

Mariano Gastón Beiró Villani

Curriculum Vitae

PERSONAL INFORMATION

<i>Family name</i>	Beiró Villani
<i>Given name</i>	Mariano Gastón
<i>Date of birth</i>	22nd March 1984
<i>Passport</i>	XDC012536 (Spain)
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<i>Homepage</i>	http://cnet.fi.uba.ar/mariano.beiro/

CURRENT POSITIONS

National Scientific and Technical Research Council
(CONICET), Argentina

06/2017-curr.

Research Associate (permanent position).

School of Engineering, University of Buenos Aires, Argentina

07/2017-curr.

Lecturer.

Currently in charge of the assignment “Database Management Systems” (*undergraduate*).

ACADEMIC DEGREES

Doctor in Engineering, University of Buenos Aires

2009-2013

University of Buenos Aires

Doctoral dissertation: “Combinatorial models of Complex Systems: Methods and Algorithms”.
Grade: 10/10, *summa cum laude*. Advisor: Dr. José Ignacio Alvarez-Hamelin.

Engineer in Informatics

2002-2008

University of Buenos Aires, School of Engineering

Grade: 9.30/10, (*with honors*).

Undergraduate dissertation: “Visualization of Complex Systems”. Grade: 10/10. Advisor: Dr. José Ignacio Alvarez-Hamelin.

PUBLICATIONS

PUBLICATIONS IN JOURNALS WITH PEER REVIEW

Predicting demographics, moral foundations, and human values from digital behaviours

K. Kalimeri, M. G. Beiró, M. Delfino, R. Raleigh C. Cattuto

Computers in Human Behavior, Volume 92, 428–445.

<https://doi.org/10.1016/j.chb.2018.11.024>.

2019

Analysis of the Bitcoin blockchain: socio-economic factors behind the adoption

F. Parino, M. G. Beiró, L. Gauvin

EPJ Data Science, 7:38.

<https://doi.org/10.1140/epjds/s13688-018-0170-8>.

2018

Shopping mall attraction and social mixing at a city scale

M. G. Beiró, L. Bravo, D. Caro, C. Cattuto, L. Ferres, E. Graells-Garrido

EPJ Data Science, 7:28.

<http://dx.doi.org/10.1140/epjds/s13688-018-0157-5>.

2018

Predicting human mobility through the assimilation of social media traces into mobility models

M. G. Beiró, A. Panisson, M. Tizzoni, C. Cattuto

EPJ Data Science, 5:30.

<http://dx.doi.org/10.1140/epjds/s13688-016-0092-2>.

2016

Router-level community structure of the Internet Autonomous Systems

M. G. Beiró, S. P. Grynberg, J. I. Alvarez-Hamelin

EPJ Data Science, 4:12.

<http://dx.doi.org/10.1140/epjds/s13688-015-0048-y>.

2015

Deciphering the global organization of clustering in real complex networks

P. Colomer de Simón, M. A. Serrano, M. G. Beiró, J. I. Alvarez-Hamelin, M. Boguñá

Scientific Reports, Volume 3, Article Number 2517.

<http://dx.doi.org/10.1038/srep02517>.

2013

Obtaining communities with a fitness growth process

M. G. Beiró, J. R. Busch, S. P. Grynberg, J. I. Alvarez-Hamelin

Physica A, Volume 392, Issue 9, 2278-2293

<http://dx.doi.org/10.1016/j.physa.2013.01.031>.

2013

Understanding edge-connectivity in the Internet through core-decomposition

J. I. Alvarez-Hamelin, M. G. Beiró, J. R. Busch

Internet Mathematics, Volume 7, Issue 1, 45–66.

<http://dx.doi.org/10.1080/15427951.2011.560786>.

2011

A low complexity visualisation tool that helps to perform complex systems analysis

M. G. Beiró, J. I. Alvarez-Hamelin, J. R. Busch

New Journal of Physics, Volume 10, Number 12, 125003

<http://dx.doi.org/10.1088/1367-2630/10/12/125003>.

