

JUSTIN CHRISTOPHER FENG

CURRICULUM VITAE

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CENTRA, Instituto Superior Técnico - U. Lisboa, Av. Rovisco Pais 1, 1049-001 Lisboa, PORTUGAL

APPOINTMENTS

Junior Fellow

LeCosPA, National Taiwan University

Oct 2023 – Present

Postdoctoral Researcher

CENTRA, Instituto Superior Técnico (U. Lisbon)

Feb 2019 – March 2023

Adjunct Faculty (Joint)

St. Edward's University

Aug 2018 – Dec 2018

Research Affiliate - Postdoctoral Fellow

The University of Texas at Austin

Sep 2017 – Jan 2019

Graduate Research Assistant

The University of Texas at Austin

Jun – Aug 2016, Jun – Aug 2017

Assistant Instructor

The University of Texas at Austin

Aug 2011 – May 2017

Teaching Assistant

The University of Texas at Austin

Aug 2009 – Jul 2011, Spring 2015

Undergraduate Research Assistant

Cooray group, University of California, Irvine

Jun – Aug 2007, Jun – Aug 2008

EDUCATION

Doctor of Philosophy in Physics

The University of Texas at Austin

Sep 2009 – Dec 2017

Bachelor of Science in Physics

University of California, Irvine

Sep 2004 – Jun 2009

ACTIVITIES

- Memberships
 - International Society on General Relativity and Gravitation (ISGRG)
 - Sociedade Portuguesa de Relatividade e Gravitação (SPRG)
 - International Society for Quantum Gravity (ISQG)
 - LISA Consortium Associate Member
- Referee
 - Classical and Quantum Gravity*
 - European Physical Journal Plus*
- Organizing committee member
 - XIII Black Holes Workshop, Dec 2020
 - Lisbon, PT
- Chair & Organizer
 - CENTRA seminar, 2019-2021, Lisbon, PT
- Speaker
 - Contributed 9 seminar talks, 8 conference/workshop talks, 8 pedagogical talks

