

CENTRA (Center for Astrophysics and Gravitation),
Instituto Superior Técnico, Universidade de Lisboa,
Physics Department,
Av. Rovisco Pais 1,
1049-001 Lisbon, Portugal

PERSONAL INFORMATION

Name: Kyriakos Destounis
Birth date: 25/12/1988
Nationality: Greek
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CV SYNOPSIS

My name is Kyriakos Destounis, and I am a scientific investigator specializing in the study of black holes and gravitational waves. My academic training spans a broad spectrum of disciplines, including Computer Science, Solid-State Physics, Nanotechnology, Theoretical Physics, and Gravitation. I am committed to contemporary research in black-hole binary phenomenology and the modelling of gravitational waves, with particular emphasis on the inspiral stage of coalescing compact objects. Furthermore, I actively contribute to the field of black-hole spectroscopy, which is currently establishing a robust framework for interpreting the ringdown stage of remnants, and its stability against environments. By synthesizing insights from these complementary stages, my objective is to develop precise gravitational waveform models venturing into previously unexplored regimes of our Universe; regions where novel sources of gravitational radiation may lurk.

As a core member of the Consortium overseeing the Laser Interferometer Space Antenna (LISA); a spacebased gravitational-wave observatory adopted by the European Space Agency and scheduled for launch in 2035, I am actively engaged in the theoretical investigation and simulation of novel gravitational-wave phenomena. At the moment, I am the Representative of the Greek group ΛISA-GR to the LISA Consortium Council. My contribution focuses on the effects of orbital resonances, imprints of astrophysical chaos, environmental effects, and a broader class of events that, while theoretically plausible, remain beyond the current reach of ground-based detectors due to their sensitivity limitations.

I am, presently, a Visiting Assistant Professor at the Center for Astrophysics and Gravitation (CENTRA) of Instituto Superior Técnico (IST), in Lisbon, Portugal, and have also served as a Teaching Assistant for 3 years at Eberhard Karls Universität Tübingen, in Germany. Besides teaching experience, I have also supervised 10 Master students who successfully finished their thesis, with most of them achieving peer-reviewed publications in prestigious journals. I am, also, a Research Scientist at CENTRA – IST. I am funded by FCT – Fundação para a Ciência e a Tecnologia, under the Scientific Employment Stimulus – Individual Call – Grant No. [2023.07417.CEECIND/CP2830/CT0008](#), for the next 6 years (2024 – 2030), working on the project “Gravitational-wave footprints of astrophysical environments around black holes”.

EDUCATION

PhD in “Physics”**1/10/2016 – 10/9/2019**

Centre for Astrophysics and Gravitation (CENTRA),
Instituto Superior Técnico, Universidade de Lisboa, Portugal
Thesis title: “Dynamical behavior of black-hole spacetimes”
Supervisors: Prof. Vitor Cardoso, Assoc. Prof. João Costa
Final Grade: Pass with Distinction

MSc. in “Physics and Technological Applications”**19/12/2013 – 4/7/2016**

School of Applied Mathematical and Physical Sciences,

National Technical University of Athens, Greece
Thesis: "Gravitational collapse of matter in McVittie spacetime"
Supervisor: Prof. Eleftherios Papantonopoulos
Final Grade: 9.9/10

MSc. in "Microsystems and Nanodevices"
School of Applied Mathematical and Physical Sciences,
National Technical University of Athens, Greece
Thesis: "Topological insulator interfaces with superconductors"
Supervisor: Prof. Georgios Varelogiannis
Final Grade: 8.4/10

1/10/2012 – 17/3/2015

BSc. in "Informatics"
School of Information and Communication Technologies,
University of Piraeus, Athens, Greece
Thesis: "Chaos in nonlinear dynamical systems"
Supervisor: Prof. Aristeidis Sapounakis
Final Grade: 8.1/10

15/9/2006 – 7/7/2012

EMPLOYMENT

Junior Researcher – Fundação para a Ciência e a Tecnologia – FCT
Center for Astrophysics and Gravitation (CENTRA),
Instituto Superior Técnico, Universidade de Lisboa, Portugal
Grant duration: 6 years

25/11/2024 –

Post-Doc Researcher
Gravity Theory Group,
Sapienza University of Rome, Italy
Employer: Prof. Paolo Pani

1/10/2022 – 30/9/2024

Post-Doc Researcher – Teaching Assistant
Theoretical Astrophysics Group,
University of Tübingen, Germany
Employer: Prof. Kostas D. Kokkotas

