Vitor Marquioni Monteiro

Diretório de grupos de pesquisa

Bachelor in Physics (2016) and Master of Science (2019) by the Instituto de Física de São Carlos, IFSC - USP. Developed his master thesis in multidimensional elephant random walks, with CNPq grant. Is currently a PhD. candidate in Physics at the Instituto de Física Gleb Wataghin, IFGW - UNICAMP, studying the low-high diversity transition in the Derrida-Higgs model, which exhibits sympatric speciation. Is interested in stochastic process, mainly applied to biomathematics, aiming to achieve analytical results in individual based models.
(Text informed by the author)

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Personal Information

Name Vitor Marquioni Monteiro

Bibliographic Citation MONTEIRO, V. M.;MARQUIONI, V. M.;MARQUIONI, VITOR M.;VM Marquioni

Formal Education/Degree

2019 Ph.D. in progress in Doutorado em Física .
Universidade Estadual de Campinas, UNICAMP, Brasil. *Advisor:* Marcus Aloizio Martinez de Aguiar.
Grantee of: Fundação de Amparo à Pesquisa do Estado de São Paulo ,FAPESP ,Brasil .
Keywords: Dinâmica de populações; Especiação Simpátrica; Processos Estocásticos.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Physics / *Subarea:* Física Geral / *Specialty:* Física Estatística e Termodinâmica.

2017 - 2019 Master´s in Fisica (Sc) .
Universidade de São Paulo, USP, Brasil. *Year of degree:* 2019.
Advisor: Leonardo Paulo Maia.
Grantee of: Conselho Nacional de Desenvolvimento Científico e Tecnológico ,CNPq ,Brasil .
Keywords: Procesos estocásticos; Passeio aleatório; Passeio aleatório do elefante; Difusão anômala.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Probability and Statistics / *Subarea:* Random Walks.

2013 - 2016 Graduation in Física - Teórico-Experimental .
Universidade de São Paulo, USP, Brasil.

1998 - 2012 Secondary Education .
Centro de Educação Integral de Matão, CEI%20MAT%C3O, Brasil.

Complementary Education

2020 - 2020 School on Community Ecology: from patterns to principles. (Credit Hours: 56h).
International Centre For Theoretical Physics, ICTP, Itália.

2020 - 2020 IX Southern-Summer School on Mathematical Biology. (Credit Hours: 56h).
International Centre For Theoretical Physics, ICTP, Itália.

2018 - 2018 Biomatemática. (Credit Hours: 6h).
Universidade Federal do ABC, UFABC, Brasil.

2016 - 2016 Escola Avançada de Física Teórica. (Credit Hours: 36h).
Instituto de Física de São Carlos, IFSC, Brasil.

2009 - 2009 Controle Dimensional. (Credit Hours: 36h).
SENAI - Departamento Regional de São Paulo, SENAI/DR/SP, Brasil.

2009 - 2009 Tecnologia Mecânica Básica. (Credit Hours: 48h).
SENAI - Departamento Regional de São Paulo, SENAI/DR/SP, Brasil.

2009 - 2009 Leitura e Interpretação de Desenho Técnico Mecânico. (Credit Hours: 84h).
SENAI - Departamento Regional de São Paulo, SENAI/DR/SP, Brasil.

Professional Experience

International Centre for theoretical Physics, ICTP, Brasil.

Contract

2022 - Present Type of contract: Pesquisador Visitante, Functional Placement: , Exclusive Dedication.

Other Information Visiting reasearcher with the Brazilian Scholarship BEPE-FAPESP

Universidade Estadual de Campinas, UNICAMP, Brasil.

Contract

2019 - Present Type of contract: Aluno, Functional Placement: , Exclusive Dedication.

Contract

2021 - 2021 Type of contract: Bolsista, Functional Placement: , Credit Hours: 8

Contract

2020 - 2021 Type of contract: Bolsista, Functional Placement: , Credit Hours: 8

Activities

2019 - Present Project participation activities, Instituto de Física Gleb Wataghin, .

Research Projects
Phase transitions in finite Derrida-Higgs models

2020 - 2021 Project participation activities, Instituto de Física Gleb Wataghin, .

Research Projects
Computing the genetic variability of a RNA virus going on epidemic

Fundação de Amparo à Pesquisa do Estado de São Paulo, FAPESP, Brasil.

Contract

2019 - Present Type of contract: Bolsista, Functional Placement: , Exclusive Dedication.

