

João Dinis Álvares, M. Sc.



Portfolio



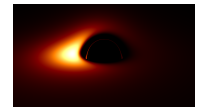
Jdinis8



LinkedIn



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Education

- 2026 – Now **Ph.D. Physics, University of Mississippi** in Oxford, MS, USA.
Supervised by Prof. Leo C. Stein.
- 2022 – 2025 **M.Sc. Engineering Physics, Instituto Superior Técnico** in Lisbon, Portugal.
Supervised by Dr. Alex Vaño-Viñuales and Prof. Edgar Gasperin Garcia.
- 2019 – 2022 **BSc. Engineering Physics, Instituto Superior Técnico** in Lisbon, Portugal.
Final Project: A Mathematical Study of Compressible Fluid Flow in One Dimension.
- 2019 **Course on Elements of Artificial Intelligence, University of Helsinki.**

Employment History

- 2026 **Research Assistant**, University of Mississippi, USA.
 Physics Laboratory for Science and Engineering II Teaching Assistant, University of Mississippi, USA.
- 2025 **Full-time Researcher**, BlackHole2024, Instituto de Telecomunicações.
- 2024 **Electromagnetism Teaching Assistant**, Instituto Superior Técnico.
 Physics I Teaching Assistant, Instituto Superior Técnico.
 Astronomical Guide, Astronomical Observatory of the Alqueva Lake.
- 2023 **Science Communicator**, European Parliament.
- 2022 **New Talents in Physics**, researcher at Gulbenkian Foundation.
- 2019 – 2022 **Associate Investigator**, Center of Physics of the Universities of Minho and Porto.

Research Publications

Journal Articles

- 1 J. D. Álvares and A. Vaño-Viñuales, “Free hyperboloidal evolution of the einstein–maxwell–klein–gordon system,” *Classical and Quantum Gravity*, vol. 42, no. 15, p. 155 018, Jul. 2025. DOI: 10.1088/1361-6382/adf0b9
- 2 J. D. Álvares and A. Vaño-Viñuales, “Charged scalar field at future null infinity via nonlinear hyperboloidal evolution,” *Physical Review D*, vol. 112, no. 10, p. 104 053, Nov. 2025, Publisher: American Physical Society. DOI: 10.1103/w94x-d6j8 Accessed: Jan. 14, 2026.
- 3 J. D. Álvares et al., “Exploring gravitational-wave detection and parameter inference using Deep Learning methods,” *Classical and Quantum Gravity*, vol. 38, no. 15, p. 155 010, Aug. 2021, arXiv:2011.10425 [gr-qc], ISSN: 0264-9381, 1361-6382. DOI: 10.1088/1361-6382/ac0455

In the process of publishing

- 1 J. D. Álvares and T. V. Fernandes, *Rotating Thin Shells in Einstein-Gauss-Bonnet Gravity*, arXiv:2604.11888 [gr-qc], Apr. 2026. DOI: 10.48550/arXiv.2604.11888

Editorial Positions

2025 – 2026  Reviewer at Classical and Quantum Gravity

Skills

Languages	 Strong reading, writing and speaking competencies in Portuguese, English and Russian. A2 in Arabic and Mandarin Chinese. Good understanding of Spanish, French, Ukrainian and Belorussian.
Coding	 C, C++, Python, Mathematica, CUDA, Fortran, Julia, $\text{\LaTeX}$, ...
NR Codes	 Interacted with SpEC, GyOTO, GRChombo and bamps.
Web Dev	 HTML, CSS, JavaScript.
Misc.	 Enthusiast, Science Communicator, Graphic Designer, Writer, Painter.

Seminars

Oct 2025  **CIDMA Seminar**, Aveiro, Portugal. Title: "Electrically Charged Hyperboloidal Slices".

Conferences, Workshops & Schools

Apr 2026	 XII Gulf Coast Gravity Meeting , Troy, Alabama, USA. Speaker.
Dec 2025	 XVIII Black Holes Workshop , Lisbon, Portugal. Speaker.
Sep 2025	 Spanish and Portuguese Relativity Meeting , Alicante, Spain. Speaker.
July 2025	 NR Community Call , Online. Speaker.
Dec 2024	 XVII Black Holes Workshop , Aveiro, Portugal. Speaker.
July 2024	 Spanish and Portuguese Relativity Meeting , Coimbra, Portugal. Speaker.
June 2024	 2nd Virtual Infinity Workshop , Online. Speaker.
Sep 2021	 10th CENTRA Summer School On Astrophysics and Gravitation , Lisbon, Portugal.
June 2021	 11th Iberian Gravitational Waves Meeting , Valencia, Spain.
July 2019	 CIÊNCIA'19 , Lisbon, Portugal. Speaker.
Aug 2017	 Western International Shanghai School Invited Speaker , Shanghai, China. Speaker.

Awards and Achievements

Apr 2026	 Best Speaker Award of the XII Gulf Coast Gravity Meeting , Troy, Alabama, USA.
Dec 2025	 2nd Best Thesis in Astrophysics and Gravitation Award , Instituto Superior Técnico.
May 2025	 Teaching Excellence Award , Instituto Superior Técnico.
May 2024	 International University Physics Olympiads - PLANCKS , Dublin, Ireland.
Feb 2024	 1st Place National University Physics Olympiads , University of Lisbon.
May 2023	 International University Physics Olympiads - PLANCKS , Milano, Italy.
Feb 2023	 1st Place National University Physics Olympiads , University of Aveiro.
2021 – 2022	 Academic Merit Diploma , Instituto Superior Técnico.
2020 – 2021	 Academic Merit Diploma , Instituto Superior Técnico.
May 2021	 American Statistical Association Special Award In Statistics , Online, USA.
	 Regeneron International Science and Engineering Fair 2021 , Online, USA.
Feb 2021	 Amélia de Mello Foundation and Bondalti's Scholarship , Instituto Superior Técnico.