1/10/2019 – 30/9/2022

TEACHING & SUPERVISING EXPERIENCE

Invited Assistant Professor at Instituto Superior Técnico, Lisbon, Portugal

5/8/2025 –

- Master's and PhD course: Black holes and gravitational waves

Teaching Assistant at University of Tübingen, Germany

1/10/2019 – 30/9/2022

- BSc. courses: Electrodynamics, [Classical Field Theory](#)
- BSc./MSc. courses: [Introduction to General Relativity](#), [Relativistic Astrophysics and Experimental Gravitation](#)

Co-supervisor of 10 MSc student theses

1/10/2020 –

4 in Tübingen with Prof Kostas D. Kokkotas (F. Thaalba, G. Mascher, A. Kulathingal, G. Huez),
5 at Sapienza with Prof. Paolo Pani (F. Angeloni, A. Courty, E. Levati, A. Mollicone, R. F. Rosato),
and 1 at Sapienza/GSSI with Prof. Andrea Maselli (L. Pezzella)

ACADEMIC ACTIVITIES

Core Member of the **LISA Consortium**, Fundamental Physics, Astrophysics,
Waveform and Early Career Scientists Working Groups

13/6/2019 –

Representative of the AISA-GR Greek Members Group of the LISA Consortium Council	13/6/2025 –
CENTRA, Instituto Superior Técnico, Lisbon, Portugal CENTRA seminars co-organizer	15/1/2025 –
Sapienza University of Rome, Italy Group meeting co-organizer at the Gravity Theory Group	15/9/2023 – 1/9/2024
Member of the “Einstein Telescope (ET)” Collaboration	10/7/2023 –
Member of the “European Consortium for Astroparticle Theory (EuCAPT)”	1/6/2022 –
Member of the “Hellenic Society on Relativity, Gravitation and Cosmology”	15/9/2022 –
University of Tübingen, Germany Einstein seminar co-organizer at the Theoretical Astrophysics Group	1/10/2019 – 30/9/2022
University of Tübingen, Germany Group meeting co-organizer at the Theoretical Astrophysics Group	10/9/2020 – 30/9/2022
Academic Referee (> 70 articles) Referee for Cambridge University Press , Springer Publishing , GACR Czech Republic research grants , Physical Review Letters (PRL), Physical Review D (PRD), Journal of High Energy Physics (JHEP), Journal for Cosmological and Astroparticle Physics (JCAP), The Astrophysical Journal (ApJ), Classical and Quantum Gravity (CGG), General Relativity and Gravitation (GERG), Physics Letters B (PLB) and others	8/12/2018 –
Instituto Superior Técnico, Lisbon, Portugal Group meeting co-organizer at the Gravitation in Técnico (GRIT) group, CENTRA	10/9/2017 – 25/7/2018

GRANTS & FUNDING

Funding agent: Fundação para a Ciência e a Tecnologia – FCT Grant, Junior Researcher, Individual Call to Scientific Employment Stimulus - 6th Edition
Principal Investigator: Kyriakos Destounis
Grant number: [2023.07417.CEECIND/CP2830/CT0008](#)
Grant title: “Gravitational-wave footprints of astrophysical environments around black holes”
Associated institution: Instituto Superior Técnico – Center for Astrophysics and Gravitation (CENTRA)
Total grant amount: 255.900 €

Funding agencies: Deutscher Akademischer Austauschdienst (DAAD), State Scholarships Foundation (IKY)
Grant number: 57628320
Grant title: DAAD program for the “Promotion of the exchange and scientific cooperation between Greece and Germany IKYDAAD 2022”
Collaborators: Prof. Kostas D. Kokkotas and Prof. Theocharis Apostolatos
Universities involved: University of Tübingen, National and Kapodistrian University of Athens
Total grant amount: 16.000 €

SCIENTIFIC MISSIONS

• Visitor at Sapienza University of Rome, Italy	23/2/2025 – 3/3/2025
• Visitor at the School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece	11/2/2025 – 22/2/2025
• Visitor at CENTRA, Instituto Superior Técnico, Lisbon, Portugal	1/10/2024 – 24/11/2024
• Visitor at the Physics Department, Universität Tübingen, Tübingen, Germany	21/4/2024 – 3/5/2024
• Visitor at Max Planck Institute for Gravitational Physics (Albert Einstein Institute), Potsdam, Germany	19/2/2024 – 23/2/2024

