

Konstantinos F. Dialektopoulos

Theoretical Physicist · Cosmologist · Researcher

📞 (+30) 6984123779 ✉️ kdialekt@gmail.com 🌐 Website ORCID: 0000-0002-0672-1496
INSPIRE-HEP Google Scholar

RESEARCH INTERESTS

Gravitational theory and its extensions, cosmology, astrophysics (black holes, wormholes), teleparallel gravity, fundamental symmetries of nature, Noether symmetries in modified gravity, primordial black holes, gravitational waves, and machine learning techniques applied to cosmology.

RESEARCH POSITIONS

- Research Fellow** *University of Malta, Malta* **2025 – present**
- PNRR Research Fellow (Marie Curie–level)** *Transilvania University of Braşov, Romania* **2023 – 2025**
Project: *Cosmology Reconstructed with Advanced Statistics and Machine Learning Techniques* (COSMOROM).
- Postdoctoral Researcher** *Nazarbayev University, Kazakhstan* **2022 – 2023**
- Postdoctoral Researcher** *Aristotle University of Thessaloniki, Greece* **2021 – 2022**
- Postdoctoral Researcher** *Yangzhou University, China* **2019 – 2021**

EDUCATION

- MSc in Information Systems** *Hellenic Open University, Greece* **2020 – 2022**
- PhD in Physics** *University of Naples “Federico II”, Italy* **2015 – 2019**
Thesis: *Geometric Foundations of Gravity and Applications.*
- MSc in Advanced Physics: Elementary Particles & Cosmology** *University of Crete, Greece* **2014 – 2015**
- BSc in Physics** *Aristotle University of Thessaloniki, Greece* **2008 – 2014**

CITATION METRICS

INSPIRE-HEP: 3750+ citations, *h*-index: 24
(As of February 2026)

Google Scholar: 3400+ citations, *h*-index: 24

SELECTED PUBLICATIONS

A complete list of publications is available on [INSPIRE-HEP](#). Below is a selection of recent and representative works.

15. K.F. Dialektopoulos *et al.*, “Hints of sign-changing scalar field energy density and a transient acceleration phase at $z \sim 2$ from model-agnostic reconstructions,” arXiv: 2602.08928 (2025).
14. K.F. Dialektopoulos *et al.*, “Stable bouncing solutions in teleparallel Horndeski gravity,” *Phys. Dark Univ.* **50**, 102100 (2025).
13. K.F. Dialektopoulos *et al.*, “Primordial black hole-driven cosmic acceleration,” *Int. J. Mod. Phys. D* (2025) 2544015.
12. K.F. Dialektopoulos *et al.*, “Insights in $f(Q)$ cosmology: the relevance of the connection,” *JCAP* **11**, 068 (2025).
11. K.F. Dialektopoulos *et al.*, “Primordial black holes as cosmic expansion accelerators,” *Phys. Lett. B* **870**, 139948 (2025).
10. K.F. Dialektopoulos *et al.*, “Model-independent calibration of Gamma-Ray Bursts with neural networks,” *JHEAp* **49**, 100439 (2026).
9. K.F. Dialektopoulos *et al.*, “Gauge invariant perturbations in teleparallel Horndeski gravity,” *Phys. Dark Univ.* **48**, 101846 (2025).
8. K.F. Dialektopoulos *et al.*, “Revisiting Stability in New General Relativity,” *Phys. Rev. D* **111**, 064080 (2025).
7. K.F. Dialektopoulos *et al.*, “Neural Network reconstruction of cosmology using the Pantheon compilation,” *Eur. Phys. J. C* **83**, 956 (2023).
6. K.F. Dialektopoulos *et al.*, “Neural network reconstruction of late-time cosmology and null tests,” *JCAP* **02**, 023 (2022).
5. K.F. Dialektopoulos *et al.*, “Teleparallel Gravity: From Theory to Cosmology,” *Rep. Prog. Phys.* **86**, 026901 (2023).
4. K.F. Dialektopoulos *et al.*, “Reviving Horndeski Theory using Teleparallel Gravity after GW170817,” *Phys. Rev. D* **101**, 084060 (2020).
3. K.F. Dialektopoulos *et al.*, “Can Horndeski Theory be recast using Teleparallel Gravity?” *Phys. Rev. D* **100**, 064018 (2019).
2. K.F. Dialektopoulos *et al.*, “Classification of the Horndeski cosmologies via Noether Symmetries,” *Eur. Phys. J. C* **78**, 447 (2018).
1. K.F. Dialektopoulos *et al.*, “Brans-Dicke Theory with $\Lambda > 0$: Black Holes and Large scale structures,” *Phys. Rev. Lett.* **115**, 181104 (2015).

SCHOLARSHIPS & AWARDS

Honorable Mention — Gravity Research Foundation **2025**
Awarded (with V. Zariikas and T. Papanikolaou) for the essay “Primordial Black Holes as cosmic expansion accelerators.”

PNRR-III Fellowship (127 000) **2023**
2-year research fellowship at Transilvania University of Braşov. Project nr. 760016/27.01.2023.

Seal of Excellence — Marie Skłodowska-Curie Action **2021**
Awarded by the European Commission for MSCA proposal nr. 101028923.

