

Curriculum Vitae

PERSONAL INFORMATION

First Name: Georgios *Surname:* Kordas
Gender: Male *Nationality:* Hellenic (Greek)
Date of Birth: 23 March 1982 *Place of Birth:* Athens, Greece

CONTACT INFORMATION

Section of Nuclear and Particle Physics
Department of Physics
University of Athens *Phone:* 0030 210 727 6956
Panepistimiopolis, Ilissia *Mobile:* 0030 698 3124325
15771 Athens *E-mail:* gekordas@phys.uoa.gr
Greece *Web Page:* <http://users.uoa.gr/~gekordas>

PROFESSIONAL EXPERIENCE

2014-Today, Section of Nuclear and Elementary Particle Physics, Department of Physics, National and Kapodistrian University of Athens: Research Associate.

RESEARCH INTERESTS

Open Quantum Systems, Non-equilibrium Transport, Dynamics in Many-Body Quantum Systems, Ultracold Atoms, Bose-Einstein Condensation, Optical Lattices, Quantum Information Theory, Topological Quantum Computation, Atomtronics.

EDUCATION

PhD in Theoretical Physics, 2010-2013

- Binational Ph.D. (*Cotutelle de thèse*) between *Ruperto-Carola-University of Heidelberg* (Germany) and *National and Kapodistrian University of Athens* (Greece)
- Dissertation Topic: “Beyond Mean-Field Dynamics in Closed and Open Bosonic Systems”
- Advisors: Sandro Wimberger, Alexandros Karanikas, Andreas Komnik
- Overall Grade: Magna Cum Laude

Master in Nuclear and Particle Physics, 2007-2009

- National and Kapodistrian University of Athens, Department of Physics
- Dissertation Topic: “The Closed Complex Time Evolution in Open Quantum Systems”
- Advisors: Alexandros Karanikas, Fotis Diakonou, Emmanouel Floratos

Bachelor in Physics, 2001-2007

- National and Kapodistrian University of Athens, Department of Physics
- Dissertation Topic: “Path Integrals in Quantum Field Theory φ^4 ”
- Advisor: Alexandros Karanikas

PEER REVIEWER

- Physical Review Letters
- Physical Review A
- European Physical Journal D
- European Physical Journal Plus
- Physics Letters A

TEACHING

- Quantum Chaos, Summer Semester 2012.
Physics Department, University of Heidelberg.
- Theoretical Statistical Physics (MKTP1), Winter Semester 2010/2011.
Physics Department, University of Heidelberg.

PUBLICATIONS

- Approximate Envariance and the Emergence of Thermal Behavior in Quantum Systems. *In preparation (2026)*.

- A Theoretical Analysis of a Quantum Measurement Process: A Case Study. *In preparation (2026)*.
- Reply to “Comment on ‘Coherent-state path integrals in the continuum’ ”. *Physical Review A*, **99** (2019) 026102.
- Mean-field dynamics of a Bose-Hubbard chain coupled to a non-Markovian environment. *Physical Review A*, **98** (2018) 013637. arXiv:1808.01253.
- Coherent-state path integrals in the continuum: The $SU(2)$ case. *Annals of Physics*, **372** (2016) 226. arXiv:1605.06757.
- Dissipative Bose-Hubbard model: Methods and examples. *European Physical Journal ST*, **224** (2015) 2127. Review Article.
- Entropy generation in Gaussian quantum transformations: applying the replica method to continuous-variable quantum information theory. *npj Quantum Information*, **2** (2015) 15008. arXiv:1408.5062.
- Non-equilibrium dynamics in dissipative Bose-Hubbard chains *Annalen der Physik*, **527** (2015) 619. Special issue: Complex Quantum Systems.
- Coherent-state path integrals in the continuum. *Physical Review A*, **90** (2014) 032104. arXiv:1408.3210.
- Bosonic transport through a chain of quantum dots. *European Physical Journal B*, **86** (2013) 345. EPJ B Highlight. arXiv:1304.5503.
- Decay and fragmentation in an open Bose-Hubbard chain. *Physical Review A*, **87** (2013) 043618. arXiv:1307.1538
- Mutual information and Bose-Einstein condensation. *Open Systems and Information Dynamics*, **20** (2013) 1350008. arXiv:1207.0303.
- Non-hermitian approach to decaying ultracold bosonic systems. *Journal of Physics: Conference Series*, **442** (2013) 012029.
- Dissipation induced macroscopic entanglement in an open optical lattice. *Europhysics Letters*, **100** (2012) 30007. arXiv:1307.0828.
- Beyond mean-field dynamics in open Bose-Hubbard chains. *Physical Review A*, **83** (2011) 063608. arXiv:1203.3657.
- Decay of a Bose-Einstein condensate in a dissipative lattice - the mean-field approximation and beyond. *European Physical Journal D*, **63** (2011) 63.
- Complex time evolution of open quantum systems. *Open Systems and Information Dynamics*, **18** (2011) 261. arXiv:1104.3671.

