Guilherme Ferraz de Arruda (Curriculum vitae)

Universidade de São Paulo
Instituto de Ciências Matemáticas e de Computação
Departamento de Matemática Aplicada e Estatística
Avenida Trabalhador São-carlense, 400 - Centro
CEP: 13566-590
São Carlos – SP, Brazil
Phone: +55 16 99377 8095 (personal mobile)
email: gui.f.arruda@gmail.com
URL: http://guifarruda.github.io
Born: May 12, 1988—São Carlos, São Paulo, Brazil
Nationality: Brazilian

Current position

PhD Student, Instituto de Ciências Matemáticas e de Computação, Universidade de São Paulo

Areas of specialization

Computational physics • Complex networks
Computational physics • Multilayer networks
Computational physics • Spreading processes on multilayer networks
Computational physics • Non-linear dynamics

Appointments held

2013-2017 PhD fellow, ICMC - Universidade de São Paulo, supported by FAPESP
2012-2013 MSc fellow, ICMC - Universidade de São Paulo, supported by FAPESP
2011-2011 Undergraduate research fellow, ICMC - Universidade de São Paulo, supported by FAPESP

Education

2012-2013 MSc in Computer Science and applied Mathematics, ICMC - Universidade de São Paulo
2011 SPECIALIZATION in Digital Systems, EESC - Universidade de São Paulo
2011 SPECIALIZATION in Control Theory, EESC - Universidade de São Paulo
2007-2011 DEGREE in Electrical engineering, EESC - Universidade de São Paulo

Grants, honors & awards

2015-2016 PhD (period abroad) supported by FAPESP-BEPE, Universidade de Zaragoza, Spain
2013-2017 PhD supported by FAPESP, Universidade de São Paulo - USP
2012-2013 MSc supported by FAPESP, Universidade de São Paulo - USP
2011 AWARD: Honorable Mention 19th International Symposium undergraduates, Universidade de São Paulo - USP
2011-2011 Undergraduate research supported by FAPESP
2017-2019 Complex Systems Society elected council member

Publications & talks

JOURNAL ARTICLES

2017 J. A. Méndez-Bermúdez, Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Diluted banded random matrices: Scaling behavior of eigenfunction and spectral properties. New Journal of Physics. DOI:10.1088/1751-8121/aa9509

2017 Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Pablo Martin Rodriiguez, Emanuele Cozzo, Yamir Moreno: A General Markov Chain Approach for Disease and Rumor Spreading in Complex Networks. Journal of Complex

Networks.
DOI:10.1093/comnet/cnx024

2017   J. A. Méndez-Bermúdez, Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Scaling Properties of Multilayer Random Networks. Physical Review E 01/2017 96:012307
DOI:10.1103/PhysRevE.96.012307

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Tiago P. Peixoto, Francisco A. Rodrigues, Yamir Moreno: Disease Localization in Multilayer Networks. Physical Review X 02/2017; 7(1).
DOI:10.1103/physrevx.7.011014

2015   Guilherme Ferraz de Arruda, Emanuele Cozzo, Yamir Moreno, Francisco A. Rodrigues: On degree-degree correlations in multilayer networks. Physica D Nonlinear Phenomena 07/2015; 323.
DOI:10.1016/j.physd.2015.11.004

2015   Guilherme Ferraz de Arruda, Elcio Lebensztayn, Francisco A. Rodrigues, Pablo Marín Rodriguez: A process of rumour scotching on finite populations. Royal Society Open Science 09/2015; 2:150240.
DOI:10.1098/rsos.150240

2014   Guilherme Ferraz de Arruda, André Luiz Barbieri, Pablo Martín Rodriguez, Yamir Moreno, Luciano da Fontoura Costa, Francisco Aparecido Rodrigues: Role of centrality for the identification of influential spreaders in complex networks. Physical Review E 09/2014; 90:032812.
DOI:10.1103/PhysRevE.90.032812

2013   Guilherme Ferraz de Arruda, ThomasKauê Dal'Maso Peron, MarinhoGomes Andrade, JorgeAlberto Achcar, FranciscoAparecido Rodrigues: The Influence of Network Properties on the Synchronization of Kuramoto Oscillators Quantified by a Bayesian Regression Analysis. Journal of Statistical Physics 08/2013; 152(3):1-15.
DOI:10.1007/s10955-013-0775-z

