Polyxeni Spilioti

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Employment

Postdoctoral researcher and member of the Research Training Group (RTG) Fourier Analysis and Spectral Theory, University of Göttingen, Germany,
October 2022-present

Postdoctoral researcher, Aarhus University, Denmark,
January 2020-September 2022

Invited researcher, Institut des Hautes Etudes Scientifiques (IHES), France,
14/01/2021-14/03/2021, 17/03/2021-12/04/2021

Postdoctoral researcher, University of Tuebingen, Germany,
January 2019-December 2019

Visiting postdoctoral researcher, Max Planck Institute for Mathematics (MPIM), Bonn, Germany,
September 2018-December 2018

Postdoctoral researcher, University of Tuebingen, Germany,
March 2017-August 2018

Invited researcher, Institut des Hautes Etudes Scientifiques (IHES), France,
January 24-February 21 2017

Oberwolfach Leibniz Fellow, Institut Oberwolfach Research Institute for Mathematics (MFO) Oberwolfach,
Germany, May 2016-July 2016

Visiting postdoctoral researcher, Max Planck Institute for Mathematics (MPIM), Bonn, Germany
October 2015-December 2015

Education

PhD in Mathematics University of Bonn, date of the PhD defense: 26 October 2015
Members of the defense committee: Prof. Dr. K.-T. Strum, Prof. Dr. H. Monien, Prof. Dr. W. Ballmann,
Prof. Dr. W. Mueller
PhD thesis: Selberg and Ruelle zeta functions on compact hyperbolic odd dimensional manifolds
Supervisor: Prof. Dr. Werner Mueller, 2010-2015
One year preparation (2009-2010), Hausdorff scholarship, qualifying grant for one year

MSc in Mathematical modelling Mathematical modelling in modern technologies and financial engineering,
National and Technical University of Athens (NTUA), Faculty of Applied Mathematics and Physics
Master thesis: Applications of variational principles in mechanics: Hamiltons principle and its applications
in mechanical systems
Supervisor: Prof. Gerasimos Athanassoulis, 2008

Diploma in Mathematics National and Kapodistrian University of Athens, Department of Mathematics, 2005

Awards/Honors

- Hausdorff scholarship, qualifying grant for one year
- Hausdorff scholarship, PhD grant
- Awards for Excellent Grades in High School from the Greek Ministry of Education

Publications/Preprints

- Resonances and residue operators for pseudo-Riemannian hyperbolic spaces, with Jan Frahm, Journal de Mathématiques Pures et Appliquées, 2023, (arXiv:2303.04780v1)
- On the spectrum of twisted Laplacians and the Teichmüller representation, with Frédéric Naud (arXiv:2205.09540v2)
- The twisted Ruelle zeta function on compact hyperbolic orbisurfaces and Reidemeister-Turaev torsion, with Léo Bénard and Jan Frahm (arXiv:2110.06683v1)
- Twisted Ruelle zeta function at zero for compact hyperbolic surfaces, with Jan Frahm, Journal of Number Theory, 2023 - Elsevier, (arXiv:2105.13321v1)
- Twisted Ruelle zeta function and complex-valued analytic torsion (arXiv:2004.13474v2)
- Functional equations of Selberg and Ruelle zeta functions for non-unitary twists, Annals of Global Analysis and Geometry, Volume 58, Number 1, pp 35–77 (2020), https://doi.org/10.1007/s10455-020-09715-8 (arXiv:1507.05947v3)
- A prime Geodesic Theorem for SL3(Z), with Anton Deitmar and Yasuro Gon, Forum Math. 31, No. 5, 1179–1201 (2019) (arXiv:1711.05361v1)
- Selberg and Ruelle zeta functions for non-unitary twists, Annals of Global Analysis and Geometry, March 2018, Volume 53, Issue 2, pp 151 – 203 (arXiv:1506.04672v4, arXiv:1507.05932v3)

Teaching

- Tutor of the course: Lie-Gruppen/Lie groups, Spring 2018, University of Tuebingen
- Tutor of the course: Harmonische Analyse allgemeiner Gruppen (Harmonic analysis of general groups), Spring 2017, University of Tuebingen
- Seminar tutor of the graduate seminar on global analysis with topic: Dirac operators and Riemannian geometry, Spring 2015, University of Bonn.
- Tutor of the course: The heat equation on Riemannian manifolds, Fall 2014, University of Bonn.

Talks

- "Twisted Ruelle zeta function on locally symmetric spaces, the Fried's conjecture and further applications", 19.06.2023, Oberseminar Differentialgeometrie, Westfälische Wilhelms-Universität Münster
- "Resonances and residue operators for pseudo-Riemannian hyperbolic spaces", 17 March 2023, Séminaire Géométrie, Institut de Mathématiques de Bordeaux
- "On the spectrum of twisted Laplacians and the Teichmüller representation", Séminaire Arithmétique et Géométrie Algébrique, 14 March 2023, Université Paris-Saclay
- "Twisted Ruelle zeta function on locally symmetric spaces, the Fried's conjecture", Spectral geometry in the clouds, October 2022, online talk
- "Twisted Ruelle zeta function and the Fried' s conjecture for unit tangent bundles of surfaces", Workshop on Noncommutative Geometry and Geometric Analysis, zoom talk, November 2021
- "Fried 's conjecture and dynamical zeta functions of Selberg and Ruelle on locally symmetric spaces", Greek mathematical seminar, zoom talk, October 2021

