

Athanasios C. Tzemos

CURRICULUM VITAE

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Date of birth: 12/04/1983

Current Position

6/9/2023–Present Researcher C — Research Center for Astronomy and Applied Mathematics (RCAAM), Academy of Athens, 4 Soranou Efessiou Street, Athens
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Research Interests

1. Application of analytical and numerical methods of Dynamical Systems Theory to Dynamical Astronomy. Construction of approximate integrals in classical periodic Hamiltonian systems. Galactic Dynamics.
2. Application of analytical and numerical methods of Dynamical Systems Theory to Quantum Mechanics. Comparison of classical regular/chaotic systems with their quantum counterparts.
3. Study of open quantum dynamical systems for applications in Quantum Information: effects of noise on open qubit systems.
4. Stochastic Mechanics: simulations of quantum systems using classical stochastic systems.
5. Teaching Physics using modern educational methods. Development of educational programs using the MAPLE and PYTHON programming languages.

Education

2016–2023 Postdoctoral Researcher — RCAAM, Academy of Athens

Supervisor: Academician G. Contopoulos

2009–2013 PhD in Theoretical Physics — Department of Physics, University of Patras

Title: Effects of Classical Noise on Open Systems of Coupled Qubits

Supervisor: Professor Emeritus D.P.K. Ghikas, Division of Theoretical Physics, Department of Physics, University of Patras

2006–2009 MSc in Theoretical Physics, Astrophysics and Computational Physics — Department of Physics, University of Patras — Grade: Excellent

MSc thesis: Decoherence under the Influence of External Noise

Supervisor: Professor Emeritus D.P.K. Ghikas, Division of Theoretical and Mathematical Physics, Department of Physics, University of Patras

2001–2006 BSc in Physics — Department of Physics, University of Patras — Grade: Very Good

Undergraduate thesis: Vector Analysis and Applications in Physics Using the Computational Program Maple 9

Supervisor: Associate Professor D. Sourlas, Division of Theoretical Physics, Department of Physics, University of Patras

2001 High School Diploma — 5th Lyceum of Athens — Grade: Excellent

Professional Experience

9/2011–2/2013 Teaching Assistant — University of Patras

Tutorial classes in Mathematical Analysis for first-year students of the Department of Physics.

9/2008–2/2011 Laboratory Assistant — University of Patras

Laboratory classes in Nuclear Physics, Fluid Mechanics, and Optics.

Other Professional Activities

2007– 2023 Physics Tutor

Tutored approximately 70 students at the University of Patras and 15 students at the University of Athens.

2008–2009 Librarian — Department of Physics Library, University of Patras

Administrative and Technical Work at RCAAM

1. Management and maintenance of the RCAAM website.
2. Technical support and smooth operation of RCAAM scientific seminars.
3. Technical editing and support for RCAAM publications, including annual reports, edited volumes, and other scientific materials.
4. Cataloguing, classification, and archiving of the RCAAM library and printed scientific materials.

Participation in Scientific Conferences, Seminars, and Summer Schools

33 presentations at scientific conferences, seminars, and summer schools, and 16 talks at RCAAM seminars at the Academy of Athens.

Reviewer for International Scientific Journals

Reviewer for 12 international scientific journals: Physics Letters A (Elsevier), Physica A (Elsevier), Results in Physics (Elsevier), Physica D (Elsevier), Chaos, Solitons and Fractals (Elsevier), Next Research (Elsevier), Chaos (AIP), Journal of Physics A (IOP), New Journal of Physics (IOP), Quantum Science and Technology (IOP), Mathematics (AIMS), Journal of Applied Nonlinear Dynamics (L&H).

Research Projects

2024–2025 Principal Investigator of Project 200/1026 of the Research Committee of the Academy of Athens, entitled “Study of Order and Chaos in Quantum Dynamical Systems”, funded by the Sectoral Development Programme (MIS 5223471) of the Ministry of Education, Religious Affairs and Sports, through the National Development Programme (NDP) 2021–2025.

Professional Associations

7/2026–Present Member of the Board of Directors — Hellenic Astronomical Society (Hel.A.S.)

2020–Present Full Member — Hellenic Astronomical Society (Hel.A.S.)

2020–Present Full Member — European Cooperation in Science and Technology (COST Network)

2006–Present Full Member — Hellenic Astronomical Society

Languages

Greek: Native, **English:** Fluent, **German:** Intermediate

Computer Skills

Excellent: Maple, Python, LaTeX, GIMP, Inkscape, **Advanced:** Fortran, Origin, MS Word, PowerPoint, Excel

Military Service (Completed)

2013–2014 Artillery Corps Soldier — Specialist Scientist

Publications

34 publications in peer-reviewed international journals, 13 peer-reviewed conference papers, 4 publications in Greek edited volumes, and one article in a popular science magazine.

Teaching

2024–2025 Supervision of an undergraduate thesis, Department of Physics, National and Kapodistrian University of Athens: Order and Chaos in de Broglie–Bohm Quantum Mechanics.

2025–2026 Supervision of a master's thesis, Department of Physics, University of Amsterdam: Study of Order and Chaos in Quantum Dynamical Systems.