- Visitor at the School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece **15/7/2023 – 19/9/2023**
- Visitor at CENTRA, Instituto Superior Técnico, Lisbon, Portugal **10/4/2023 – 24/4/2023**
- Visitor at the Department of Physics, National and Kapodistrian University of Athens, Greece **25/8/2022 – 19/9/2022**
- Visitor at the Mathematics Department, Instituto Superior Técnico, Lisbon, Portugal **4/2/2020 – 19/2/2020**
- Visitor at the Department of Applied Mathematics, and Theoretical Physics, University of Cambridge, UK **20/5/2019 – 25/5/2019**
- Visitor at Max Planck Institute for Gravitational Physics (Albert Einstein Institute), Hannover, Germany **12/5/2019 – 17/5/2019**
- Visitor at the Physics Department, Universität Tübingen, Tübingen, Germany **10/4/2019 – 17/4/2019**
- Visitor at the Institute of Theoretical Physics, Charles University, Prague, Czech Republic **10/3/2019 – 17/3/2019**

ORGANIZATION COMMITTEES

XVIII Black Hole Workshop, Lisbon, Portugal, **18-19 December 2025**

12th Aegean Summer School, *Recent Developments in theory and observations in gravity and cosmology*, Sifnos, Greece, **9-14 September 2024**

11th Aegean Summer School, *Recent Developments in theory and observations in gravity and cosmology*, Syros, Greece, **5-15 September 2022**

INVITED SPEAKER IN SEMINARS, COLLOQUIA & CONFERENCES

1. **“Cosmic Choreographies: Dark Matter, Gravitational Waves and the Waltz of Black Holes”**, Invited speaker at Corfu2025 Workshop on “Tensions in Cosmology”, Corfu, Greece, **4 September 2025**
2. **“Symphony of Spacetime: Tuning into EMRI Resonances with LISA”**, Invited Keynote speaker at the 21st conference (NEB21) on “Recent Developments in Gravity”, Hellenic Society for Relativity, Gravitation and Cosmology (HSRGC), Corfu, Greece, **3 September 2025**
3. **“Orbital resonances in extreme-mass-ratio inspirals and gravitational wave phenomenology”**, Center for Astrophysics and Gravitation (CENTRA), Instituto Superior Técnico, Lisbon, Portugal, **3 April 2025**
4. **“General-relativistic black-hole dynamics and gravitational waves”**, Physics department, National and Kapodistrian University of Athens, Greece, **28 March 2025**
5. **“When resonances kick in: gravitational-wave phenomenology of orbital resonances in extreme-mass-ratio inspirals”**, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece, **18 February 2025**
6. **“Quasinormal modes and Pseudospectra: A complementary notion to black-hole spectroscopy”**, Intercontinental Seminars on Gravity and Cosmology (ISGC), (online), **20 November 2024**
7. **“Testing gravity with space detectors: the case of extreme-mass-ratio inspirals”**, Workshop on the Relativistic and Exotic Universe, Fudan – Tübingen Universities, Shanghai, China, (online), **19 September 2024**
8. **“The balance between chaos and order: a PostDoc’s tale”**, Invited speaker at “A Symposium in honor of Kostas Kokkotas”, Syros, Greece, **2 September 2024**
9. **“Inspiral and ringdown tests of strong-field gravity”**, Einstein Seminar, Universität Tübingen, Germany, **2 May 2022**
10. **“Gravitational-wave footprints of astrophysical environments around black holes”**, Gravity group, Sapienza University of Rome, Italy, **28 February 2024**