POPULAR SCIENCE
ARTICLES

- Music and Physics: From frequency to Major scale. *Physics & Reality Blog*, (2026).

TALKS

- Beyond Mean-Field Dynamics in Closed and Open Bosonic Systems. *Ph.D. defense presentation, Athens 2013, Greece*.
- Mesoscopic coherence in open Bose-Einstein condensates. *Sixth International Workshop DICE2012, Castiglioncello 2012, Italy*.
- Structure Formation in Optical Lattices. *Symposium, Many-Body Quantum Dynamics, Heidelberg 2012, Germany*.
- Dynamics in Dissipative Bose-Hubbard Chains. *CQD pretalk, Heidelberg 2012, Germany*.
- Non-Equilibrium Transport in Open Bose-Hubbard Chains. *DPG Spring Meeting, Stuttgart 2012, Germany*.
- Many-Body Dynamics in a Dissipative Lattice. *Workshop on Noisy Many-Body Systems, Heidelberg 2012, Germany*.
- Open Bose-Hubbard Chains: A Master Equation Approach. *Quantum Transport group seminar, Konstanz 2011, Germany*.
- Open Bose-Hubbard Chains.

X. Billard Workshop of Forschergruppe 760, Riezlern 2011, Austria.

- Beyond Mean-Field Dynamics of a Bose-Einstein Condensate in a Dissipative Optical Lattice. *Foundations of Quantum Physics group seminar, Kaiserslautern 2011, Germany.*
- Dissipative Dynamics of Bosonic Quantum Gases: The Mean-Field Approximation and Beyond. *Seminar of the section of nuclear and elementary particle physics, Athens 2011, Greece.*
- Open Bose-Hubbard Model: Beyond the Mean-Field Approximation. *75th Annual Meeting of the DPG and DPG Spring Meeting, Dresden 2011, Germany.*
- Dissipative Bose-Hubbard Model: Beyond the Mean-Field Approximation. *CQD Symposium. Dynamical Control of Quantum Correlations: From Experiment to Theory and Back, Heidelberg 2011, Germany.*

POSTERS

- Interplay of dissipation and interactions. *XI. Billard Workshop of Forschergruppe 760, Regensburg 2012, Germany.*
- Open Bose-Hubbard Model: Beyond Mean-Field Approximation. *DPG Physics School on Quantum Gases in Dilute Atomic Vapour, Bad Honnef 2011, Germany.*
- Beyond Mean-Field Approach to Bosonic Quantum Gases. *IX. Billard Workshop of Forschergruppe 760, Marburg 2010, Germany.*

PHYSICS SCHOOLS

- XXVIII Heidelberg Physics Graduate Days, Heidelberg 2012, Germany.
- XXVII Heidelberg Physics Graduate Days, Heidelberg 2011, Germany.
- XXVI Heidelberg Physics Graduate, Heidelberg 2011, Germany.
- DPG Physics School on Quantum Gases in Dilute Atomic Vapour, Bad Honnef 2011, Germany.

CERTIFICATIONS

- AI Software Testing. *Workearly, 2026.*

COMPUTER SKILLS

- Programming Languages: Python (Pandas, NumPy, Matplotlib), SQL, C++, FORTRAN
- Web Design Skills: HTML/CSS
- Software Testing: Selenium, Playwright, Pytest
- Version Control: Git, GitHub
- Markup Languages: \LaTeX
- Scientific Software: MATLAB, Maple, Mathematica, Origin
- Operating Systems: Unix/Linux, Windows

LANGUAGES

- Greek: Mother tongue
- English: Fluent
- German: Basic user