Gabriel Díaz Iturry, PhD Curriculum Vitae

Contact Information

e-mail: gabriel.diaz.iturry@gmail.com
github: https://github.com/gabo-di
Citizenship: Bolivian Date of Birth: 19/11/1991 Gender: Male

Research Interests

Chaos and Dynamical Systems, acting mainly on the following themes: diffusion in chaotic systems, nonlinear dynamics, dynamical systems, closed and open systems, time series analysis, discrete maps, chaotic dynamics, conservative and dissipative systems, time-dependent systems, Fermi acceleration, billiards, kicked systems, chaotic and periodic attractors, bifurcations.

Formal Education

03/2017-03/2021 - PhD in Physics
Thesis Topic:*Study of entropy behaviour in billiard systems.*
Supervisors: Professor Dr. Edson Denis Leonel, Professor Dr. Iberê Luiz Caldas
Area of Study: Nonlinear Dynamics, Chaos.
Scholarships: Conselho Nacional de Desenvolvimento Científico e Tecnológico CNPq Institute of Physics - University of São Paulo, São Paulo - Brasil

03/2015-02/2017 - Master's in Physics
Thesis Topic:*Statistical investigation and thermal properties for a 1-D impact system with dissipation.*
Supervisor: Professor Dr. Edson Denis Leonel
Area of Study: Nonlinear Dynamics and Chaos.
Scholarships: Fundação Capes Ministério da Educação Brazil-CAPES DS State University of São Paulo - Rio Claro-SP - Brazil.

02/2004-12/2007 - Graduation: Bachelor in Physics
Thesis Topic:*The greatest Lyapunov Exponent in the Special Theory of Relativity: The Rössler case.*
Supervisors: Professor Lic. Marco A. Viscarra, Msc. Abraham C. Torrico.
Universidad Mayor de San Simon - Cochabamba - Bolivia.

Languages

- **Portuguese**: Comprehends Well, Speaks Well, Writes Reasonably, Reads Well.
- **English**: Comprehends Well, Speaks Well, Writes Well, Reads Well.
- **Spanish**: Comprehends Well, Speaks Well, Writes Well, Reads Well.

Skills

- **Programming**: Fortran, Python, Julia.
- **Software**: Wolfram's Mathematica.

Publication List

1. Daniel Vedder, Matthies Marco C., Gabriel Díaz I., Pe'er Gur, *Persefone.jl: Modelling Biodiversity in Dynamic Agricultural Landscapes.* In prepration.
2. Gabriel Díaz I., Matthies Marco C., Pe'er Guy, Daniel Vedder, *AquaCrop.jl: A Process-Based Model of Crop Growth.* **Journal of Open Source Software**, vol. 10 n. 110 p. 7944, 2025
3. Matheus S. Palmero, Gabriel Díaz I., Iberê L. Caldas, Igor M. Sokolov, *Sub-diffusive behaviour in the Standard Map.* **The European Physical Journal Special Topics**, p. 1-9 2021.
4. Gabriel Díaz I., Matheus S. Palmero, Iberê Luiz Caldas, Edson D. Leonel, *Controlling Escape in the Standard Map.* arXiv preprint arXiv:2009.11095, 2020.
5. Matheus S. Palmero, Gabriel Díaz I., Peter V. E. McClintock, Edson D. Leonel, *Diffusion phenomena in a mixed phase space.* **Chaos: An Interdisciplinary Journal of Nonlinear Science**, vol. 30. p. 013108, 2020.

6. Gabriel Díaz I., Matheus S. Palmero, Iberê Luiz Caldas, Edson D. Leonel, *Diffusion entropy analysis in billiard systems.* **Physical Review E**, vol. 100, p. 042207, 2019.
7. André L. P., Matheus S. Palmero, Gabriel Díaz I., Carl P. Dettmann, Iberê L. Caldas, Edson D. Leonel, *Investigation of stickiness influence in the anomalous transport and diffusion for a non-disipative Fermi-Ulam model.* **Communications in Nonlinear Science and Numerical Simulation**, vol. 55, p. 225-236, 2018.
8. Gabriel Díaz I., Makoto Yoshida, Edson D. Leonel, *A Monte Carlo approach for the bouncer model.* **Physics Letters A**, vol. 381, p. 3636-3640, 2017.
9. Gabriel Díaz I. André L. P. Livorati, Edson D. Leonel, *Statistical investigation and thermal properties for a 1-D impact system with dissipation.* **Physics Letters A**, vol. 380, p. 1830-1838, 2016.

Conferences,Workshops and Meeting

1. Hands-On Research in Complex Systems School, ICTP - Trieste - Italy. (2018)
2. International Conference on Transport and Diffusion in Dynamical Systems, São Carlos - São Paulo, Brazil. (2016).

Referees

- **Prof. Dr. Edson Denis Leonel**
  Departamento de Física
  Universidade Estadual Paulista Campus de Rio Claro
  Av. 24A, 1515 - Bela Vista - CEP 13.506-700 - Rio Claro - São Paulo - Brazil
  Phone: +55(19)3557 3654 - Fax: +55(19) 3526 9181
  e-mail: edson-denis.leonel@unesp.br
- **Prof. Dr, Iberê Luiz Caldas**
  Departamento de Física Aplicada
  Instituto de Física, Universidade de São Paulo
  Rua do Matão Travessa R Nr. 187 Cidade Universitária, São Paulo - Brasil
  Phone: +55 (11) 3091-6914
  e-mail: ibere@if.usp.br
- **Prof. Dr, Luiz Antonio Barreiro**
  Departamento de Física
  Universidade Estadual Paulista Campus de Rio Claro
  Av. 24A, 1515 - Bela Vista - CEP 13.506-700 - Rio Claro - São Paulo - Brazil
  Phone: +55(19) 3526 9186
  e-mail: luiz.a.barreiro@unesp.br