in female mice". 17th Iranian Congress of Physiology and Pharmacology.
- Ahmadi, M., Lewis, T.J., and Rinzel, J. (2004). "Bistability in a Two-Compartment Leaky Integrate-and-Fire Neuron". *CNS*04*
- Hertz, J., Aabo, T., Ahmadi, M., and Lerchner, A. (2004) "Mean field model of an orientation hypercolumn with conductance-based synapses", *Soc. Neurosci. Abstracts 30*: 982.21
- Lerchner, A., Ahmadi, M., and Hertz, J. (2003) "Cortical dynamics in a mean-field model with conductance-based synapses", *Soc. Neurosci. Abstracts 29*: 485.26
- Mohammad Pour Kargar, H., Ahmadi, M., Fathi Moghadam, H. (2002) "The effect of L-Arginine injection to LPGi nucleus on pain threshold in male rats",

2nd Iranian Congress of Neuroscience. Abstract 56

Miscellaneous: Founder and President of the Montgomery College Neuroscience Club
(MCNC) Mar. 2005 – Dec. 2005

Certificate of Appreciation In Recognition of Outstanding Contributions to
Montgomery College Through Participation in Student Life During the
2004-2005 Academic Year

Freelance writer and caricaturist for Asr Newspaper, Shiraz Iran, 1994-1996

Organizer of the First Biannual Fars Caricature Exhibition, Oct. 1995