

# Nikolaos Eptaminitakis

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## Education

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<b>PhD in Mathematics</b>	<i>University of Washington, Seattle</i>
<i>Advisers: Prof. C. Robin Graham &amp; Prof. Gunther Uhlmann.</i>	<i>2014-2020</i>
<i>Thesis title: Geodesic X-Ray Transform on Asymptotically Hyperbolic Manifolds</i>	
<b>Program Associate, Microlocal Analysis</b>	<i>Mathematical Sciences Research Institute</i>
	<i>August - December 2019</i>
<b>Visiting Graduate Student</b>	<i>Stanford University</i>
	<i>February - March 2019</i>
<b>MSc in Mathematics</b>	<i>University of Washington, Seattle</i>
	<i>2014-2018</i>
<b>BSc (Ptychion) in Mathematics</b>	<i>Aristotle University of Thessaloniki</i>
	<i>2009 - 2013</i>
<b>LLP-Erasmus Exchange Program</b>	<i>Karlsruhe Institute of Technology (KIT)</i>
	<i>April-August 2012</i>

## Employment

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<b>Institut für Differentialgeometrie, Leibniz Universität Hannover</b>	<i>2022-Present</i>
<i>Wissenschaftlicher Mitarbeiter</i>	<i>Hannover, Germany</i>
<b>Purdue University</b>	<i>2020-2022</i>
<i>Golomb Visiting Assistant Professor</i>	<i>West Lafayette, IN</i>
<b>University of Washington</b>	<i>2019-2020</i>
<i>Lead TA</i>	<i>Seattle, WA</i>
<i>Administrative responsibility for training all incoming Teaching Assistants (TAs), supervising the TA Mentor team, and mentoring new TAs.</i>	
<b>University of Washington</b>	<i>2014-2019</i>
<i>Teaching Assistant/Research Assistant</i>	<i>Seattle, WA</i>

## Fellowships, Honors and Awards

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<b>Excellence in Teaching Award</b>	<i>2019</i>
<i>Department of Mathematics, University of Washington</i>	
<b>Graduate Fellowship</b>	<i>2018</i>
<i>Department of Mathematics, University of Washington</i>	
<b>Academic Merit Award</b>	<i>2014</i>
<i>Department of Mathematics, University of Washington</i>	
<b>Nikolaos Danikas Award</b>	<i>2013</i>
<i>Department of Mathematics, Aristotle University of Thessaloniki</i>	

**Thomas Papamichailides Fellowship**

2011-2013

*Aristotle University of Thessaloniki*

**Scholarship of Honor**

2009 & 2011

*State Scholarships Foundation*

**Scholarship**

2010

*State Scholarships Foundation*

**The Great Moment for Education Fellowship**

2009

*Eurobank*

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### *Research Interests*

Inverse Problems in Geometry and in Partial Differential Equations, Geometric Analysis, Microlocal and Singular Analysis, Differential Geometry.

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### *Publications and Preprints*

**The covariance metric in the Blaschke locus**

*With Xian Dai*

*Under Review*, arXiv:2301.05289

**Weakly nonlinear geometric optics for the Westervelt equation and recovery of the non-linearity**

*With Plamen Stefanov*

*Under Review*, arXiv:2208.13945

**The Solid-Fluid Transmission Problem**

*With Plamen Stefanov*

*Under Review*, arXiv:2111.03218

**Stability Estimates for the X-Ray Transform on Simple Asymptotically Hyperbolic Manifolds**

*Pure Appl. Anal.* 4 (2022), no. 3, 487-516., arXiv:2104.01674

**Local X-Ray Transform on Asymptotically Hyperbolic Manifolds via Projective Compactification**

*With C. Robin Graham*

*New Zealand Journal of Mathematics* (2021) 52:733-763., arXiv:2111.13631

**Asymptotically Hyperbolic Manifolds with Boundary Conjugate Points but No Interior Conjugate Points**

*With C. Robin Graham*

*J. Geom. Anal.* (2021) 31:6819-6844., arXiv:1912.04856

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### *Selected Invited Talks*

**Analysis and PDE Seminar, University of Bonn**

December 9, 2022

*Title: The Solid-Fluid Transmission Problem*

**Geometrical Inverse Problems Workshop, Linz, Austria**

November 10, 2022

*Title: Stability for the X-Ray Transform on Asymptotically Hyperbolic Manifolds*

**Second Congress of Greek Mathematicians, Athens, Greece**

July 6, 2022

*Title: Inverse Problems for the X-Ray Transform on Asymptotically Hyperbolic Manifolds*

**Conformal Geometry, Analysis, and Physics Conference, Seattle, WA**

June 13, 2022

*Title: Stability for the X-ray Transform on Asymptotically Hyperbolic Manifolds*

<b>Inverse Problems: Modeling and Simulation Conference, Malta</b> <i>Title: The Solid-Fluid Transmission Problem</i>	<i>May 25, 2022</i>
<b>Geometry Seminar, University of Texas at Dallas</b> <i>Title: Local Geodesic X-Ray Transform on Asymptotically Hyperbolic Manifolds</i>	<i>March 7, 2022</i>
<b>Zoom International Inverse Problems Seminar</b> <i>Title: The Solid-Fluid Transmission Problem</i>	<i>February 17, 2022</i>
<b>Spectral and Scattering Theory Seminar, Purdue University</b> <i>Title: The Solid-Fluid Transmission Problem</i>	<i>December 6, 2021</i>
<b>PDE Seminar, Purdue University</b> <i>Title: Stability for the X-Ray Transform on Asymptotically Hyperbolic Manifolds</i>	<i>March 18, 2021</i>
<b>Geometry Seminar, Aristotle University of Thessaloniki</b> <i>Title: Simple and Non-Simple Asymptotically Hyperbolic Manifolds</i>	<i>January 26, 2021</i>
<b>Inverse Problems Seminar, University of California, Irvine</b> <i>Title: Geodesic X-Ray Transform on Asymptotically Hyperbolic Manifolds</i>	<i>February 07, 2020</i>
<b>Math Colloquium, Seattle University</b> <i>Title: Radon Transform: Classical Results, Generalizations and Applications</i>	<i>January 30, 2020</i>

### ***Selected Teaching Experience***

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#### **At Leibniz Universität Hannover (in German)**

*Exercises in Complex Differential Geometry (Summer 2023)*

*Exercises in Differential Topology (Winter 2022)*

#### **At Purdue University**

*MA 30300: Differential Equations and Partial Differential Equations for Engineering and the Sciences (Fall 2021, Spring 2022)*

*MA 26600: Ordinary Differential Equations (Fall 2020, Spring 2021)*

#### **At University of Washington**

*Math 120: Precalculus (Spring 2018)*

*Math 324: Advanced Multivariable Calculus (Summer 2016, Winter 2017, Autumn 2017, Winter 2018, Spring 2020)*

### ***Mentoring Experience***

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#### **Washington Directed Reading Program**

*Mentor for the undergraduate reading project Topology and Geometry of Surfaces (Winter 2020)*

*Mentor for the undergraduate reading project Mathematics of Medical Imaging (Autumn 2018 & Spring 2019)*

#### **Washington Experimental Mathematics Lab**

*Mentor for the undergraduate research project Number Theory and Noise (Spring 2017-Winter 2018)*

### ***Departmental Service***

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#### **Member of the Undergraduate Program Committee**

*2019-2020*

*Department of Mathematics, University of Washington*

### ***Language proficiencies***

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Greek (native), English (fluent), German (advanced), Italian (basic)