2008

PRESENTATIONS IN CONFERENCES WITH PEER REVIEW

Human Values and Attitudes towards Vaccination in Social Media

K. Kalimeri, M. G. Beiró, A. Urbinati, A. Bonanomi, A. Rosina, C. Cattuto
Data Science for Social Good Workshop (WDSGG2019), Companion Proceedings of the 2019 World Wide Web Conference (WWW'19 Companion), San Francisco, USA. **2019**

Topic-based study of a Twitter political network

T. Mussi Reyero, J. I. Alvarez-Hamelin, M. G. Beiró
International School and Conference on Network Science (NetSciX'19), Santiago, Chile. **2019**

Analysis of the Bitcoin blockchain: Socio-economic factors behind the adoption

F. Parino, M. G. Beiró and L. Gauvin
Conference on Complex Systems (CCS'18), Tesalónica, Grecia. **2018**

Removing Time Dependencies in Semantic Analysis in the New York Times Corpus

C. Selmo, M. G. Beiró, J. F. Martínez, J. I. Alvarez-Hamelin
Understanding Opinion and Language Dynamics Using Massive Data (OpLaDyn Satellite), Conference on Complex Systems (CCS'18), Tesalónica, Grecia. **2018**

Automatic Prediction of Youth Unemployment via Social Media Data

K. Kalimeri, M. G. Beiró, A. Bonanomi, A. Rosina and C. Cattuto
Complex Systems for the Most Vulnerable (CS4V18 Satellite), Conference on Complex Systems (CCS'18), Tesalónica, Grecia. **2018**

Characterization of the adopters of the Bitcoin

F. Parino, M. G. Beiró, L. Gauvin
BIFI International Conference 2018 (BIFI18), Zaragoza, España. **2018**

The Role of Shopping Malls in Social Inequality

M. G. Beiró, C. Cattuto, L. Bravo, D. Caro, L. Ferres and E. Graells-Garrido
1st European Symposium on Societal Challenges in Computational Social Sciences Londres, Reino Unido. **2017**

Predicting Demographics, Moral Foundations, and Human Values from Digital Behaviors

K. Kalimeri, M. G. Beiró, R. Raleigh and C. Cattuto
1st European Symposium on Societal Challenges in Computational Social Sciences Londres, Reino Unido. **2017**

Characterization of the adopters of the Bitcoin

F. Parino, M. G. Beiró, L. Gauvin
Conference on Complex Systems (CCS'17), Cancún, México. **2017**

What do our digital records reveal about us? Automatic Prediction of Demographic and Psychometric Attributes from Digital Data

K. Kalimeri, M. G. Beiró, R. Raleigh, C. Cattuto
International Conference on Computational Social Science (IC2S2 2017) Colonia, Alemania. **2017**

Traditional versus Facebook-based Surveys: Evaluation of Biases in Self-reported Psychometric Information

K. Kalimeri, M. G. Beiró, A. Bonanomi, A. Rosina, C. Cattuto
Social Media and Demographic Research Workshop (SMDR17)
Montreal, Canadá.

2017

Improving human mobility prediction with geo-tagged pictures

M. G. Beiró, A. Panisson, M. Tizzoni, C. Cattuto
NetMob 2017, Milán, Italia.

2017

Inference of human mobility networks through the assimilation of social media traces into mobility models

M. G. Beiró, A. Panisson, C. Cattuto
Conference on Complex Systems (CCS'15), Tempe, Arizona (US).

2015

Deciphering the global organization of clustering in real complex networks

P. Colomer de Simón, M. A. Serrano, M. G. Beiró, J. I. Alvarez-Hamelin, M. Boguñá
European Conference on Complex Systems (ECCS'13), Barcelona, España.