Awards and Achievements (continued)

June 2020	■	4th Place National Science Fair , Online, Portugal.
May 2020	■	XXIII Iberoamerican University Mathematics Olympiads 4th National Place , Online, Portugal.
	■	Regeneron International Science and Engineering Fair 2020 , Online, USA.
March 2020	■	1st Place Poster Contest VI Jornadas da Engenharia Física , Instituto Superior Técnico.
Feb 2020	■	Amélia de Mello Foundation and Bondalti's Scholarship , Instituto Superior Técnico.
August 2019	■	International Olympiads on Astronomy and Astrophysics , Keszthely, Hungary.
June 2019	■	1st Place National Science Fair , Porto, Portugal.
	■	Finalist FCT Nova Challenge , Almada, Portugal.
March 2019	■	2nd Place National Astronomy Olympiads , Coimbra, Portugal.
	■	1st Place BLCS Poetry Contest , Braga, Portugal.
Feb 2019	■	International Swiss Talent Forum , Nottwil, Switzerland.
Sep 2018	■	European Union Contest for Young Scientists - EUCYS2018 , Dublin, Ireland.
Dec 2018	■	1st Place BLCS Christmas Tale Contest , Braga, Portugal.
June 2018	■	4th Place National Science Fair , Porto, Portugal.
March 2018	■	Best Students Program , University of Minho, Portugal.
2018	■	Member of the International Astronomical Search Collaboration , 50 objects found.
Sept 2017	■	QUARK program , Coimbra, Portugal.
March 2017	■	5th Place National Astronomy Olympiads , Braga, Portugal.
	■	2nd Place Foundation Ilídio Pinho Award , Coimbra, Portugal.

Miscellaneous Experience

Leadership

2023 – 2024	■	Director of the Students' Newspaper of Instituto Superior Técnico , Lisbon, Portugal.
	■	Founded the National Meeting of Academic Newspapers , Coimbra, Portugal.
	■	Founded the Portuguese Academic Movie Festival , Lisbon, Portugal.
	■	Organized the Exhibiton of the Students Role on the Portuguese Revolution of 1974 , Lisbon, Portugal.
	■	Organized the Digitalization of Documents of the Revolution , at the Social Sciences Institute, the Archive of Social History, the Faculty of Fine-Arts, the National Archive and several others.
2022 – 2024	■	Redactor , Diferencial - the student's newspaper of Instituto Superior Técnico. 40 articles published.
2022 – 2023	■	Member of the Board , Physics' Students Association of Instituto Superior Técnico.
2021 – 2022	■	Director of the Astronomy Section , Physics' Students Association of Instituto Superior Técnico.
	■	Messier Marathon Co-Organizer , Astronomical Observatory of the Alqueva Lake.
	■	4th Astronomy Summer School Organizer , Instituto Superior Técnico.
	■	Partnership with the Lisbon Astronomical Observatory and the Navy's Gulbenkian Planetarium , Belém, Portugal.
	■	Co-organizer of the commemoration of the Portuguese Navy Day , Belém, Portugal.

Miscellaneous Experience (continued)

- Organizer of the **Joint Astronomical Observation of the Universities of the Metropolitan Area of Lisbon**, Lisbon, Portugal.
- Lead the supervision of the **Portuguese team in the IOAA2021**, Instituto Superior Técnico.
- 8th Physics on Wheels Organizer**, North Region, Portugal.
- "Era uma vez Brasil" Foundation Partnership**, Brasil.

Societal Impact

- May 2022 **International Week on Youth Rights**, Spain, Barcelona.
- Feb. 2020 **EUrope: What else?**, Famalicão, Portugal.
- Oct 2019 **Masterclass - Train your Mind to Live in High-Performance - Speaker**, Braga, Portugal.
- Feb 2019 **European Narratives - Minhotos sem Fronteiras**, Ponte de Lima, Portugal.
- Nov 2018 **A(Gentes) M - Agentes de Mudança - Global Citizenship, the Youth and the World**, St. Maria da Feira, Portugal.
- Sep 2018 **A(Gentes) M - Agentes de Mudança - Active Citizenship Programme**, St. Maria da Feira, Portugal.
- Jan 2018 **A Portuguese View of China**, Braga, Portugal.
- March 2017 **UMinho Open Weekend**, Braga, Portugal.

Volunteering

- Sep. 2025 **European Researchers' Night**, CENTRA, Lisbon, Portugal.
- Feb. 2022 **Help for Ukraine in Ukraine-Russia War**, Moscavide, Portugal.
- 2019 – 2022 **Volunteer Tutor**, classes on Linear Algebra, Calculus and Mechanics to students from Portuguese-speaking countries.
- 2020 – 2021 **Volunteer Tutor**, gave courses on Astronomy, Astrophysics, Relativity and Statistics to high-school students.
- Nov. 2017 **European Researchers' Night**, Braga, Portugal.
- 2012 – 2016 **Solidarity Club**, help for poor people in Vieira do Minho, Portugal.