2013   Guilherme Ferraz de Arruda, Luciano da Fontoura Costa, Dirk Schubert, Francisco A Rodrigues: Structure and dynamics of functional networks in child-onset schizophrenia. Clinical Neurophysiology 01/2013.
DOI:10.1016/j.clinph.2013.11.036

2013   Lilian Tais de Gouveia, Guilherme Ferraz de Arruda, Francisco Aparecido Rodrigues, Luciano Jose Senger, Luciano da Fontoura Costa: Supervised Classification of Basaltic Aggregate Particles Based on Texture Properties. Journal of Computing in Civil Engineering 03/2013; 27(2-2):177-182.
DOI:10.1061/(ASCE)CP.1943-5487.0000212

2011   Guilherme Ferraz de Arruda, Luciano da Fontoura Costa, Francisco A. Rodrigues: A Complex Networks Approach for Data Clustering. Physica A: Statistical Mechanics and its Applications 01/2011; 391(23):6174.
DOI:10.1016/j.physa.2012.07.007

2009   Andre L. Barbieri, G.F. de Arruda, Francisco A. Rodrigues, Odemir M. Bruno, Luciano da Fontoura Costa: An entropy-based approach to automatic image segmentation of satellite images. Physica A: Statistical Mechanics and its Applications 11/2009.
DOI:10.1016/j.physa.2010.10.015

Book chapters

2016   Emanuele Cozzo, Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Multilayer Networks: Metrics and Spectral Properties. Interconnected Networks, 01/2016: pages 17-35.
ISBN: 978-3-319-23945-3, DOI:10.1007/978-3-319-23947-7_2
arxiv:1504.05567

In preparation

2017   Emanuele Cozzo, Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Structural transition in multiplex networks triggered by layer degradation. In preparation.

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Francisco A. Rodrigues, Yamir Moreno: Exploring the block structure of multilayer networks. In preparation.

2017   Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Fundamental of spreading processes in complex networks. Review in preparation.

Books

2017   Emanuele Cozzo, Guilherme Ferraz de Arruda, Francisco A. Rodrigues, Yamir Moreno: Multiplex Networks: an introduction. Publisher: Springer. In preparation.

Other Publications

2017   Guilherme Ferraz de Arruda: A Complex Networks Approach for Data Clustering. Undergraduate Thesis (in Portuguese).

2013   Guilherme Ferraz de Arruda: Data mining in complex networks: structure and dynamics. Master Thesis (in Portuguese).

2017   Guilherme Ferraz de Arruda: Modeling spreading processes in complex networks. Ph.D Thesis.
Unofficial repository – Text submitted to the examiners

Talks

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Pablo Martín Rodríguez, Yamir Moreno and Francisco A. Rodrigues: *"General model of information spreading in complex networks"*, Conference on Complex Systems 2017, September 17-22. Cancun, Mexico

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Tiago P. Peixoto: *"Disease Localization in Multilayer Networks"*, Contagion '17 modeling of disease contagion processes, CCS, 2017, September 21. Cancun, Mexico

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Tiago P. Peixoto: *"Disease Localization in Multilayer Networks"*, Conference on Complex Systems 2017, September 17-22. Cancun, Mexico

Posters

2017   Guilherme Ferraz de Arruda, Emanuele Cozzo, Pablo Martín Rodríguez, Yamir Moreno and Francisco A. Rodrigues: *"General model of information spreading in complex networks"*, Conference on Complex Systems 2016, Amsterdam, The Netherlands, September 19-22

2016   Guilherme Ferraz de Arruda, Luciano da Fontoura Costa, Francisco A. Rodrigues: *"A Complex Networks Approach for Data Clustering"*, 19º Simpósio Internacional de Iniciação Científica da USP (SIICUSP), 2011, São Paulo, Brazil

Production indicators (Date 12 December 2017)

Google Scholar

Citation: 149
h-index: 7
i10 index: 4

ResearchGate

RG Score: 15.88
h-index: 5
Research items: 14
Citations: 99

Languages

- Portuguese
- English
- Spanish
- Italian (Beginner – A2 Student)
- German (Beginner – A1 book concluded in 2013)

Additional Links

- Research ID: http://www.researcherid.com/rid/G-6465-2012
- Google Scholar: https://scholar.google.com.br/citations?user=tqO15QgAAAAJ
- ResearchGate: https://www.researchgate.net/profile/Guilherme_Ferraz_de_Arruda