2013

Visualizing communities in dynamic networks

M. G. Beiró, J. R. Busch, J. I. Alvarez-Hamelin
LAWDN – Latin-American Workshop on Dynamic Networks, Buenos Aires, Argentina, inria-00531761.

2010

SnailVis: a paradigm to visualize complex networks

M. G. Beiró, J. R. Busch, J. I. Alvarez-Hamelin
39º Jornadas Argentinas de Informática e Investigación Operativa, Argentine Symposium on Technology (JAIIO-AST '10), Mar del Plata, Argentina, p. 1682-1693.

2010

PREVIOUS POSITIONS

University of Buenos Aires

2009-2017

Lecturer and Teaching Assistant

Lecturer at *Distributed Operating Systems* (graduate) at School of Engineering (2011-2012), Teaching Assistant at *Computer Organization II* (undergrad.) at School of Exact and Natural Sciences (2017) and *Introduction to Distributed Systems* (undergrad.) at School of Engineering (2009-2014 and 2017).

ISI Foundation, Turin, Italy

2014-2017

Postdoctoral researcher

Researcher in the *Computational Social Science* group. Research lines: Machine Learning for human mobility models, semantic exploration of large cities, prediction of demographic and psychometric attributes.

Institut rhônalpin des Systèmes Complexes, Lyon, France

2011

Research internship

Research internship of 4 months at IXXI (*Institut rhônalpin des Systèmes Complexes*), ENS-Lyon (France) working on the MOSAR project on the analysis of data from face-to-face contacts in hospitals.

C++ Developer

Stage at the *Buenos Aires Adaptive System for Traffic Control (SACTBA)* from Buenos Aires City Government, as a C++ developer for the communication protocols between server and traffic light controllers and the visual interface for the monitoring station.

SOFTWARE PRODUCTION

LaNet-vi 3.0.1

Visualization software developed in collaboration with Indiana University. LaNet-vi visualizes large-scale networks based on the k -core and k -dense decomposition, capturing modular and hierarchical network structures. License: Academic Free License (AFL). URL: <http://sourceforge.net/projects/lanet-vi/>

With: J. I. Alvarez-Hamelin, L. Dall'Asta, A. Barrat, A. Vespignani.

DeltaCom

Multi-resolution algorithm for community finding, based on modularity optimization. License: Academic Free License. URL: <http://sourceforge.net/projects/deltacom/>

With: J. I. Alvarez-Hamelin, J. R. Busch

CommUGP

Low-complexity algorithm for detection of local communities. License: New BSD License. URL: <https://code.google.com/p/commugp/>

With: J. I. Alvarez-Hamelin, J. R. Busch.

I am here

Real-time visualization of the user position in the Autonomous Systems network of the Internet. Based on the LaNet-vi visualization software. License: Creative Commons. URL: http://lanet-vi.fi.uba.ar/i_am_here_/buscar.py

With: J. I. Alvarez-Hamelin, D. Anunziata, A. Barrat, L. Dall'Asta, A. Vespignani.

SnailVis

Open tool for visualization of community structure. URL: <http://cnet.fi.uba.ar/mariano.beiro/snailvis.tar.gz>

With: J. I. Alvarez-Hamelin, J. R. Busch.

Data Communications Scilab Toolbox

Educational toolbox for the analysis of digital communications. Supports encodings such as AMI, HDB3, Manchester, QAM and PSK, and offers time-domain and frequency-domain visualizations, noise simulation and BER (Bit Error Rate) analysis. License: Academic Free License (AFL). URL: <http://sourceforge.net/projects/data-comm/>

With: J. I. Alvarez-Hamelin and students from School of Engineering (UBA).

OTHER KNOWLEDGE

LANGUAGES

<i>Spanish</i>	Mother tongue.
<i>English</i>	Full professional competence.
<i>Italian</i>	Full professional competence.
<i>French</i>	Basic competence. A2 certificate from ENS Lyon, France.