11. ***“Gravitational-wave tests of strong-field gravity: transient resonances and astrophysical environments”***, Astrophysical and Cosmological Relativity division, Max Planck Institute for Gravitational Physics (Albert Einstein Institute), Potsdam, Germany, **21 February 2024**
12. ***“Non-integrable extreme-mass-ratio inspirals: transient resonances and gravitational waves”***, LISA Phase A, Gravitational Waves from Massive Black Holes in the “Gravitational Universe”, University of Milano-Bicocca, Milan, Italy, **30 January 2024**
13. ***“Gravitational-wave tests of strong-field gravity: transient resonances and astrophysical environments”***, Gravity group journal club, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece, **19 December 2023**
14. ***“Black-hole spectroscopy and spectral instability of quasinormal modes”***, AstroParticle Symposium 2023, Institut Pascal, Orsay, France, **10 November 2023**
15. ***“Spectral instability of quasinormal modes and strong cosmic censorship”***, Workshop NTUA 2023, Athens, Greece, **18 September 2023**
16. ***“Challenging black-hole spectroscopy: quasinormal modes, spectral instabilities and the pseudospectrum”***, Gr@v group, University of Aveiro, Portugal, **21 April 2023**
17. ***“Supermassive rotating boson stars in highly-asymmetric binaries: transient resonances and gravitational waves”***, Center for Astrophysics and Gravitation (CENTRA), Instituto Superior Técnico, Lisbon, Portugal, **12 April 2023**
18. ***“Inspirational and ringdown tests of strong-field gravity”***, Sapienza University of Rome, Italy, **12 October 2022**
19. ***“Gravitational-wave astrophysics with LISA: slow evolvers win in the end”***, Gran Sasso Science Institute, L’Aquila, Italy, **5 October 2022**
20. ***“Black Hole Spectroscopy: quasinormal modes, spectral instabilities and the pseudospectrum”***, 11th Aegean Summer School, Syros, Greece, **14 September 2022**
21. ***“Gravitational-wave astrophysics with the Laser Interferometer Space Antenna”***, Astrophysics Colloquium, Universität Tübingen, Germany, **13 June 2022**
22. ***“Pseudospectrum of black holes and compact objects”***, Centro Brasileiro de Pesquisas Físicas – CBPF, Rio de Janeiro, Brazil, **29 March 2022**
23. ***“Pseudospectrum of black holes and compact objects”***, Perimeter Institute for Theoretical Physics, Canada (online), **3 February 2022**
24. ***“Gravitational-wave imprints of non-integrable extreme-mass-ratio inspirals”***, Center for Astrophysics and Gravitation (CENTRA), Instituto Superior Técnico, Portugal (online), **8 June 2021**
25. ***“Gravitational-wave imprints of non-integrable extreme-mass-ratio inspirals”***, Gr@v group, University of Aveiro, Portugal (online), **2 June 2021**
26. ***“Strong cosmic censorship with a positive cosmological constant”***, DAAD meeting: Neutron stars in the GW era, Universität Tübingen, Germany, **15 November 2019**
27. ***“Strong cosmic censorship in charged black-hole spacetimes”***, Department of Applied Mathematics and Theoretical Physics (DAMPT), University of Cambridge, England, **24 May 2019**
28. ***“Strong cosmic censorship in charged black-hole spacetimes”***, Max-Planck Institute for Gravitational Physics, Hannover, Germany, **16 May 2019**
29. ***“Strong cosmic censorship in charged black-hole spacetimes”***, Theoretical Astrophysics Group, Universität Tübingen, Germany, **11 April 2019**
30. ***“Strong cosmic censorship in charged black-hole spacetimes”***, Institute of Theoretical Physics, Charles University, Prague, Czech Republic, **12 March 2019**
31. ***“Quasinormal modes and strong cosmic censorship”***, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece, **4 January 2018**
32. ***“Pseudospectrum of black holes”***, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Greece, **19 April 2017**