- "This is what I do...", AIM Research Community, Representation Theory & Noncommutative Geometry, zoom talk, October 2021
- "A prime geodesic theorem for $SL_3(\mathbb{Z})$", ERLASS seminar, Egham-Reading-London Arithmetic Statistics Seminar, zoom talk, December 2020
- "Non-commutative harmonic analysis, spectral theory of automorphic forms and applications", Kolloquium Graduiertenkolleg 2491, Fourier Analysis and Spectral Theory, Georg-August-Universität Göttingen, zoom talk, December 2020
- "Non-commutative harmonic analysis, spectral theory of automorphic forms and applications", $\mathbb{N}^3$-days XIII, Nordic Number theory Network, zoom-conference, November 2020
- "Non-commutative harmonic analysis, spectral theory of automorphic forms and applications ", Séminaire Théorie des Nombres, Institut de Mathématiques de Bordeaux, zoom talk, November 2020
- "Dynamical zeta functions, Fried's conjecure and refined analytic torsion", Forum of Young Mathematicians, Institut Henri Poincaré, Paris, France, October 2019 (invited talk)
- "Dynamical zeta functions, trace formulae and applications", Oberseminar "Geometrische Analysis und Zahlentheorie", Paderborn University, April 2019
- "Dynamical zeta functions, trace formulae and applications", Séminaire de Géométrie et Topologie, Institut de Mathématiques de Toulouse, April 2019 (invited talk)
- "Dynamical zeta functions, trace formulae and applications", Analytic Aspects of Automorphic Forms Lille, 3rd-5th April, 2019 (invited talk)
- "The twisted dynamical zeta functions of Ruelle and Selberg of locally symmetric spaces of rank 1 and applications", DyGIT Seminar (Dynamics, Geometry and Interactions on Tuesdays), Max Planck Institute for Mathematics (MPIM), Bonn, October 2018
- "Dynamical zeta functions, Lefschetz formulae and applications", 2018 German Chapter Conference of the European Women in Mathematics, Mathematikon Heidelberg University, May 2018
- "Ruelle and Selberg zeta functions for non-unitary twists", 32nd Automorphic Forms Workshop, Tufts University Medford, Massachusetts, March 2018
- "Spectral geometry and Ihara zeta function of graphs", Stadius Seminar, KU Leuven, September 2017
- "Cuspidal representations", Oberseminar Analysis und Zahlentheorie, University of Tuebingen, May 2017

Conferences/Workshops

- IMJ-PRG Summer School 2023 — Microlocal and probabilistic methods in geometry and dynamics 3-7 Jul 2023 Paris, France
- Noncommutative Geometry and Representation Theory, National and Kapodistrian University of Athens, Athens, Greece, March 6-10, 2023, organised in Partnership with the Clay Mathematics Institute
- Semiclassical trace formula, November 15-20 2021, partially funded by the IMJ-PRG and the IMAR, France
- Workshop on Noncommutative Geometry and Geometric Analysis, zoom workshop, November 12 and 13, 2021
- AIM Research Community, Representation Theory & Noncommutative Geometry, online workshop and "This is what I do" series (2021)
- $\mathbb{N}^3$-days XIII, Nordic Number theory Network, zoom-conference, November 2020
- Transfer operators in number theory and quantum chaos, Dynamics: Topology and Numbers Trimester Program, Hausdorff Research Institute for Mathematics, Bonn, 02.02.2020 – 08.02.2020.

- Forum of Young Mathematicians 2019, October 23rd to 25th 2019, Institut Henri Poincaré, Paris, France
- Oberwolfach Seminar: Anisotropic Spaces and their Applications to Hyperbolic and Parabolic Systems, 9 June-15 June 2019
- Fourth Meeting for Young Women in Mathematics "Cohomological Methods in Geometry", May 1-3 2019, University of Freiburg
- Analytic Aspects of Automorphic Forms, Lille, 3rd-5th April, 2019
- Journées SL2R, Théorie des représentations et analyse harmonique, Institut Élie Cartan de Lorraine, Metz, 21-22 mars 2019
- Women in Automorphic Forms, TU Darmstadt, September 5-7, 2018
- 2018 German Chapter Conference of the European Women in Mathematics, 3rd-4th May Mathematikon Heidelberg University
- 32nd Automorphic Forms Workshop, Tufts University Medford, Massachusetts, March 19-22, 2018
- Workshop: New directions in L2-invariants, Hausdorff Research Institute for Mathematics, Bonn, October 4-7 2016
- Topology, geometry and geometric analysis on stratified spaces, Centre International de Rencontres Mathmatiques (CIRM), France, June 2016

Co-organization of conference
Developments in Modern Mathematics: a WiMGo conference, September 18th to 20th, 2023, Göttingen

Co-organization of seminars

- Research seminar: Geometric Analysis and Number Theory, joint research seminar of the Universities of Aarhus, Bielefeld and Paderborn
- Seminar of the Young Mathematicians of Aarhus, Denmark (online together with Benjamin Alvarez)
- DyGIT Seminar: Dynamics, Geometry and Interactions on Tuesdays, Max Planck Institute for Mathematics (MPIM), Bonn (together with Francisco Javier Torres de Lizaur)

Co-founding member

- Greek Women in Mathematics (GWM)
- Women in Mathematics Göttingen (WiMgo!)

Membership
European Women in Mathematics (EWM)

Languages
Greek (native speaker), English (fluent), German (good command), French (basic)

Working Experience
Tutor of mathematics for high school and undergraduate students, Private school Archimedes, Athens

Miscellaneous
piano performance, June 2007, Full professional degree, National Conservatory of Athens