

Elohim Fonseca dos Reis

Curriculum Vitae

PERSONAL DETAILS

<i>Nationality</i>	Brazil and Portugal
<i>Address</i>	Department of Mathematics Mathematics Building, 129 State University of New York at Buffalo Buffalo, NY, USA
<i>Phone</i>	+01 716 398-0678
<i>E-mail</i>	elohimfr@gmail.com
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RESEARCH INTERESTS

Network science | Temporal networks | Stochastic processes on networks |
Dynamics on networks | Collective behaviors | Statistical physics | Data science

EDUCATION

PhD in Mathematics 2019–Spring 2022 (expected)
STATE UNIVERSITY OF NEW YORK AT BUFFALO, NEW YORK - UNITED STATES
Title: “Stochastic Processes in Temporal Networks”
Advisor: Naoki Masuda

PhD in Engineering Mathematics 2018-2019 (interrupted)
UNIVERSITY OF BRISTOL, BRISTOL - UNITED KINGDOM
Title: “Stochastic Processes in Temporal Networks”
Advisor: Naoki Masuda

PhD in Physics 2016-2017 (discontinued)
STATE UNIVERSITY OF CAMPINAS (UNICAMP), SÃO PAULO - BRAZIL
Title: “Dynamics, Evolution and Adaptation on Complex Networks”
Advisor: José Antônio Brum
Co-advisor: Marcus Aloízio Martinez Aguiar

MSc in Physics 2013-2015
STATE UNIVERSITY OF CAMPINAS (UNICAMP), SÃO PAULO - BRAZIL
Title: “Criticality in Neural Networks”
Advisor: José Antônio Brum
Co-advisor: Marcus Aloízio Martinez Aguiar

BA in Physics 2007-2011
STATE UNIVERSITY OF CAMPINAS (UNICAMP), SÃO PAULO - BRAZIL

WORK EXPERIENCE

Internship in risk management consulting 2011

ACCENTURE, SÃO PAULO, BRAZIL

Development and testing of new business processes, assist the implementation of new risk mitigation solutions and risk management plans, risk mapping.

Credit risk model analyst 2011-2012

ITAÚ UNIBANCO BANK, SÃO PAULO, BRAZIL

Validation of credit risk models (PD, LGD, EAD, etc.) and implementation of RAROC calculators.

PUBLICATIONS

Manuscripts under review

- Ruodan Liu, Masaki Ogura, Elohim Fonseca dos Reis, and Naoki Masuda
Effects of concurrency on epidemic spreading in Markovian temporal networks
Preprint arXiv:2201.00754v1 | 2022

Refereed journal papers

- Elohim Fonseca dos Reis and Naoki Masuda
Metapopulation models imply non-Poissonian statistics of interevent times
Physical Review Research, in press | 2021
- Elohim Fonseca dos Reis, Mark Viney, and Naoki Masuda
Network analysis of the immune state of mice
Scientific Reports, 11(1):1-8 | 2021
- Elohim Fonseca dos Reis, Aming Li, and Naoki Masuda
Generative models of simultaneously heavy-tailed distributions of interevent times on nodes and edges
Physical Review E, 102(5):052303 | 2020
- Takahiro Ezaki, Elohim Fonseca dos Reis, Takamitsu Watanabe, Michiko Sakaki, and Naoki Masuda
Closer to critical resting-state neural dynamics in individuals with higher fluid intelligence
Communications Biology, 3(1):1-9 | 2020
- Felipe Valine, Luís Alberto Mijan Barea, Elohim Fonseca dos Reis, Antônio Augusto von Zuben, and Newton Cersário Frateschi
Induced Optical Losses in Optoelectronic Devices due Focused Ion Beam Damages
Journal of Integrated Circuits and Systems, 7:87-91 | 2012

Conference proceedings

- Felipe Valine, Luís Alberto Mijan Barea, [Elohim Fonseca dos Reis](#); Antônio Augusto von Zuben, and Newton Cersário Frateschi. *Analysis of Focused Ion Beam Damages in Optoelectronic Devices Fabrication*. In: 26th SBMICRO Chip on the Cliffs, 2011, João Pessoa PB Brazil. ECS Transactions - Microelectronics Technology and Devices - SBMICRO 2011. Pennington NJ: The Electrochemical Society, 2011. v. 39. p. 299-303.