Contract

2014 - 2015 Type of contract: Bolsista, Functional Placement: , Exclusive Dedication.

Conselho Nacional de Desenvolvimento Científico e Tecnológico, CNPq, Brasil.

Contract

2019 - 2019 Type of contract: Bolsista, Functional Placement: , Exclusive Dedication.

Contract

2017 - 2019 Type of contract: Bolsista, Functional Placement: , Exclusive Dedication.

Instituto de Física de São Carlos, IFSC, Brasil.

Contract

2017 - 2019 Type of contract: Aluno, Functional Placement: , Exclusive Dedication.

Contract

2018 - 2018 Type of contract: Scholarship, Functional Placement: , Credit Hours: 6

Contract

2018 - 2018 Type of contract: Scholarship, Functional Placement: , Credit Hours: 6

Contract

2017 - 2017 Type of contract: Scholarship, Functional Placement: , Credit Hours: 6

Contract

2016 - 2016 Type of contract: Bolsista, Functional Placement: , Credit Hours: 6, Exclusive Dedication.

Contract

2013 - 2016 Type of contract: Aluno, Functional Placement:

Contract

2015 - 2015 Type of contract: Bolsista, Functional Placement: , Credit Hours: 6, Exclusive Dedication.

Activities

2018 - 2018 Project participation activities, IFSC, .

Research Projects
N-Dimensional Generalization of the Elephant Random Walk

2017 - 2017 Project participation activities, IFSC, .

Research Projects
Phase Reduction of Stochastic Limit Cycle Oscillators

Fundação de Apoio à Física e à Química, FAFQ, Brasil.

Contract

2014 - 2014 Type of contract: Bolsista, Functional Placement:

Research Projects

2017 - 2017 Phase Reduction of Stochastic Limit Cycle Oscillators

Description: Limit Cycles are isolated and closed trajectories in the phase space, important in describing the self-sustained oscillations characteristic of many natural and artificial systems, such as nerve cells and chemical reactions. Phase Reduction is a standard procedure of dimension reduction, in which the full dynamics is projected onto an attracting limit cycle, disregarding the distance between the trajectory and the cycle. This method is widely used in deterministic equations but that raises conceptual difficulties when applied to stochastic equations. In this project we study some definitions of the phase variable in stochastic systems attempting to find a quite general phase equation to stochastic equations..
Situation: Deactivated; *Nature:* Research.
Participant Students: Master's (1) .
Participants: Vitor Marquioni Monteiro - Co-ordinator / Leonardo Paulo Maia - Participant.
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Scientific Journal Referee

2020 - Present Journal: CHAOS SOLITONS & FRACTALS

Areas of Expertise

1. *Major Area:* Exact and Earth Sciences / *Area:* Mathematics / *Subarea:* Matemática Aplicada / *Specialty:* Biomatemática.
2. *Major Area:* Exact and Earth Sciences / *Area:* Probability and Statistics / *Subarea:* Random Walks.

Languages

Portuguese Comprehends Well, Speaks Well, Reads Well, Writes Well.

English Comprehends Well, Speaks Well, Reads Well, Writes Well.

Awards and Titles

2012 Menção Honrosa na Olimpíada Brasileira de Física (OBF, SBF.

2012 Medalha de Prata na Olimpíada Paulista de Física (OPF), .

2012 Medalha de Bronze no International Young Physicists' Tournament (IYPT Brasil), .

Scientific, Technological, Artistic and Cultural Production

Bibliographical Production

Citations

Outras
Total of articles:3
Total of citations:15
Vitor Marquioni Monteiro Date: 05/10/2021

Articles in Scientific Journals

1. MARQUIONI, VITOR M. ; DE AGUIAR, MARCUS A. M. . Modeling neutral viral mutations in the spread of SARS-CoV-2 epidemics. PLoS One JCR, v. 16, p. e0255438, 2021.
2. MARQUIONI, VITOR M. ; DE AGUIAR, MARCUS A.M. . Quantifying the effects of quarantine using an IBM SEIR model on scalefree networks. CHAOS SOLITONS & FRACTALS JCR, v. 138, p. 109999, 2020.
3. MARQUIONI, VITOR M. . Multidimensional elephant random walk with coupled memory. PHYSICAL REVIEW E JCR, v. 100, p. 052131, 2019.

