Pedro G. S. Fernandes

Curriculum Vitae

pgsfernandes@outlook.com
iNSPIRE-HEP, Google Scholar
GitHub
Portuguese

ACADEMIC APPOINTMENTS

OCT 2022 – SET 2023 **Postdoctoral Researcher**
Particle Cosmology Group
University of Nottingham

EDUCATION

NOV 2019 – JAN 2023 **Doctor of Philosophy in Physics**
Supervisors: David Mulryne and Tim Clifton
Queen Mary University of London

2017 – 2019 **Master of Science in Physics**
THESIS GRADE: 19/20, OVERALL GRADE: 17/20
Supervisors: Carlos Herdeiro and Eugen Radu
Instituto Superior Técnico, University of Lisbon

2014 – 2017 **Bachelor of Physics**
Instituto Superior Técnico, University of Lisbon

AWARDS, FELLOWSHIPS AND GRANTS

NOV 2019 **Royal Society PhD Grant**
RGF/EA/180022
Queen Mary University of London

2019 **FCT-CERN Research Grant**
CERN/FIS-PAR/0027/2019
Collaborator, FCT-CERN

2019 **Excellence in Teaching Award**
Instituto Superior Técnico

FEB 2019 – JUL 2019 **Teaching Fellowship**
Instituto Superior Técnico

JUL 2018 – JAN 2019 **Research Fellowship**
PROJECT UID/CTM/04540/2013 CEFEMA, RD 0472
Department of Physics
Instituto Superior Técnico

JUN 2017 – JUN 2018 **Research Fellowship**
SCIENTIFIC INITIATION GRANT COST CENTER 2401
Department of Physics
Instituto Superior Técnico

TEACHING EXPERIENCE

2020-2022 **Statistical Physics; Thermodynamics; Quantum Mechanics; Our Universe**
Queen Mary University of London

2019 **Thermodynamics and Structure of Matter**
Excellence in teaching award
Instituto Superior Técnico, University of Lisbon

CONFERENCES AND TALKS

- Invited talk, Imperial College London, Feb 2023
- XV Black Holes Workshop, ISCTE, Lisbon, Speaker, Dec 2022
- Gravity @ Prague, Charles University Prague, Attendant, Set 2022
- Invited webinar, Center for Gravitation and Cosmology, Yangzhou University, Aug 2022
- London Cosmology Discussion Meeting (LCDM), Invited Speaker, Dec 2021
- 50th BUSSTEPP School, Queen Mary University of London, Jan 2021 (*award for best session talk*)
- XIII Black Holes Workshop, Instituto Superior Técnico, Speaker, Dec 2020
- Invited webinar, Quantum Gravity group, University of Groningen, May 2020
- Invited webinar, Gravitational Geometry and Dynamics group, University of Aveiro, May 2020
- COSMONATA, Faculty of Sciences University of Lisbon, Invited speaker, Dec 2019
- 4th CENTRA Meeting, Faculty of Sciences University of Lisbon, Speaker, Mar 2019
- XI Black Holes Workshop, Instituto Superior Técnico, Attendant, Dec 2018
- Second Lisbon Mini-School on Particle Physics, LIP, Attendant, Feb 2017

LANGUAGE SKILLS

PORTUGUESE Native speaker

ENGLISH TOEFL 111/120, IELTS 8/9

COMPUTER SKILLS

PROGRAMMING C, C++, Python, Julia, Mathematica Javascript, HTML, JQuery, PHP

SCIENTIFIC Root (CERN), Einstein Toolkit

OTHER LaTeX, Linux, SQL

ACADEMIC SERVICE

Invited to referee for *Classical and Quantum Gravity*, *Physics Letters B*, *European Physical Journal C*, *General Relativity and Gravitation*.

PUBLICATIONS

More details on my iNSPIRE-HEP and Google Scholar profiles. **Bibliometric metrics:** 13 papers, 779 citations, 70.3 citations per refereed paper (average), h-index=9 (computed from iNSPIRE). First-author publications are highlighted with an asterisk (*).

List of Publications

[1] Clare Burrage, Pedro G. S. Fernandes, Richard Brito, and Vitor Cardoso. Spinning Black Holes with Axion Hair. 6 2023. arXiv:2306.03662*.

[2] Pedro G. S. Fernandes. Rotating black holes in semiclassical gravity. 5 2023. arXiv:2305.10382*. Accepted as a Letter in PRD.

[3] Pedro G. S. Fernandes and David J. Mulryne. A new approach and code for spinning black holes in modified gravity. *Class. Quant. Grav.*, 40(16):165001, 2023. arXiv:2212.07293*.

[4] Pedro G. S. Fernandes, David J. Mulryne, and Jorge F. M. Delgado. Exploring the Small Mass Limit of Stationary Black Holes in Theories with Gauss-Bonnet Terms. *Class. Quant. Grav.*, 39:235015, 2022. arXiv:2207.10692*.

[5] Pedro G. S. Fernandes, Pedro Carrilho, Timothy Clifton, and David J. Mulryne. The 4D Einstein–Gauss–Bonnet theory of gravity: a review. *Class. Quant. Grav.*, 39(6):063001, 2022. arXiv:2202.13908*.

[6] Pedro G. S. Fernandes, Pedro Carrilho, Timothy Clifton, and David J. Mulryne. Black holes in the scalar-tensor formulation of 4D Einstein-Gauss-Bonnet gravity: Uniqueness of solutions, and a new candidate for dark matter. *Phys. Rev. D*, 104(4):044029, 2021. arXiv:2107.00046*.

[7] Pedro G. S. Fernandes. Gravity with a generalized conformal scalar field: theory and solutions. *Phys. Rev. D*, 103(10):104065, 2021. arXiv:2105.04687*.

[8] Timothy Clifton, Pedro Carrilho, Pedro G. S. Fernandes, and David J. Mulryne. Observational Constraints on the Regularized 4D Einstein-Gauss-Bonnet Theory of Gravity. *Phys. Rev. D*, 102(8):084005, 2020. arXiv:2006.15017.

[9] Pedro G. S. Fernandes, Pedro Carrilho, Timothy Clifton, and David J. Mulryne. Derivation of Regularized Field Equations for the Einstein-Gauss-Bonnet Theory in Four Dimensions. *Phys. Rev. D*, 102(2):024025, 2020. arXiv:2004.08362*.

[10] Pedro G. S. Fernandes. Charged black holes in AdS spaces in 4D Einstein Gauss-Bonnet gravity. *Phys. Lett. B*, 805:135468, 2020. arXiv:2003.05491*.

[11] Pedro G. S. Fernandes. Einstein–Maxwell-scalar black holes with massive and self-interacting scalar hair. *Phys. Dark Univ.*, 30:100716, 2020. arXiv:2003.01045*.

[12] Pedro G. S. Fernandes, Carlos A. R. Herdeiro, Alexandre M. Pombo, Eugen Radu, and Nicolas Sanchis-Gual. Charged black holes with axionic-type couplings: Classes of solutions and dynamical scalarization. *Phys. Rev. D*, 100(8):084045, 2019. arXiv:1908.00037*.

[13] Pedro G. S. Fernandes, Carlos A. R. Herdeiro, Alexandre M. Pombo, Eugen Radu, and Nicolas Sanchis-Gual. Spontaneous Scalarisation of Charged Black Holes: Coupling Dependence and Dynamical Features. *Class. Quant. Grav.*, 36(13):134002, 2019. arXiv:1902.05079*.