PPGCosmo Postdoctoral Fellowship (32 000) **2018**
University of Vitoria, Brazil. (Declined.)

Travel & Visiting Grants

- COST CA21146 (CosmoVerse): 2 000 for COSMO '24, Kyoto, Japan (2024).
- COST CA21146: 1 700 for visit to Rudjer Bošković Institute, Zagreb (2024).
- COST CA21146: 1 350 for Compact Objects workshop, Athens (2023).
- COST CA21146: 1 650 for visit to University of Malta (2023).
- COST CA16104: 2 500 for visit to University of Malta (2019).
- COST CA15117: 1 800 for visit to University of Salamanca (2018).
- COST CA15117: 1 400 for visit to NORDITA, Stockholm (2018).
- COST MP1304: 1 300 for visit to Vinča Institute, Belgrade (2017).

TEACHING & SUPERVISION

Visiting Lecturer *University of Thessaly, Greece* **2026 – present**
Semester course: “Mathematical Modelling II” (MSc in Applied Mathematics and Machine Learning).

Co-Supervisor, PhD student *University of Malta* **2021 – 2024**
Institute of Space Sciences and Astronomy. (With Dr. Jackson Levi Said.)

Co-Supervisor, 2 MSc students *University of Tashkent, Uzbekistan* **2022 – 2024**
(With Prof. Bobomurat Ahmedov.)

Teaching Assistant, Advanced Lab. Experiments *University of Crete* **WS 2014**

Teaching Assistant, Calculus II *Aristotle University of Thessaloniki* **SS 2010**

SELECTED TALKS & SEMINARS

- 3rd Bangkok Workshop on Gravity & Cosmology, Chulalongkorn University, Thailand (Feb 2026).
- JGRG 34, Yukawa Institute of Theoretical Physics, Kyoto, Japan (Jan 2026).
- Invited Seminar, Aristotle University of Thessaloniki, Greece (Dec 2025).
- Recent Developments in Gravity, Corfu, Greece (Sep 2025).
- Invited Seminar, University of Trento, Italy (Jul 2025).
- Invited Seminar, Stellenbosch University, South Africa (Jun 2025).
- Dark Side of the Universe, Corfu, Greece (Sep 2024).
- Metric Affine Frameworks for Gravity, Tartu, Estonia (Jun 2024).
- Invited Seminar, Kavli IPMU, Tokyo, Japan (Mar 2024).
- Long-term Workshop on Gravity and Cosmology, YITP, Kyoto, Japan (Feb 2024).
- Bangkok Workshop on Gravity & Cosmology, Thailand (Jan 2024).
- Geometric Foundations of Gravity, Tartu, Estonia (Jun 2023).
- Tensions in Cosmology, Corfu, Greece (Sep 2022).
- COST CA18108 2nd Annual Conference, Corfu, Greece (Oct 2021).
- 14th Int. Conf. on Gravitation, Astrophysics & Cosmology, Taiwan (Aug 2020).

- Teleparallel Universes, University of Salamanca, Spain (Nov 2018).
- Geometric Foundations of Gravity, Tartu, Estonia (Sep 2017).
- Beyond Concordance Model, Cape Town, South Africa (Nov 2016).

Full list of 50+ talks available upon request.

RESEARCH VISITS

- Rudjer Bošković Institute, Zagreb, Croatia (Apr 2024). Host: Dr. A. Chatzistavrakidis.
- University of Malta (Feb 2023). Host: Dr. J. Levi Said.
- Ulugh Beg Astronomical Institute, Tashkent, Uzbekistan (Oct 2022). Host: Prof. B. Ahmedov.
- USTC, Hefei, China (Jan 2020). Host: Prof. Y.-F. Cai.
- University of Salamanca, Spain (May 2019). Host: Dr. J. Beltrán Jiménez.
- University of Malta (Feb–Mar 2019). Host: Dr. J. Levi Said.
- NORDITA, Stockholm (Mar 2018). Host: Dr. T. Koivisto.
- ICE–CSIC, Barcelona (Oct–Dec 2017). Host: Dr. S. Odintsov.
- Goethe University, Frankfurt (Apr–Jul 2016, Jun–Jul 2017). Host: Prof. L. Rezzolla.

PROFESSIONAL SERVICE

Organizing Committees

- *Cosmic Inflation: From observations to particle models*
- *Intercontinental Seminars on Gravity and Cosmology*

Journal Reviewer

Eur. Phys. J. C, Class. Quantum Grav., Phys. Dark Univ., Phys. Lett. B, Mon. Not. R. Astron. Soc., Mod. Phys. Lett. A, Int. J. Mod. Phys. A/D, Int. J. Geom. Methods Mod. Phys., Gen. Relativ. Gravit., Eur. Phys. J. Plus, Adv. High Energy Phys., Physica Scripta, Symmetry, Universe.

COST Action Memberships

MP1304 (NewCompStar), CA15117 (CANTATA), CA16104 (GWverse), CA17137 (G2net), CA18108 (QG-MM), CA21136 (CosmoVerse).

ADDITIONAL INFORMATION

Languages: Greek (native), English (C2), German (B2)

Software: Mathematica, Python, \LaTeX , Maple, Java, HTML/CSS

Date of Birth: April 14, 1990

Last updated: April 2026