Presentations of Work

1. MARQUIONI, VITOR M. ; de AGUIAR, M. A. M. . Sympatric speciation in the Derrida-Higgs model: the role of genome size.. 2021. (Presentation/Conference or Colloquium).
2. MARQUIONI, V. M. . New anomalous diffusion regimes in a bidimensional elephant random walk. 2020. (Presentation/Other).
3. MARQUIONI, VITOR M. ; de AGUIAR, M. A. M. . A network SEIR model: quarantine effects and genetic evolution. 2020. (Presentation/Conference or Colloquium).
4. MARQUIONI, V. M. . A Multi-Dimensional Elephant Random Walk Model. 2018. (Presentation/Communication).
5. MARQUIONI, V. M. . Modelagem matemática aplicada a sistemas biológicos. 2018. (Presentation/Conference or Colloquium).
6. MONTEIRO, V. M. . Automatização de Experimento Típico de Laboratórios de Ensino acerca da Radiação de Corpo Negro. 2017. (Presentation/Symposium).
7. MONTEIRO, V. M. ; MAIA, L. P. . Isophase generalization to stochastic limit cycle oscillators. 2017. (Presentation/Other).
8. MONTEIRO, V. M. ; CASTILHO, P. C. M. ; PENAFIEL, E. E. P. ; VIVANCO, F. A. J. ; BAGNATO, V. S. ; FARIAS, K. M. . Desenho e Caracterização de Campo Magnético para Sintonização de Ressonâncias de Feshbach em um Condensado de Bose-Einstein. 2015. (Presentation/Congress).
9. MONTEIRO, V. M. ; CASTILHO, P. C. M. ; PENAFIEL, E. E. P. ; VIVANCO, F. A. J. ; BAGNATO, V. S. ; FARIAS, K. M. . Campo magnético para sintonização de ressonâncias de Feshbach em amostras ultrafrias: testes e caracterização. 2015. (Presentation/Symposium).
10. MONTEIRO, V. M. ; CASTILHO, P. C. M. ; PENAFIEL, E. E. P. ; VIVANCO, F. A. J. ; BAGNATO, V. S. ; FARIAS, K. M. . Campo magnético para sintonização de ressonâncias de Feshbach em amostras ultrafrias: testes e caracterização. 2015. (Presentation/Symposium).

Events

Participation in events

1. . 2021. (Participation In Events/ Workshops).
2. A network SEIR model: quarantine effects and genetic evolution. 2020. (Participation In Events/ Congresses).
3. IX Southern-Summer School on Mathematical Biology. 2020. (Participation In Events/Other).
4. School on Community Ecology: from patterns to principles. 2020. (Participation In Events/Other).
5. Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology. 2020. (Participation In Events/Other).
6. XXIII Brazilian School of ProbabilityNew anomalous diffusion regimes in a bidimensional elephant random walk. 2019. (Participation In Events/Other).
7. . 2018. (Participation In Events/ Workshops).
8. Escola Latino Americana de MatemáticaA Multi-Dimensional Elephant Random Walk Model. 2018. (Participation In Events/Other).
9. XXII Simpósio Nacional de Ensino de FísicaAutomatização de Experimento Típico de Laboratórios de Ensino acerca da Radiação de Corpo Negro. 2017. (Participation In Events/ Symposium).
10. . 2017. (Participation In Events/ Workshops).
11. . 2017. (Participation In Events/ Workshops).
13. 23 SIICUSP - 1 EtapaCampo magnético para sintonização de ressonâncias de Feshbach em amostras ultrafrias: testes e caracterização. 2015. (Participation In Events/ Symposium).
14. 23 SIICUSP - 2 EtapaCampo magnético para sintonização de ressonâncias de Feshbach em amostras ultrafrias: testes e caracterização. 2015. (Participation In Events/ Symposium).
15. 23 SIICUSP - Mostra de DestaquesAvaliador Junior. 2015. (Participation In Events/ Symposium).
17. 67ª Reunião Anual da Sociedade Brasileira para o Progresso da Ciência, SBPCDesenho e Caracterização de Campo Magnético para Sintonização de Ressonâncias de Feshbach em um Condensado de Bose-Einstein. 2015. (Participation In Events/Other).

18. 5ª Semana Integrada do Instituto de Física de São Carlos - SIFSC 5Campo magnético para sintonização de ressonâncias de Feshbach em amostras ultrafrias: testes e caracterização. 2015. (Participation In Events/Other).

19. 4ª Semana Integrada do Instituto de Física de São Carlos - SIFSC 4. 2014. (Participation In Events/Other).

20. 3ª Semana Integrada do Instituto de Física de São Carlos - SIFSC 3. 2013. (Participation In Events/Other).