

# MAURO FACCIN

Curriculum Vitæ

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## ACTUAL POSITION

**BigData Group and ICTEAM Institute at U.C. Louvain**  
Interests/Research line

- Dynamics on and of complex networks
- Mutual influence of topology and kinetics
- Markovian and non-Markovian dynamics
- Community and block detection

## PROFESSIONAL EXPERIENCE

2015 - today	<b>PostDoc</b> Université Catholique de Louvain (ICTEAM)	Louvain la Neuve, Belgium
2011 - 2015	<b>PostDoc</b> ISI Foundation	Torino, Italy
2006 - 2011	<b>PhD</b> Bifi Institute	Zaragoza, Spain

## FELLOWSHIPS

2015 **MOVE-IN Louvain Fellowship (with support of Marie Curie Actions)**

## MEMBERSHIP

2015 - today	<b>Network Science Society</b> Member
2014 - today	<b>Complex Systems Society</b> Member
2013 - today	<b>Frontiers in Quantum Computing</b> Review Editor

## COMMITTEES

2 Jun 2014	<b>Quantum Frontiers for Network Science</b> Organizing committee	NetSci 2014, Berkeley, California
21 Sep 2016	<b>Coarse-graining of Complex Systems</b> Organizing committee	CCS2016, Amsterdam, Netherlands
30 Nov 2016	<b>Complex Networks 2016</b> Program committee	Milan, Italy
15 Dec 2016	<b>BeNet 2016</b> Organizing committee	Louvain-la-Neuve, Belgium
29 Nov 2017	<b>Complex Networks 2017</b> Program Committee	Lyon, France

## TEACHING

2015-2017	<b>LINMA2111 Algorithms and Complexity</b> Université Catholique de Louvain	Assistant Professor
2005	<b>Physics and Math at primary school</b> NEST	Hetauda, Nepal

2004 **guide in Science Museum**  
Organizer: INFN

Padova, Italy

## EDUCATION

2011 **PhD in Physics** University of Zaragoza  
supervisor: Pierpaolo Bruscolini

2007 **Master in Physics and Technology** University of Zaragoza  
supervisor: Pierpaolo Bruscolini

2005 **MSc in Physics** University of Padova  
supervisor: Enzo Orlandini

## PUBLICATIONS

**Complex Networks: from Classical to Quantum – preprint** arXiv:1702.08459  
J. Biamonte, M. Faccin, M. De Domenico

**Chiral Quantum Walks** Phys. Rev. A 93, 042302  
D. L. Lu, J. D. Biamonte, J. Li, H. Li, T. H. Johnson, V. Bergholm, M. Faccin, Z. Zimboras, R. Laflamme, J. Baugh, and S. Lloyd

**Mapping the topography of a protein energy landscape** J. Am. Chem. Soc., 2015, 137 (46), pp 14610–14625  
R. D. Hutton, J. Wilkinson, M. Faccin, E. M. Sivertsson, A. Pelizzola, A. R. Lowe, P. Bruscolini, L. S. Itzhaki

**Community Detection in Quantum Complex Networks** Phys. Rev. X 4 (4 2014), p. 041012  
M. Faccin, P. Migdal, T. H. Johnson, V. Bergholm, and J. D. Biamonte

**Degree Distribution in Quantum Walks on Complex Networks** Phys. Rev. X 3 (4 2013), p. 041007  
M. Faccin, T. Johnson, J. Biamonte, S. Kais, and P. Migdal

**Quantum Transport Enhancement by Time-Reversal Symmetry Breaking** Sci. Rep. 3 (2013). Ed. by NPG, p. 2361  
Z. Zimboras, M. Faccin, Z. Kadar, J. Whitfield, B. Lanyon, and J. Biamonte

**MS/MS Spectra Interpretation as a Statistical-Mechanics Problem** Analytical Chemistry 85.10 (2013), pp. 4884–4892  
M. Faccin and P. Bruscolini

**Ground-state spin logic** Europhysics Letters 99.5 (2012), p. 57004  
J. D. Whitfield, M. Faccin, and J. D. Biamonte

**Analysis of the equilibrium and kinetics of the ankyrin repeat protein myotrophin** The Journal of Chemical Physics 134.7, 075102 (2011), p. 075102  
M. Faccin, P. Bruscolini, and A. Pelizzola

## CONFERENCES (ORAL CONTRIBUTIONS)

21-24 Mar 2017 **Community detection in networks with non-Markovian dynamics** Dubrovnik, Croatia  
ComplexNet 2017

30 Nov-2 Dec 2016 **Behind Communities: Dynamics Define Modules** Milan, Italy  
ComplexNetworks 2016

19-22 Sep 2016 **Beyond Communities: Dynamical Markov Modules** Amsterdam, Netherlands  
CCS 2016

May 30-June 3 2016 **Mesoscopic Structure And Diffusion Process Memory** Seoul, Korea  
NetSci 2016

10-15 Jan 2015 **Mesoscopic Structures and Diffusion Process Memory** Wrocław, Poland  
NetSci-X 2016

2-6 Jun 2015 **Structural controllability of EEG temporal causal networks** Zaragoza, Spain  
NetSci 2015

22-26 Sep 2014 **Quantum Approaches to Community Detection** Lucca, Italy  
ECCS 2014

12-14 Mar 2014 **Community detection on quantum systems** Bologna, Italy  
CompleNet 2014

22-24 Jan 2014 **Community Detection on Quantum Systems** Zaragoza, Spain  
BIFI2014

24-26 May 2013	<b>Degree distribution in quantum complex networks</b> IQC workshop on quantum computation and complex networks	Waterloo, Canada
6-8 Nov 2012	<b>Ground state spin logic</b> Tensor Network States and Algebraic Geometry Workshop	Torino, Italy
2-4 Feb 2011	<b>Equilibrium and kinetics of the ankyrin repeat protein Myotrophin through a simple statistical mechanical model</b> V BIFI National Conference	Zaragoza, Spain
5-7 Feb 2009	<b>Bayesian Characterization of Protein Tandem Mass Spectra</b> IV BIFI National Conference	Zaragoza, Spain
8-9 May 2008	<b>Noise description in MSMS mass spectrometry, looking for a de novo sequencing algorithm</b> VI Jornadas Aragonesas de Estabilidad y Plegamiento de Proteínas	San Sebastian, Spain

## CONFERENCES (POSTER CONTRIBUTIONS)

23-25 Mar 2016	<b>Memory and Mesoscopic Structures in Diffusion Processes</b> Complemet 2016	Dijon, France
7-10 Jul 2010	<b>Folding Pathways Characterization for Ankyrin Repeat Protein Myotrophin</b> IV Spanish Portuguese Biophysical Congress	Zaragoza, Spain
2-6 Jun 2008	<b>Statistical characterization of fragment ions in MSMS mass spectrometry</b> XXI Sitges Conference on Statistical Mechanics: Statistical Mechanics of Molecular Biophysics	Sitges, Spain

## COMPUTER SKILLS

Coding	Python, C, C++, Matlab, Fortran
Shell	Bash, iPython/Jupyter
Versioning	GIT, Subversion, Mercurial
Plotting	Gnuplot, Matplotlib, PGFPlots(latex)
Typesetting	Latex, LibreOffice, MSOffice, Markdown
Imaging	Gimp (Raster), Inkscape (Vectorial), Rawtherapee (RAW)
Web	HTML5, CSS/SCSS, static site generators, Wordpress

## LANGUAGES

Italian	<b>Mother tongue</b>
English	<b>Fluent</b>
Spanish	<b>Fluent</b>
French	<b>Fair</b>

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