Andrei Marin

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EDUCATION

M.S. in Theoretical and Computational Physics *University of Bucharest, Faculty of Physics* 2024-

First year average grade: 10/10; Recipient of an Academic Performance Scholarship

Member of the University Senate (2024-)

Participant in *PLANCKS* international theoretical physics competition (2025)

B.S. in Physics *University of Bucharest, Faculty of Physics* 2021-2024

Three years average grade: 10/10; Recipient of an Academic Performance Scholarship

Bachelor thesis on “Elements of criticality and optimization in atmospheric convection"

Member of the Faculty Council (2021-2023) and of University Senate (2023-2024)

Participant in *PLANCKS* international theoretical physics competition (2022, 2023)

Exchange student *University of Glasgow, School of Physics and Astronomy* Sep 2023 - Dec 2023

EXPERIENCE

Horia Hulubei National Institute of Physics and Nuclear Engineering | *Department of Theoretical Physics*

Research Assistant: Nov 2024 -

Physics & Chemistry Assistant: Jul 2024 - Sep 2024

- Working on integrable systems and nonlinear wave equations

Centre de physique des particules de Marseille | *Intern, Department of Cosmology* Aug 2022 - Sep 2022

- Worked in the development of code for cosmological measurements based on Baryonic Acoustic Oscillations

PARTICIPATION IN INTERNATIONAL EVENTS

Schools

- CERN – SEENET-MTP – ICTP School on Modern Methods in Quantum Gravity and Cosmology, 1-6 July 2025, Bucharest, Romania
- CERN – SEENET-MTP – ICTP Minischool on Mathematical methods in Gravitation and Cosmology, 13-17 November 2024, Bucharest, Romania
- CERN – SEENET-MTP – ICTP School on Field theory and applications in HEP, 9-16 June 2024, Thessaloniki, Greece

LANGUAGES

English Professional knowledge - *CEFR C1*

Romanian Native speaker

French Good knowledge - *CEFR B2*

SCIENTIFIC ACTIVITY

Publications (selection)

- *Singularity confinement and proliferation of tau functions for a general differential-difference Sawada-Kotera equation*, **A. Marin**, A. S. Carstea, Mathematical Physics, Analysis and Geometry, Vol. 28, 31 (2025)
- *New Envelope Equations for Shallow Water Waves, Modulational Instability and Solitary Waves*, **A. Marin**, A. S. Carstea, Journal of Geometry and Symmetry in Physics, Vol. 71, pp. 11-25 (2025)
- *Why the turbulent buoyant plumes evolve to round cross sections? A ‘Constructal’ view*, **A. Marin**, C. V. Vraciu, International Communications in Heat and Mass Transfer, Vol. 146, Article No. 106947 (2023)
- *Polarization of Charged Spherical Dielectric Core-Shell*, **A. Marin**, O. Ianc, T. O. Cheche, Romanian Journal of Physics, Vol. 68, Article No. 104 (2023)

Presentations (selection)

- Constructal Law Conference, Bucharest, 10-11 October 2024, **A. Marin**, C. V. Vraciu, *The evolution of the turbulent buoyant plumes towards round cross sections: a constructal view*
- European Geosciences Union General Assembly, Vienna, 23-28 April 2023, **A. Marin**, C. V. Vraciu, *On the organization of passive shallow cumulus clouds*

- American Geophysical Union Fall Meeting, Chicago (online participation), 12-16 December 2022, **A. Marin**, C. V. Vraciu, *An EDMF parameterization for the dry boundary layer with an energy-consistent plume model*

AWARDS

Cluj Napoca, Romania | *First Prize* April 2024

- National physics competition "Dragomir Hurmuzescu", 3rd year students section

Măgurele, Romania | *First Prize* May 2022

- National physics competition "Dragomir Hurmuzescu", 1st year students section

Bogota, Columbia | *Silver Medal* November 2021

- International Olympiad in Astronomy and Astrophysics (online participation)

Taipei, Taiwan | *Silver Medal* May 2021

- Asian Olympiad in Physics (online participation)

Kanchanaburi, Thailand | *Bronze Medal* August 2018

- International Earth Science Olympiad

EXTRACURRICULAR ACTIVITIES

Physics Students' Association - University of Bucharest (ASF-UB) | *website* October 2021 -

- Leader of IT department (2022 - 2024)
- Participated in the organization of multiple events