



## Polyxeni Spilioti

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### Employment

*Postdoctoral researcher*, Aarhus University, Denmark,  
January 2020-present

*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

- 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 (arXiv:2105.13321v1)
- Twisted Ruelle zeta function and complex-valued analytic torsion (arXiv:2004.13474v1)
- 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  $SL_3(\mathbb{Z})$ , 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 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 conjecture 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

- 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 SL<sub>2</sub>R, 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 Mathématiques (CIRM), France, June 2016

### **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)

### **Contribution to the local math community**

Greek Women in Mathematics (GWM)

### **Membership**

European Women in Mathematics (EWM)

### **Languages**

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

### **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