- [1] E. Levati, A. Cárdenas-Avendaño, **K. Destounis**, and P. Pani. Cumulative effect of orbital resonances in extreme-mass-ratio inspirals. [Phys.Rev.D 111 \(2025\) 10, 104006](#).
- [2] L. Pezzella, **K. Destounis**, A. Maselli, and V. Cardoso. Quasinormal modes of black holes embedded in halos of matter. [Phys.Rev.D 111 \(2025\) 6, 064026](#).
- [3] A. Eleni, **K. Destounis**, T. A. Apostolatos, and K. D. Kokkotas. Resonant excitation of eccentricity in spherical extreme-mass-ratio inspirals. [Phys.Rev.D 110 \(2024\) 12, 124004](#).
- [4] R. F. Rosato, **K. Destounis**, and P. Pani. Ringdown stability: greybody factors as stable gravitational-wave observables. [Phys.Rev.D Letters 110 \(2024\) 12, L121501](#).
- [5] V. Boyanov, V. Cardoso, **K. Destounis**, J. L. Jaramillo, and R. Panosso Macedo. Structural aspects of the anti-de Sitter black hole pseudospectrum. [Phys.Rev.D 109 \(2024\) 6, 064068](#).
- [6] **K. Destounis**, V. Boyanov, and R. Panosso Macedo. Pseudospectrum of de Sitter black holes. [Phys.Rev.D 109 \(2024\) 4, 044023](#).
- [7] **K. Destounis**, F. Angeloni, M. Vaglio, and P. Pani. Extreme-mass-ratio inspirals into rotating boson stars: Nonintegrability, chaos, and transient resonances. [Phys.Rev.D 108 \(2023\) 8, 8](#).
- [8] V. Cardoso, **K. Destounis**, F. Duque, R. Panosso Macedo, and A. Maselli. Gravitational waves from extreme-mass-ratio systems in astrophysical environments. [Phys.Rev.Lett. 129 \(2022\) 24, 24110](#).
- [9] V. Boyanov, **K. Destounis**, R. Panosso Macedo, V. Cardoso, and J. L. Jaramillo. Pseudospectrum of horizonless compact objects: a bootstrap instability mechanism. [Phys.Rev.D 107 \(2023\) 6, 064012](#).
- [10] P. Amaro-Seoane *et al.* Astrophysics with the Laser Interferometer Space Antenna. 3 2022. [Living Rev.Rel. 26 \(2023\) 1, 2](#), **Significant contribution in Section 3**.
- [11] M. H. Y. Cheung, **K. Destounis**, R. Panosso Macedo, E. Berti, and V. Cardoso. Destabilizing the Fundamental Mode of Black Holes: The Elephant and the Flea. [Phys.Rev.Lett. 128 \(2022\) 11, 111103](#).
- [12] V. Cardoso, **K. Destounis**, F. Duque, R. Panosso Macedo, and A. Maselli. Black holes in galaxies: Environmental impact on gravitational-wave generation and propagation. [Phys.Rev.D Letters 105 \(2022\) 6, L061501](#).
- [13] **K. Destounis**, R. Panosso Macedo, E. Berti, V. Cardoso, and J. L. Jaramillo. Pseudospectrum of Reissner-Nordström black holes: quasinormal mode instability and universality. [Phys.Rev.D 104 \(2021\) 8, 084091](#).
- [14] **K. Destounis**, A. G. Suvorov, and K. D. Kokkotas. Gravitational-wave glitches in chaotic extreme-mass-ratio inspirals. [Phys. Rev. Lett. 126 \(2021\) 14, 141102](#).
- [15] **K. Destounis**, R. D. B. Fontana, F. C. Mena, and E. Papantonopoulos. Strong Cosmic Censorship in Horndeski Theory. [JHEP 10 \(2019\) 280](#).
- [16] **K. Destounis**. Charged Fermions and Strong Cosmic Censorship. [Phys. Lett. B 795 \(2019\) 211-219](#).
- [17] V. Cardoso, J. L. Costa, **K. Destounis**, P. Hintz, and A. Jansen. Strong cosmic censorship in charged black-hole spacetimes: still subtle. [Phys. Rev. D 98 \(2018\) 10, 104007](#).
- [18] V. Cardoso, J. L. Costa, **K. Destounis**, P. Hintz, and A. Jansen. Quasinormal modes and Strong Cosmic Censorship. [Phys. Rev. Lett. 120 \(2018\) 3, 031103](#), **Editor's Suggestion, Featured in Physics**.

ACADEMIC SKILLS

Programming languages: Mathematica, Matlab, C++ (intermediate level)

Software: Windows, Linux, LaTeX, Cluster computing

LANGUAGES

Greek (native), English (fluent), Portuguese (elementary)

OUTREACH

- **Mentor of young researchers** (MSc, PhD students, early PostDocs) at the “LISA Early Career Scientist” Working Group
- Kyriakos Destounis, “[An Easter-egg hunt through data](#)”, contribution to the project [The Birth of an Idea](#)

INTERVIEWS & PRESS COVERAGE

- “A possible failure of determinism in General Relativity”, [APS Physics](#)
- “Some black holes erase your past”, [Berkeley News](#)
- “Does General Relativity violate determinism in charged black holes?”, [Physics World](#)
- “The wall of death around black holes could break down”, [Live Science](#)
- “Here’s how you could survive being sucked into a black hole”, [Futurism](#)
- “You could survive falling into a black hole but it may get weird”, [New Scientist](#)
- “Doomsday, according to Einstein”, [GRIT press release](#)
- “Mind the environment”, [GRIT press release](#)