

Alessandro Ticchi

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Research interests

Computational Neuroscience – Theoretical Physics – Bayesian Theory – Markov Chain Monte Carlo

Education

Imperial College London – Dept of Computing & Dept of Bioengineering Visiting PhD student in Computational Neuroscience	London, UK 2012 –
University of Bologna – Dept of Physics PhD Student in Theoretical Physics	Bologna, IT 2012 –
University of Bologna – Dept of Physics 2-year Master in Theoretical Physics, 110/110 cum laude (grade I - 1 st in class)	Bologna, IT 2009 – 2011
University of Bologna – Dept of Mathematics 1-year Master in Mathematical Finance, 110/110 cum laude (grade I - 1 st in class)	Bologna, IT 2010 – 2011
University of Bologna – Dept of Physics 3-year Physics Diploma, 110/110 cum laude (grade I - 1 st in class)	Bologna, IT 2006 – 2009
Classical Lyceum Dante Alighieri 5-year Classical Studies High School Diploma, 100/100 cum laude (grade I)	Rimini, IT 2001 – 2006

Professional experience

Imperial College London Teaching assistant, Master's course "Machine Learning", Dept of Computing	London, UK 2012-2014
Imperial College London Teaching assistant, 3 rd year course "Modelling in Biology", Dept of Bioengineering	London, UK 2012-2014
Scientifica Hiring Editor of quantitative interview questions and brain-teasers	London, UK 2012-2014
CINECA (high performance scientific computing centre) Intern developer, project Nu.M.E (The New Electronic Museum)	Bologna, IT 2008 – 2009
Sailing Club Cattolica Board member, executive director of sailing academy and competitions	Cattolica, IT 2010 – 2014
Valtur/Sailing Club Cattolica Sailing Instructor (children and adults) and professional skipper	Croatia/Italy/Turkey 2003 – 2009

Awards

- 2014:** Vest Scholarship from Viterbi School of Engineering, University of Southern California (USC)
- 2013:** Travel Award, Society for Neuroscience (SfN) Annual Meeting, San Diego
- 2013:** Imperial College Trust Award, covering travel expenses to Cosyne, Salt Lake City
- 2012 – 2014:** Scholarship for PhD studies from University of Bologna
- 2010 – 2011:** Fellowship from Sella Bank for enrolling Master course in Mathematical Finance
- 2006 – 2009:** Scholarship from Italian Physics Society (SIF)

Computer skills

Programming: Wolfram Mathematica, Matlab, C++(beginner), Python(beginner)

Software: Blender (3D editing and animation), Adobe After-Effects CS6, Adobe Photoshop CS6

O/S: Mac OS-X, Linux, Windows

Conference proceedings

A. Ticchi, A. Faisal “*Bayes optimal spike adaptation predicts biophysical characteristics of neurons*”, Proceedings of Cosyne, February-March 2014, Salt Lake City (USA)

A. Ticchi, A. Faisal “*A Neural Circuit Model of Bayesian Inference via MCMC exploiting Neuronal Noise*”, Proceedings of SfN, November 2013, San Diego (USA)

A. Ticchi, A. Faisal “*A Biophysical Model of Bayesian Inference and MCMC Sampling in Neural Circuits*”, Proceedings of Cosyne, February-March 2013, Salt Lake City (USA)

A. Ticchi, A. Faisal “*A model for neuronal learning and sensing in a noisy environment through Bayesian Inference*”, Proceedings of Champalimaud Neuroscience Symposium, October 2012, Lisbon (Portugal)

Invited talks

A. Ticchi, A. Faisal “*Adaptation, coding and Bayesian computations in single neurons and neural populations*”, University of Cambridge, 22 May 2014, Cambridge (UK)

A. Ticchi, F. Rossi, “*Spherical Harmonics for Illumination*”, Summer School of Scientific Visualization organized by Cineca, 2009, Bologna (Italy)

A. Ticchi, F. Rossi, “*GSpaceSim*”, Linux Day Conference, 2007, Rimini (Italy)

Workshops and competitions

A. Ticchi, A. Faisal “*A neural circuit model of Bayesian Inference via MCMC using noisy neurons*”, poster in Decision Making in Nature Workshop, May 2013, London (UK)

A. Ticchi, A. Faisal “*A neural circuit model of Bayesian Inference via MCMC using noisy neurons*”, poster in Google Poster & Demo Competition, March 2013, London (UK)

Theses

A. Ticchi, G. P. Vacca “*Renormalization Group Flow of Non-local Average Effective Actions*”, 2011

A. Ticchi, F. Ortolani “*Hilbert’s Basis*”, 2009

Public outreach

Medical Research Council	London, UK
Strictly Science exhibition, communicating neuroscience to the general public	4 – 14 April 2013

Personal projects

AbsoluteNose	London, UK
Regression model for the classification and creation of new commercial perfumes	2014 –

VibeMeThere	London, UK
Iphone app for sensory augmentation, developed with Constantinos Gavriel	2013 – 2014

GSpaceSim	Bologna, IT
3D space arcade simulator, developed with Francesco Rossi	2007 – 2009

PokerSim	Cattolica, IT
Artificial intelligence engine for automated poker playing	2008 – 2009

Icaro	Bologna, IT
3D modelling and animation project in Blender	2007 – 2008

Languages

English: fluent	Italian: native	Latin: beginner	Ancient Greek: beginner
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Licenses

Sailing Instructor License from Italian Sailing Federation (FIV), Sailing and motorboat Skipper License from Italian Navy, Windsurf Instructor License, Practitioner NLP, Driving License A/B

Hobbies

Brainteasers, juggling, violin, guitar, surf, kite surf, snowboard, street magic, mathematics of poker