

# MAURO FACCIN

Curriculum Vitæ

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Belgium  
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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

## TEACHING

2016-2017	<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	<b>guide in Science Museum</b> Organizer: INFN	Padova, Italy

## EDUCATION

- |      |   |                        |
|------|---|------------------------|
| 2011 | <b>PhD in Physics</b><br>supervisor: Pierpaolo Bruscolini                   | University of Zaragoza |
| 2007 | <b>Master in Physics and Technology</b><br>supervisor: Pierpaolo Bruscolini | University of Zaragoza |
| 2005 | <b>MSc in Physics</b><br>supervisor: Enzo Orlandini                         | University of Padova   |

## 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. Zimborás, 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)

- |                    |  |                        |
|--------------------|--|------------------------|
| 30 Nov-2 Dec 2016  | <b>Behind Communities: Dynamics Define Modules</b><br>ComplexNetworks 2016   | Milan, Italy           |
| 19-22 Sep 2016     | <b>Beyond Communities: Dynamical Markov Modules</b><br>CCS 2016  | Amsterdam, Netherlands |
| May 30-June 3 2016 | <b>Mesoscopic Structure And Diffusion Process Memory</b><br>NetSci 2016  | Seoul, Korea           |
| 10-15 Jan 2015     | <b>Mesoscopic Structures and Diffusion Process Memory</b><br>NetSci-X 2016   | Wrocław, Poland        |
| 2-6 Jun 2015       | <b>Structural controllability of EEG temporal causal networks</b><br>NetSci 2015                                   | Zaragoza, Spain        |
| 22-26 Sep 2014     | <b>Quantum Approaches to Community Detection</b><br>ECCS 2014  | Lucca, Italy           |
| 12-14 Mar 2014     | <b>Community detection on quantum systems</b><br>CompleNet 2014  | Bologna, Italy         |
| 22-24 Jan 2014     | <b>Community Detection on Quantum Systems</b><br>BIFI2014  | Zaragoza, Spain        |
| 24-26 May 2013     | <b>Degree distribution in quantum complex networks</b><br>IQC workshop on quantum computation and complex networks | Waterloo, Canada       |

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

## CONFERENCES (POSTER CONTRIBUTIONS)

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

## 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 **Mother tongue**
- English **Fluent**
- Spanish **Fluent**
- French **Fair**

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