



LUÃ GUEDES COSTA

☎ 55 21 99534-0527 ✉ guedes@mecanica.coppe.ufrj.br
👤 31, Single, Brazilian
📍 Rua Coronel Tamarindo, 8, bl. 3, 702, Niterói, RJ, Brazil



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PROFILE 👤

I am Ph.D. in mechanical engineering, specialized in nonlinear mechanics phenomena, including energy harvesting, smart materials and structures, nonlinear dynamics, multistability, and chaos. My expertise is complemented by a solid background in HPC, allowing me to tackle complex problems with precision and efficiency.

EXPERIENCE 📅

Postdoctoral Researcher Center for Nonlinear Mechanics, Universidade Federal do Rio de Janeiro, Brazil Activities: Design and development of new nonlinear smart systems and structures.	Jul 2024 - Present
Peer Reviewer → Journal of Vibration and Control - SAGE Journals → International Journal of Mechanical Sciences - Elsevier → Journal of Computation and Nonlinear Dynamics - ASME → Nonlinear Dynamics - Springer Nature → Journal of Vibration Engineering & Technologies - Springer Nature Activities: Peer review of scientific papers.	Aug 2020 - Present
Co-Founder and Manager Tupan Acessibilidade, Brazil Activities: Management and development of accessibility technology.	Mar 2020 - 2022
Undergraduate Research Program Centro Federal de Educação Tecnológica Celso Suckow da Fonseca (CEFET/RJ). Activities: Dynamical analysis of energy harvesting systems using finite element method.	Jun 2017 - Dec 2017

EDUCATION 🎓

PhD in Mechanical Engineering Universidade Federal do Rio de Janeiro (COPPE/UFRJ), Brazil.	2020 - 2024
Master's Degree in Mechanical Engineering and Materials Technology Centro Federal de Educação Tecnológica Celso Suckow da Fonseca (CEFET/RJ), Brazil.	2018 - 2020
Degree in Mechanical Engineering Centro Federal de Educação Tecnológica Celso Suckow da Fonseca (CEFET/RJ), Brazil.	2011 - 2017

AWARDS 🏆

ABCM Best Paper Award 9th International Symposium on Solid Mechanics (MECSOL 2024).	Oct 2024
Best PhD Student Paper Award XIX International Symposium on Dynamic Problems in Mechanics (DINAME 2023).	Feb 2023
Winner of Invent for the Planet 2019 Texas A&M, US. Global contest of technology and innovation for real-world challenges. Winning Project: Team Tupã	Apr 2019

ADDITIONAL TRAINING 🌟

School of Advanced Sciences on Nonlinear Dynamics
Universidade de São Paulo, São Paulo, Brazil.

Aug 2019

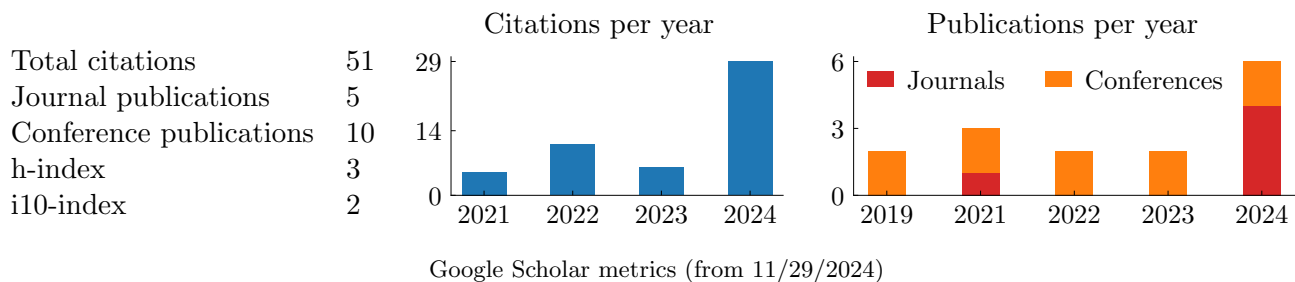
Oratory
Rogéria Guida Oratory Course, Rio de Janeiro, Brazil.

