

Andrea Insabato

Curriculum Vitae

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Education

2009–2014 **PhD**, *cum Laude*, Universitat Pompeu Fabra, Barcelona.
PhD in Computer Science (Computational Neuroscience)

2007–2009 **MA**, *cum Laude*, Università ‘La Sapienza’, Roma.
Master Degree in Philosophy of Science

2004–2007 **BA**, *cum Laude*, Università ‘L’Orientale’, Napoli.
Bachelor Degree in Philosophy

Courses

22–26 June 2015 **Machine Learning Summer School**, *INIT/AERFAI*, Universitat Jaume I, Castellón.
<http://www.init.uji.es/school2015/>

07–10 July 2010 **Advanced Brain Imaging Techniques**, University of Birmingham, Great Malvern.
<http://www.optimaldecisions.org/events/biaa/home.html>

30–10 Aug-Sept 2010 **BCBT Summer School**, *SPECS*, Barcelona.
<http://bcbt.upf.edu/bcbt10/information>

PhD thesis

date 22 January 2014

title *Encoding and processing of Decision confidence in the Brain. Neural network modeling and neurophysiological data analysis.*

advisor Gustavo Deco, Mario Pannunzi

link <http://hdl.handle.net/10803/129463>

Experience

Academic Appointments

2016-today **Postdoctoral Researcher**, Universitat Pompeu Fabra, Barcelona.
Advisor: Gustavo Deco
Project: CHAMPMouse

Sept 2017-
2017-
2017 **Associate Research Scientist**, Columbia University, New York.
Advisor: John P. Cunningham

2014-2015 **Postdoctoral Researcher**, Universitat Pompeu Fabra, Barcelona.
Advisor: Gustavo Deco
Project: CORONET (<http://www.coronet-project.eu/>)

Teaching

Regular courses

- 2014-2018 **Assistant Professor**, *Percepción y Cognición Audiovisual*, Universitat Pompeu Fabra, Barcelona.
Machine learning and neuroscience for engineering
- 2016-2017 **Assistant Professor**, *Introduction to Programming*, Universitat Pompeu Fabra, Barcelona.
Programming course in C
- 2010-2013 **Teaching assistant**, *Ones i Electromagnetisme*, Universitat Pompeu Fabra, Barcelona.
Physics for engineering

Workshops and summer courses

- 02/07-06/07-2018 **Summer course**, *Introduction to analysis of neural data and brain connectivity*, Universitat Politècnica de Catalunya, Barcelona.
Time series analysis, graph theory and machine learning
- 11/05/2018 **Invited lecture**, *Computational modeling of behavior and neural signals*, Universitat Pompeu Fabra, Barcelona.
Invited lecture about cognitive modeling the course of Psychology, DCEXS
- 23/05/2018 **Workshop**, *SINC2 one-day workshop on brain connectivity analysis from neural data*, Barcelona.
Time series analysis and machine learning
- 16/09/2015 **Tutorial**, *Modeling in decision-making*, Universitat Pompeu Fabra, Barcelona.

Students supervision

- 2018 **Santiago Sánchez**, *Universitat de Barcelona*, Master in Clinical Psychology.
- 2018 **Sophie Benitez Stulz**, *Maastricht University*, Master in Psychology, co-supervision.
- 2018 **Maria Rodriguez Farge**, *Universitat Pompeu Fabra*, Bachelor in Computer Science.
- 2017 **Alberto Hernández Alcaina**, *Universitat Pompeu Fabra*, Master in Brain and Cognition.

Fellowships

- 2017 **Humanities and Neuroscience Fellowship**, *Italian Academy*, Columbia University, New York.
- 2011–2014 **FI Fellowship (Generalitat de Catalunya)**, Universitat Pompeu Fabra, Barcelona.
- 2009–2011 **Marie Curie Early Stage Researcher**, *ITN - CODDE (FP7)*, Universitat Pompeu Fabra, Barcelona.
- 2008–2009 **Erasmus Placement**, Theoretical and Computational Neuroscience Group, Barcelona.
- 2005–2006 **Erasmus**, Universität Johannes Gutenberg, Mainz.

Languages

- Italian Native
- Spanish Full professional proficiency
- Catalan Full professional proficiency
- English Professional working proficiency
- German Professional working proficiency

C1 MEQR CIFALC certificate

Computer skills

Operating Systems	Linux (admin and user), Windows (user), Mac OS X (user)
Typesetting	L ^A T _E X, Office suites
Programming	Python, Matlab, shell scripting, C/C++, psychtoolbox (behavioural experiments), scikit-learn (machine learning), pandas (data science)
Graphics Editors	Inkscape, Gimp, Adobe Illustrator
Version Control	Git, Subversion

Publications

Published Papers

- [1] V. Pallarés*, A. Insabato*, A. Sanjuan, D. Mantini, G. Deco, and M. Gilson. Extracting orthogonal subject- and condition-specific signatures from fMRI data using whole-brain effective connectivity. *NeuroImage*, 178, 2018.
- [2] A. Insabato, M. Pannunzi, and G. Deco. Multiple choice neurodynamical model of the uncertain option task. *PLoS Computational Biology*, 13(1), 2017.
- [3] A. Insabato, M. Pannunzi, and G. Deco. Neural correlates of metacognition—a critical perspective on current tasks. *Neuroscience and Biobehavioural Reviews*, 71:167–175, 2016.
- [4] L. Paz, A. Insabato, A. Zylberberg, G. Deco, and M. Sigman. Confidence through consensus: a neural mechanism for uncertainty monitoring. *Scientific Reports*, 2015.
- [5] M. Martinez-Garcia*, A. Insabato*, M. Pannunzi*, J. Pardo-Vasquez, C. Acuña, and G. Deco. The encoding of decision difficulty and movement time in the primate premotor cortex. *PLOS Computational Biology*, 11:e1004502, 2015.
- [6] A. Insabato*, L. Dempere*, M. Pannunzi*, R. Romo, and G. Deco. The influence of spatio-temporal structure of noisy stimuli in decision-making. *PLOS Computational Biology*, 10, 2014.
- [7] A. Insabato, M. Pannunzi, E. T. Rolls, and G. Deco. Confidence-related decision-making. *Journal of Neurophysiology*, 104:539–547, 2010.

Preprints

- [8] Andrea Insabato, John P. Cunningham, and Matthieu Gilson. Bayesian estimation for large scale multivariate Ornstein-Uhlenbeck model of brain connectivity. *arXiv:1805.10050 [cs, stat]*, May 2018. arXiv: 1805.10050.

Published Posters

- [9] Vicente Pallarés, Matthieu Gilson, Simone Kuhn, Andrea Insabato, and Gustavo Deco. Reliability of effective connectivity from fMRI resting state data: discrimination between individuals. *BMC Neuroscience*, 18(Suppl 1):P52, 2017.

- [10] Andrea Insabato, Mario Pannunzi, and Gustavo Deco. Neurodynamical model of confidence decision-making in lip. *BMC Neuroscience*, 12(Suppl 1):P65, 2011.

Oral Participation to Conference

- [11] A. Insabato. Non minimal model of decision confidence. *International Symposium on Biology of Decision-Making*, Bordeaux, France, 14-15/05/2017.
- [12] A. Insabato. Are thermostats metacognitive devices? *BARCCSYN 2015*, Barcelona, Spain, 18/06/2015.
- [13] A. Insabato. Decision confidence: How the brain gambles on its own decisions. *Foundational Meeting of the Society for the Advancement of Judgment and Decision Making Studies*, Granada, Spain, 26/09/2013.