

Justin C. Feng | CV

CENTRA, Instituto Superior Técnico
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Current Position

CENTRA, Instituto Superior Técnico (U. Lisbon)
Postdoctoral Researcher

Lisbon, PORTUGAL
2019–

Research Interests

Physics: General relativity, relativistic positioning systems, wormholes, modified gravity

Education

The University of Texas at Austin
Doctor of Philosophy in Physics
Advisor: Richard A. Matzner

Austin, Texas, USA
2009–2017

University of California, Irvine
Bachelor of Science in Physics (with minor in Mathematics)
Honors: Sigma Pi Sigma

Irvine, California, USA
2004–2009

Past Appointments

Research

The University of Texas at Austin
Research Affiliate Postdoctoral Scholar

Austin, TX, USA
2017–2018

The University of Texas at Austin
Graduate Research Assistant

Austin, TX, USA
2016–2017

University of California, Irvine
Undergraduate Research Assistant

Irvine, CA, USA
2007–2008

Teaching

St. Edward's University
Adjunct Faculty

Austin, TX, USA
2018 (Fall)

The University of Texas at Austin
Assistant Instructor

Austin, TX, USA
2011–2017

The University of Texas at Austin
Teaching Assistant

Austin, TX, USA
2009–2011

Activities

CENTRA seminar chair <i>Organizer and chair for CENTRA seminar</i>	CENTRA - IST (UL) 2019–2021
XIII Black Holes Workshop <i>Organizing Committee Member</i>	CENTRA - IST (UL) 2020 (Dec)
Discussion leader and organizer: Crash Course in GR <i>(summer seminar aimed at undergraduates)</i>	UT Austin 2015–2016
Organizer and Speaker: An informal introduction to GR <i>(seminar aimed at undergraduates)</i>	UT Austin 2012 (Fall)
Referee <i>Journals: Class. Quantum Grav., Euro. Phys. J. Plus, Comm. Theor. Phys.</i>	

Talks, Workshops and Conferences

Talk: XIII Black Holes Workshop, December 2020 (Delivered Online)
Talk: PONT 2020, December 2020 (Delivered Online)
Seminar: Relativity Seminar, The University of Texas at Austin, Mar. 6 2020
Talk: XII Black Holes Workshop, December 2019, Guimaraes, Portugal
Seminar: Yukawa Institute for Theoretical Physics, Dec. 2 2019, Kyoto, Japan
Talk: JGRG29 (U. Kobe), November 2019, Kobe, Japan
Seminar: University of Lisbon (FCUL), Nov. 13 2019, Lisbon, Portugal
Talk: GR22/Amaldi13, July 2019, Valencia, Spain
Seminar: CENTRA - Instituto Superior Técnico, May 16 2019, Lisbon, Portugal
Talk: ASA, The University of Texas at Austin, Jan. 31 2018
Seminar: Okinawa Institute of Science and Technology, Nov. 14 2017, Okinawa, Japan
PhD Defense Talk: The University of Texas at Austin, Aug. 15 2017
Talk: Theory Group Brown Bag, The University of Texas at Austin, Mar. 30 2017
Talk: Whizkey Seminar, The University of Texas at Austin, Apr. 6 2015
Talk: Whizkey Seminar, The University of Texas at Austin, Dec. 5 2014
Participant: SIGRAV Graduate School, XI Edition, Jun. 2014, Como, Italy
Participant: 27th Texas Symp. Relativ. Astro., Dec. 2013, Dallas, TX.
Talk: 7th Gulf Coast Gravity Meeting (U. Mississippi), April 2013, Oxford MS
Talk: Whizkey Seminar, The University of Texas at Austin, Mar. 25 2012
Qualifying Exam Talk: The University of Texas at Austin, Nov. 17 2011
Participant: 6th Gulf Coast Gravity Meeting (Florida Atlantic U.), May 2011, Boca Raton, FL.
Talk: Whizkey Seminar, The University of Texas at Austin, Oct. 30 2011
Talks (contributed four): Diff. Geom. Seminar, The University of Texas at Austin, Summer 2011
Participant: ESQG Workshop (NORDITA), Jul. 2010, Stockholm, Sweden
Poster: APS April Meeting, Denver, CO (2009)

Publications

- [1] Miguel Duarte, Justin Feng, Edgar Gasperin, and David Hilditch. High Order Asymptotic Expansions of a Good-Bad-Ugly Wave Equation. 1 2021. [arxiv:2101.07068](#).
- [2] Sumanta Chakraborty and Justin C. Feng. Perturbations of the Almost Killing Equation and their implications. 11 2020. [arxiv:2011.13955](#).
- [3] Justin C. Feng, Shinji Mukohyama, and Sante Carloni. MEMe model in the Post-Newtonian limit. 11 2020. [arxiv:2011.12305](#).
- [4] Chinmoy Bhattacharjee and Justin C. Feng. On beltrami states near black hole event horizon. *Physics of Plasmas*, 27(7):072901, 2020.
- [5] Justin C. Feng. Note on gravity at the boundary of an AdS vacuum. Feb 2020. [arxiv:2002.08342](#).
- [6] Justin C. Feng and Sante Carloni. New class of generalized coupling theories. *Phys. Rev. D*, 101:064002, Mar 2020.
- [7] Justin C. Feng, Edgar Gasperín, and Jarrod L. Williams. Almost-killing equation: Stability, hyperbolicity, and black hole gauss law. *Phys. Rev. D*, 100:124034, Dec 2019.
- [8] Chinmoy Bhattacharjee, Justin C. Feng, and S. M. Mahajan. Black hole in a superconducting plasma. *Phys. Rev. D*, 99:024027, Jan 2019.
- [9] Justin C. Feng. Some globally conserved currents from generalized Killing vectors and scalar test fields. *Phys. Rev. D*, 98:104035, Nov 2018.
- [10] Chinmoy Bhattacharjee, Justin C Feng, and David J Stark. Surveying the implications of generalized vortical dynamics in curved spacetime. *Monthly Notices of the Royal Astronomical Society*, page sty2277, 2018.
- [11] Ignazio Ciufolini, Richard A. Matzner, Justin C. Feng, Antonio Paolozzi, David P. Rubincam, Erricos C. Pavlis, John C. Ries, Giampiero Sindoni, and Claudio Paris. A new laser-ranged satellite for General Relativity and space geodesy: IV. Thermal drag and the LARES 2 space experiment. *The European Physical Journal Plus*, 133(8):333, Aug 2018.
- [12] Justin C. Feng. Volume average regularization for the Wheeler-DeWitt equation. *Phys. Rev. D*, 98:026024, Jul 2018.
- [13] Justin Feng, Mark Baumann, Bryton Hall, Joel Doss, Lucas Spencer, and Richard Matzner. PoMiN: A Post-Minkowskian N -body Solver. *The Astrophysical Journal*, 859(2):130, 2018.
- [14] Justin C. Feng and Richard A. Matzner. From path integrals to the Wheeler-DeWitt equation: Time evolution in spacetimes with a spatial boundary. *Phys. Rev. D*, 96:106005, Nov 2017.
- [15] Justin C. Feng and Richard A. Matzner. The Weiss variation of the gravitational action. *General Relativity and Gravitation*, 50(8):99, Jul 2018.

Notes

Feng, J. C., *The Poor Man's Introduction to Tensors*, 40 pages (2017)
(https://justincfeng.github.io/Tensors_Poor_Man.pdf)