CONFERENCE PRESENTATIONS

ORAL CONTRIBUTIONS

- [Elohim Fonseca dos Reis](#), Aming Li, Naoki Masuda.
Interacting human dynamics as a mixture of Poisson processes
Northeast Regional Conference on Complex System
Buffalo, NY (online), 1-3 April, 2020.
- [Elohim Fonseca dos Reis](#), Mark Viney, Naoki Masuda.
Network structure of wild and laboratory mice immune states
International Joint Conference on AI & Data Science: Mathematics and Applications
Suwon, Korea, 4-5 November, 2019.
- [Elohim Fonseca dos Reis](#), Mark Viney, Naoki Masuda.
Immune state networks of wild and laboratory mice
CompleNet 2019
Tarragona, Spain, 18-19 March, 2019.

POSTER CONTRIBUTIONS

- [Elohim Fonseca dos Reis](#), Aming Li, Naoki Masuda.
Human dynamics as mixture of Poisson processes
NetSci-X 2020
Tokyo, Japan, 20-23 January, 2020.
- [Elohim Fonseca dos Reis](#), Mark Viney, Naoki Masuda.
Network structure of wild and laboratory mice immune states
Threshold Networks
Nottingham, UK, 22-24 July, 2019.
- [Elohim Fonseca dos Reis](#), Mark Viney, Naoki Masuda.
Immune state networks in wild mice
Jean Golding Institute Showcase
Bristol, UK, 3 July, 2018.

GRANTS

09/2016–03/2017

University of Bristol, UK

EPSRC Institutional Sponsorship

Project title: Phase Transitions in Neuroimaging Data

Amount: £7,234

Role: Co-I (PI: Naoki Masuda, University of Bristol, UK)

FELLOWSHIPS AND SCHOLARSHIPS

Doctoral Dissertation Fellowship

Spring 2022

STATE UNIVERSITY OF NEW YORK AT BUFFALO

MacGillivray Scholarship

Summer 2021

STATE UNIVERSITY OF NEW YORK AT BUFFALO

Masters research fellowship - FAPESP

2014-2015

ÉCOLE NORMALE SUPÉRIEURE - PARIS

Title: Modeling study of criticality in neural networks

Advisor: Thierry Mora

Scientific Initiation - FAPESP

Undergrad research fellowship

2010-2011

STATE UNIVERSITY OF CAMPINAS

Title: Fabrication and characterization of InGaAsP/InP microdisk resonators with platinum bridges by focused ion beam system (FIB)

Scientific Initiation - CNPq

Undergrad research fellowship

2009-2010

STATE UNIVERSITY OF CAMPINAS

Title: Fabrication and characterization of InGaAsP/InP microdisk lasers
(Honorable mention, PIBIC/CNPq Conference)

TEACHING EXPERIENCE

STATE UNIVERSITY OF NEW YORK AT BUFFALO

College Calculus 3

Instructor (Summer 2021)

Introduction to Differential Equations

Teaching assistant and grader (Fall 2021, Fall 2020)

College Calculus 2

Teaching assistant and grader (Spring 2021, Summer 2020)

Network Theory

Grader (Spring 2021)

Mathematical Analysis for Management

Grader (Fall 2020)

STATE UNIVERSITY OF CAMPINAS

General Physics II

Teaching assistant and grader (Spring 2017, Fall 2016)

Physics Laboratory I

Teaching assistant (Spring 2016)

Structure and Properties of Materials

Teaching assistant (Fall 2015)

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Society for Industrial and Applied Mathematics (SIAM)
- SIAM student chapter at SUNY at Buffalo

EXTRA-CURRICULAR COURSEWORK

- *Summer School on Physics and Neuroscience*, International Institute of Physics - Federal University of Rio Grande do Norte (2014);
- *Introduction to C programming language*, CENAPAD-SP (2014);
- *Introduction to MPI*, CENAPAD-SP (2014);
- *Introduction to OpenMP*, CENAPAD-SP (2014);
- *Credit Scoring*, Fundação Getúlio Vargas SP (2011);
- *SAS Programming Fast Track*, SAS Institute Brazil Ltda. (2011);
- *Credit Risk Management*, Siacorp (2011);
- *Why Finance Matters*, Accenture (2011);
- *Fundamental Process Analytics – Lean Six Sigma*, Accenture (2011);

SKILLS

<i>Languages</i>	Portuguese (mother tongue) English (fluent) Italian (intermediate) French (basic)
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<i>Programming</i>	Python, C, Matlab, L ^A T _E X, Gephi, SAS
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REFERENCES

- Prof. Naoki Mausda
State University of New York at Buffalo, United States
naokimas@gmail.com
- Prof. Mark Viney
University of Liverpool, United Kingdom
mark.viney@liverpool.ac.uk
- Dr. Alessio Cardillo
Universitat Oberta de Catalunya, Spain
acardillo@uoc.edu
- Prof. Marcus Aguiar
State University of Campinas, Brazil
aguiar@ifi.unicamp.br
- Prof. José Brum
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