Curriculum vitae – Michael A. Hall

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Employment

Lecturer, USC, 2017-present

Mathematics Instructor, Pierce College, 2016-2017

NOSEVOL Post-Doctoral Researcher, IRMAR, Université de Rennes 1, 2014-2015

Assistant Adjunct Professor, UCLA, 2013-2014

Education

Ph.D. Mathematics, UCLA, 2013

M.S. Mathematics, UCLA, 2008

B.S. Mathematics, University of Maryland - College Park, 2006

Grants

Recipient with Shieva Kleinschmidt: USC Interdisciplinary Teaching Grant
for developing new course Phil 381 *Infinity in Mathematics and Philosophy*

Teaching Experience

Lecturer, USC Mathematics Department 2017-

Math 118 - Applied Calculus
Math 125 - Calculus 1
Math 126 - Calculus 2
Math 129 - Calculus 2 (for Sci/Eng)
Math 226 - Calculus 3

Math 245 - Differential Equations
Math 307/308 - Statistical Inference and
Data Analysis I-II
Math 445 - Mathematics of Physics and
Engineering

Mathematics Instructor, Pierce College Mathematics Department 2016-2017

Math 262 - Calculus 2   Math 228B - Statway
Math 263 - Calculus 3

Assistant Adjunct Professor, UCLA Mathematics Department, 2013 - 2014

Math 3A/3B - Calculus for Life Sciences   Math 134 - Linear and Nonlinear Systems
Math 33B - Differential Equations   of Differential Equations
Math 131A - Real Analysis

Canada/USA Mathcamp

    Instructor, 2008, 2009, 2012
Taught classes in Real Analysis, Measure theory, Dynamical Systems, Complex Analysis, Fourier Series, Asymptotic Methods, Fractal Geometry

    Counselor, 2003, 2005, 2006

Los Angeles Math Circle

    Curriculum Developer, 2016-2017

    Instructor, 2008-2013
Led weekly extracurricular mathematics lessons for local middle and high school students; over 100 lessons on a variety of topics

RTG Student Instructorship, UCLA Mathematics Department, Fall 2010
Math 32AH Honors Multivariable Calculus

Teaching assistant, UCLA Mathematics Department, 2006-2012
Calculus, Multivariable Calculus, Calculus for Life Sciences, Linear Algebra, Differential Equations, Dynamical Systems, Real Analysis, Fourier Series, PDE, Probability

Professional Development

Working Group on Math Education, Department of Mathematics, USC 2017-2019

Center for Excellence in Teaching (CET) New Faculty Institute, USC 2017-2018

Honors and Awards

Raytheon Math Hero Award, 2014
    for work with Olga Radko Math Circle

UCLA Disseration Year Fellowship, 2012-2013

UCLA NSF VIGRE Fellow, 2006-2010

UCLA NSF RTG Fellow, 2007-2008

Research Interests

Partial differential equations: Spectral theory, microlocal analysis, semiclassical analysis, inverse problems, analogue black holes

Publications

Asymptotic lattices, good labellings, and the rotation number for quantum integrable systems (with M. Dauge and S. Vu Ngọc), *Discrete Contin. Dyn. Syst., Discrete and Continuous Dynamical Systems, 42(12): 5683-5735, 2022*

Ergoregions between two ergospheres (with G. Eskin), *Methods of Funct. Anal. Topology, 24(2018), No. 2, 98-106, 83c57*

Stationary black hole metrics in two space dimensions (with G. Eskin), *Inverse Problems 32, no. 9 (2016): 095006*

Spectra for semiclassical operators with periodic bicharacteristics in dimension two (with M. Hitrik and J. Sjöstrand), *Intern. Math. Res. Notices, 2015*

Diophantine tori and nonselfadjoint inverse spectral problems, *Math. Res. Lett., 20(2), 2013.*

Conformal energy, conformal Laplacian, and energy measures on the Sierpinski gasket (with J. Azzam and R. Strichartz), *Trans. Amer. Math. Soc. 360 (2008), no. 4, 2089–2130.*

Presentations

Metaphor in the Teaching of Mathematics

April 2018 Working Group on Math Education, USC

Spectra for semiclassical operators with periodic bicharacteristics in dimension two

February 2015 Université de Nantes

November 2014 Université de Rennes 1

January 2014 University of Kentucky, Analysis Seminar

January 2014 UCLA Analysis Seminar

July 2013 Summer School on Integrable Systems, Lausanne

Stationary black hole metrics in two space dimensions and inverse problems

May 2016 UCLA Analysis Seminar