2017

Undergraduate Exchange Program in Mechanical Engineering
Technological University Dublin (Former Dublin Institute of Technology), Ireland.

2015 - 2016

RESEARCH METRICS 📊



JOURNAL PUBLICATIONS 📄

2024

Costa, L. G; Savi, M. A. "[Complex nonlinear dynamics of a multidirectional energy harvester with hybrid transduction](#)". *Smart Materials and Structures*, v. 33, p. 115007, 2024.

Costa, L. G; Savi, M. A. "[Pendulum-based hybrid system for multidirectional energy harvesting](#)". *Non-linear Dynamics*, v. 112, n. 21, p. 18665-18684, 2024.

Costa, L. G; Monteiro, L. L. S.; Savi, M. A. "[Multistability investigation for improved performance in a compact nonlinear energy harvester](#)". *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, v. 46, n. 4, p. 212, 2024.

Costa, L. G; Savi, M. A. "[Nonlinear dynamics of a compact and multistable mechanical energy harvester](#)". *International Journal of Mechanical Sciences*, v. 262, p. 108731, 2024.

2021

Costa, L. G; Monteiro, L. L. S.; Pacheco P. M. C. L.; Savi, M. A. "[A parametric analysis of the nonlinear dynamics of bistable vibration-based piezoelectric energy harvesters](#)". *Journal of Intelligent Material Systems and Structures*, v. 32, n. 7, p. 699-723, 2021.

2024

Costa, L. G; Savi, M. A. "[Mechanical energy multi-harvesting: on the performance enhancement of mechanical energy harvesters](#)". *Proceedings of the 9th International Symposium on Solid Mechanics*, 2024.

Costa, L. G; Savi, M. A. "[Analysis of a multidirectional hybrid energy harvester](#)". *Anais do Congresso Nacional de Engenharia Mecânica*, 2024.

2023

Costa, L. G; Savi, M. A. "[Analysis of mechanical energy harvesters using a nonlinear dynamics perspective](#)". *Proceedings of the XIX International Symposium on Dynamic Problems of Mechanics*, 2023.

Costa, L. G; Savi, M. A. "[A prototype for hybrid and multidirectional energy harvesting using pendulum structures](#)". *Proceedings of the 27th International Congress of Mechanical Engineering*, 2023.

2022

Costa, L. G; Caetano, V. J.; Savi, M. A. "[Nonlinear dynamics of an oscillator-pendulum energy harvester](#)". *Anais do Congresso Nacional de Engenharia Mecânica*, 2022.

Costa, L. G; Monteiro, L. L. S.; Savi, M. A. "[Vibration energy harvesting using a two-degree of freedom duffing-type structure](#)". *Proceedings of the 8th International Symposium on Solid Mechanics*, 2022.

2021

Costa, L. G; Monteiro, L. L. S.; Savi, M. A. "[Chaos and hyperchaos in a two-degree of freedom duffing oscillator](#)". *Proceedings of the 26th International Congress of Mechanical Engineering*, 2021.

Costa, L. G; Reis, E. V. M.; Savi, M. A. "[Energy Harvesting from Chaotic Vibration](#)". *Proceedings of the 26th International Congress of Mechanical Engineering*, 2021.

2019

Borges, G. X. G.; Costa, L. G; Adeodato, A.; Duarte B. T.; Monteiro, L. L. S.; Pacheco, P. M. C. L.; Savi, M. A. "[Nonlinear effects on experimental piezomagnetoelastic energy harvesting](#)". *Proceedings of the 25th International Congress of Mechanical Engineering*, 2019.

Costa, L. G; Monteiro, L. L. S.; Savi, M. A. "[A parametric analysis of the nonlinear dynamics of a duffing oscillator](#)". *Proceedings of the 25th International Congress of Mechanical Engineering*, 2019.