SKILLS

Software

Mathematica (xAct), SciML libraries, Linux

Programming Languages

Julia, FORTRAN, C, LaTeX, HTML, bash

TALKS, LECTURES, WORKSHOPS, & CONFERENCES

- **Seminar:** University of Bologna, *The Weiss variation in gravitation theory*, Apr. 5 2023, Bologna, Italy
- **Seminar:** CEICO, Czech Academy of Sciences, *The Weiss variation in gravitation theory*, Mar. 29 2023, Prague, Czech Republic
- **Seminar:** Charles University, *Relativistic positioning systems and automatic differentiation*, Mar. 28 2023, Prague, Czech Republic
- **Seminar:** Yukawa Institute for Theoretical Physics, *The Weiss variation in gravitation theory*, Nov. 7 2022, Kyoto, Japan
- **Seminar:** CENTRA - Instituto Superior Técnico, *The Weiss variation in gravitation theory*, Oct. 27 2022, Lisbon, Portugal
- **Talk:** ENAA 2022, *Adventures in automatic differentiation*, Sep. 5 2022
- **Talk:** GR23 Beijing, *Sharp density gradients in generalized coupling theories*, Jul. 7 2022, (Delivered Online)
- **Seminar:** CGP, The University of Texas at Austin, *Modern methods for relativistic positioning systems*, Apr. 14 2022, Austin, Texas, USA
- **Talk:** XIV Black Holes Workshop, *Sharp density gradients in generalized coupling theories*, Dec. 22 2021 (Delivered Online)
- **Seminar:** DIME, University of Genoa, *The Weiss Variation: Applications in mechanics, field theory and gravity*, Nov. 29 2021, Genoa, Italy
- **Lecture:** 10th School of Astrophysics and Gravitation IST, *Tensors in physics*, Sep. 04 2021, Lisbon, Portugal
- **Participant:** GWverse meeting in Lisbon, Sep. 2021, Lisbon, Portugal
- **Seminar:** CENTRA - Instituto Superior Técnico, *Self-collision of a portal wormhole*, Jul. 22 2021 (Delivered Online)
- **Seminar:** Università di Bologna, *Generalized coupling theories and the MEMe model*, May 28 2021 (Delivered Online)
- **Talk:** XIII Black Holes Workshop, *Topology and self interaction of smoothed portals*, Dec. 22 2020 (Delivered Online)
- **Talk:** PONT 2020, *The MEMe model*, Dec. 9 2020 (Delivered Online)
- **Seminar:** Relativity Seminar, University of Texas at Austin, *Portals*, Mar. 6 2020
- **Talk:** XII Black Holes Workshop, *Electrovortical formalism and plasma equilibria in black hole spacetimes*, Dec. 20 2019, Guimaraes, Portugal
- **Seminar:** Yukawa Institute for Theoretical Physics, *New class of generalized coupling theories*, Dec. 2 2019, Kyoto, Japan
- **Talk:** JGRG 29 (U. Kobe), *MEMe: a generalized coupling theory* Nov. 25 2019, Kobe, Japan
- **Seminar:** University of Lisbon (FCUL), *New class of generalized coupling theories*, Nov. 13 2019, Lisbon, Portugal
- **Talk:** GR22/Amaldi13, *Can solutions of the almost-Killing equation yield approximate Killing vectors?* Jul. 10 2019, Valencia, Spain
- **Seminar:** CENTRA - Instituto Superior Técnico, *Weiss Variation in General Relativity*, May 16 2019, Lisbon, Portugal
- **Talk:** Astronomy Students Association, UT Austin, *General Relativity: Einstein's Theory of Gravity*, Jan. 31 2018
- **Seminar:** Okinawa Institute of Science and Technology *Temporal insights from the end of space*, Nov. 14 2017, Okinawa, Japan
- **PhD Defense Talk:** University of Texas at Austin, *Temporal insights from the end of space*, Aug. 15 2017
- **Talk:** Theory Group Brown Bag, UT Austin, *Path integral defines operator ordering*, Mar. 30 2017
- **Talk:** Whizkey Seminar, UT Austin, *A nontrivial Hamiltonian for GR?*, Apr. 6 2015
- **Talk:** Whizkey Seminar, UT Austin, *Functional Homotopy Methods for Evaluating Path Integrals*, Dec. 5 2014
- **Participant:** SIGRAV Graduate School, XI Edition, Jun. 2014, Como, Italy
- **Participant:** 27th Texas Symposium for Relativistic Astrophysics, Dec. 2013, Dallas, TX.
- **Talk:** 7th Gulf Coast Gravity Meeting (U. Mississippi), *Rigid Surfaces in General Relativity*, April 2013, Oxford MS
- **Lectures (contributed five):** An Informal Introduction to GR (Seminar), UT Austin: *Tensors; Special Relativity; Curvature; Einstein Field Equations; ADM Formulation of GR*, Fall 2012
- **Talk:** Whizkey Seminar, UT Austin, *De Sitter space*, Mar. 25 2012
- **Qualifying Exam Talk:** University of Texas at Austin, *Variations of Area in Geometrodynamics*, Nov. 17 2011
- **Participant:** 6th Gulf Coast Gravity Meeting (Florida Atlantic U.), May 2011, Boca Raton, FL.
- **Talk:** Whizkey Seminar, UT Austin, *Twistors*, Oct. 30 2011
- **Lectures (contributed four):** Differential Geometry Seminar, UT Austin: *Semi/Pseudo Riemannian Manifolds; Mappings; (Cartan) Structural Equations Part I; (Cartan) Structural Equations Part II*, Summer 2011
- **Participant:** ESQG Workshop (NORDITA), Jul. 2010, Stockholm, Sweden
- **Poster:** APS April Meeting, Denver, CO, *Modeling Inflation with CMB and 21 cm Anisotropy Measurements* (2009)

NOTES & MISCELLANEOUS ARTICLES

- M1 Justin C. Feng, *The Poor Man's Introduction to Tensors*, 40 pages (2017) https://justincfeng.github.io/Tensors_Poor_Man.pdf
- M2 Justin C. Feng, *Self-collision of a portal wormhole*, Wolfram Community post, staff picks (2021) <https://community.wolfram.com/groups/-/m/t/2286081>