Pedro G. S. Fernandes

Curriculum Vitae

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

ACADEMIC APPOINTMENTS

OCT 2023 – OCT 2025 **Postdoctoral Researcher**
CP3-Origins
University of Southern Denmark

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

OCT 2022 **Leverhulme Trust Fellowship**
University of Nottingham

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

REFERENCES

David Mulryne
RELATION PhD advisor
INSTITUTION Queen Mary University of London
EMAIL d.mulryne@qmul.ac.uk

Clare Burrage
RELATION Postdoctoral mentor
INSTITUTION University of Nottingham
EMAIL clare.burrage@nottingham.ac.uk

Timothy Clifton
RELATION PhD advisor
INSTITUTION Queen Mary University of London
EMAIL t.clifton@qmul.ac.uk

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

ACADEMIC SERVICE

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

COMPUTER SKILLS

PROGRAMMING C, C++, Python, Julia, Mathematica
Javascript, HTML, JQuery, PHP
SCIENTIFIC Root (CERN), Einstein Toolkit
OTHER LaTeX, Linux, SQL

LANGUAGE SKILLS

PORTUGUESE Native speaker
ENGLISH TOEFL 111/120, IELTS 8/9

SELECTED CONFERENCES AND TALKS

1. Invited talk, Imperial College London, Feb 2023
2. XV Black Holes Workshop, ISCTE, Lisbon, Keynote Speaker, Dec 2022
3. Gravity @ Prague, Charles University Prague, Attendant, Set 2022
4. Invited webinar, Center for Gravitation and Cosmology, Yangzhou University, Aug 2022
5. London Cosmology Discussion Meeting (LCDM), Invited Speaker, Dec 2021
6. 50$^{\text{th}}$ BUSSTEPP School, Queen Mary University of London, Jan 2021 (*award for best session talk*)
7. XIII Black Holes Workshop, Instituto Superior Técnico, Speaker, Dec 2020
8. Invited webinar, Quantum Gravity group, University of Groningen, May 2020
9. Invited webinar, Gravitational Geometry and Dynamics group, University of Aveiro, May 2020
10. COSMONATA, Faculty of Sciences University of Lisbon, Invited speaker, Dec 2019
11. 4$^{\text{th}}$ CENTRA Meeting, Faculty of Sciences University of Lisbon, Speaker, Mar 2019
12. XI Black Holes Workshop, Instituto Superior Técnico, Attendant, Dec 2018
13. Second Lisbon Mini-School on Particle Physics, LIP, Attendant, Feb 2017

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*.