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 Diakonos, 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
- Physics Letters A

Publications

- 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, accepted (2015). arXiv:1408.5062.
- Non-equilibrium dynamics in dissipative Bose-Hubbard chains
  Annalen der Physik, available online (2015). 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.

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.

Teaching

- Tutorial class: Quantum Chaos, Summer Semester 2012.
  Dr. S. Wimberger, University of Heidelberg.
- Tutorial Class: Theoretical Statistical Physics (MKTP1), Winter Semester 2010/2011.
  Prof. C. Wetterich, University of Heidelberg.

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.

Computer Skills

- Languages: C++, FORTRAN
- Applications: MATLAB, Maple, Mathematica, Origin, LaTeX
- Operating Systems: Unix/Linux, Windows.

Languages

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