

SABOURA S. ZAMANI

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📍 Uniwersytet Szczeciński, Poland

EDUCATION

PhD in Gravitation and Cosmology

University of Szczecin, Szczecin, Poland

📅 2023 – 2026 (Ongoing)

Thesis title: **Probing the nature of dark matter with modified Poisson's equations**

Supervisor: Prof. Dr. Hab. Vincenzo Salzano

M.Sc. in Gravitation and Cosmology

Golestan University, Gorgan, Iran

📅 2018 – 2021

Thesis title: **Gravitational Lensing by a black hole in non-Riemannian space-times**

Supervisor: Dr. Siamak Akhshabi

B.Sc. in Physics

Golestan University, Gorgan, Iran

📅 2014 – 2018

Project title: **Studying Physics of the black holes**

Supervisor: Dr. Siamak Akhshabi

PROJECTS AND GRANTS

- **Research Mobility Grant Recipient:** NAWA Preludium Bis3 Internship for 3 month visit at University of Salamanca (Jan - April, 2026)
- *Exploring the nature of dark matter using a modified Poisson equation*
(*Badanie natury ciemnej materii za pomocą zmodyfikowanego równania Poissona*)
Funding Source: NCN – Preludium Bis 3 (2021/43/O/ST9/00664)
Duration: January 2023 – December 2026
Role: PhD Student
- **Grant Recipient:** Scientific Development of Doctoral Students, University of Szczecin, N-SD.412.55.2024 (2024)

PUBLICATIONS

1. **Exploring Non-minimal coupling using ultra-diffuse galaxies**
S. Zamani, V. Salzano and D. Bettoni
Under Review arXiv: 2602.14747
2. **Nonminimally coupled dark matter in clusters of galaxies: a fully comprehensive analysis**
S. Zamani, V. Salzano and D. Bettoni, *Eur.Phys.J.C* 85 (2025) 3, 263 arXiv: 2412.19569
3. **Gravitational lensing from clusters of galaxies to test Disformal Couplings Theories**
S. Zamani, V. Salzano and D. Bettoni, *Eur.Phys.J.C* 84 (2024) 6, 618 arXiv: 2401.02221
4. **Cosmological distances and Hubble tension in Einstein–Cartan theory**
S. Zamani and S. Akhshabi, *Gen.Rel.Grav.* 55 (2023) 102 arXiv: 2305.00415
5. **Gravitational lensing by a black hole in Poincaré gauge theory of gravity**
S. Zamani and S. Akhshabi, *Mod. Phys. Lett. A.* 36 (2021) arXiv: 2104.10016
6. **Gravitational lensing by a black hole in non-Riemannian spacetimes**
S. Zamani and S. Akhshabi, *J. Phys. Conf. Ser.* 1690, 012139 (2020) Conference Edition

SELECTED TALKS & PRESENTATIONS

Talks

- **USAL Cosmology group Seminar**
Salamanca, Spain, March 2026
 - **2025 NPACT Ph.D. School**
Stavanger, Norway, Nov-Dec 2025
 - **International Conference on Gravitation, Cosmology, Astrophysics, and Space Sciences (ICGCAS-2025)**
Online (PICS, India), Oct 2025
 - **Friday Cosmology Seminars**
Szczecin, Poland, Jan 2025
 - **Cracow school of theoretical physics**
Zakopane, Poland, June 2024
 - **Galactic Nuclei in the Cosmological Context**
Szczecin, Poland, June 2024
 - **FlipPhysics – (Invited Speaker)**
Valencia, Spain, May 2024
 - **7th edition of the Winter Workshop on Theoretical Physics**
Valencia, Spain, December 2023
 - **Cosmology from Home 2022**
Online, July 2022
 - **11th Australasian Conference On General Relativity And Gravitation**
Online, University of Tasmania, Australia, Feb 2022
 - **Alternative Gravities and Fundamental Cosmology**
Online, University of Szczecin, Poland, Sep 2021
 - **21st BritGrav meeting**
Online, University College Dublin, Ireland, April 2021
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Poster

- **31st IPM Physics Spring Conference**
Online, IPM, Iran, May 2024
- **Beyond Standard Model Conference (BSM- 2021)**
Online, Sabanci University, March - April 2021
- **Relativistic Astrophysics Theory And Observational Perspectives**
Online, CTP PAS, Poland, March 2021
- **Experimental Tests and Signatures of Modified and Quantum Gravity**
Online, PBH, Germany, Feb 2021
- **14th National Conference on Astronomy and Astrophysics of Iran**
Online, Semnan University, Iran, Jan 2021

EXPERIENCES

- **Peer Reviewer – Scientific Reports Journal** (2025)
- **Teaching Assistant-Special Relativity** (2022)
Dr. S. Akhahabi-Golestan University
- **Teaching Assistant-Physics IV** (2021)
Dr. S. Akhahabi-Golestan University

SELECTED COURSES

- Advanced Cosmology I
- Advanced Electrodynamics I
- Gravity I
- Gravity II
- Special Topics (Astronomy and Cosmology)

REFERENCE

Prof. Dr. Hab. Vincenzo Salzano

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- Associate professor of Physics, US
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Dr. Siamak Akhshabi

@ Golestan University, Gorgan, Iran

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- Assistant Professor of Physics, GU
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Dr. Isabel Cordero-Carrión

@ University of Valencia, Valencia, Spain

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- Associate Professor of Mathematics, UV