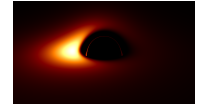


# João Dinis Álvares, M. Sc.

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🐙 Jdinis8








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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 Vañó-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

- 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. Vañó-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. Vañó-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. (visited on 01/14/2026).
- 3 J. D. Álvares, J. A. Font, F. F. Freitas, *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.

### Unpublished

- 1 J. D. Álvares and E. Gasperin, *Hyperboloidal slices close to spatial and null infinity in flat spacetime.*

## Editorial Positions

- 2025  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

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

## Awards and Achievements

Dec 2025	<b>2nd Best Thesis in Astrophysics and Gravitation Award</b> , Instituto Superior Técnico.
May 2025	<b>Teaching Excellence Award</b> , Instituto Superior Técnico.
May 2024	<b>International University Physics Olympiads - PLANCKS</b> , Dublin, Ireland.
Feb 2024	<b>1st Place National University Physics Olympiads</b> , University of Lisbon.
May 2023	<b>International University Physics Olympiads - PLANCKS</b> , Milano, Italy.
Feb 2023	<b>1st Place National University Physics Olympiads</b> , University of Aveiro.
2021 – 2022	<b>Academic Merit Diploma</b> , Instituto Superior Técnico.
2020 – 2021	<b>Academic Merit Diploma</b> , Instituto Superior Técnico.
May 2021	<b>American Statistical Association Special Award In Statistics</b> , Online, USA.
	<b>Regeneron International Science and Engineering Fair 2021</b> , Online, USA.
Feb 2021	<b>Amélia de Mello Foundation and Bondalti's Scholarship</b> , Instituto Superior Técnico.
June 2020	<b>4th Place National Science Fair</b> , Online, Portugal.
May 2020	<b>XXIII Iberoamerican University Mathematics Olympiads 4th National Place</b> , Online, Portugal.
	<b>Regeneron International Science and Engineering Fair 2020</b> , Online, USA.

## Awards and Achievements (continued)

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.
	Organizer of the Joint Astronomical Observation of the Universities of the Metropolitan Area of Lisbon, Lisbon, Portugal.

## Miscellaneous Experience (continued)

- **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.