

Curriculum Vitae – Irina Nenciu

Contact information

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Education and employment

University of Bucharest, 1997 – 2001

B.S. in Mathematics, June 2001

Thesis title: *Semiclassical asymptotics of spectra of second order elliptic differential operators*

Advisor: Prof. Viorel Iftimie

California Institute of Technology, 2001 – 2005

Ph.D. in Mathematics, June 2005

Thesis title: *Lax pairs for the Ablowitz-Ladik system via orthogonal polynomials on the unit circle*

Advisor: Prof. Barry Simon

Institute of Mathematics of the Romanian Academy, Bucharest

Research Assistant (on leave): 2001 – 2006

Researcher (on leave): 2007 – 2008

Principal Researcher III (on leave): 2008 – present

Courant Institute, New York University

Courant Instructor, September 2005 – May 2008

Institute for Advanced Study, Princeton

Member, January – December 2006

University of Illinois at Chicago

Assistant Professor, 2008 – 2013

Associate Professor, 2013 – present

Grants and awards

Principal Investigator for NSF Grant DMS-0701026, *Integrable systems and random matrices*, 2007 — 2012

WISER travel and research award for research support, UIC, 2010 — 2011

Co-Principal Investigation for NSF Grant DMS-1216549, *Midwest Partial Differential Equations Seminar*, 2012 — 2016

Principal Investigator for NSF CAREER Grant DMS-1150427, *Long time asymptotics of completely integrable systems with connections to random matrices and partial differential equations*, 2012 — 2019

Co-Principal Investigation for NSF Grant DMS-1465011, *Midwest Partial Differential Equations Seminar*, 2015 — 2018

UIC Teaching Recognition Program award, 2016

Simons Fellowship in Mathematics for 2017 – 2018

Co-Principal Investigation for NSF Grant DMS-1800839, *Midwest Partial Differential Equations Seminar*, 2018 — 2019.

Teaching experience

Caltech:

Ma1abc -- Calculus of one and several variables, and linear algebra, TA, 2001—2002;

Ma2a -- Probability and statistics, TA, Fall 2002

Ma1b -- Linear algebra, TA, Winter 2003

Ma2a -- Probability and statistics, TA, Fall 2003

Ma1d -- Calculus, Series, Instructor, Winter 2004

Ma1a -- Calculus of one variable, Lead TA, Fall 2004

Ma1d -- Calculus, Series, Instructor, Winter 2005

Courant Institute, New York University:

V63.0122 -- Calculus II, Fall 2005

V55.0101 -- Quantitative reasoning, math patterns in nature, Spring 2007

V63.0121 -- Calculus I, Fall 2008

V63.0282 -- Functions of a complex variable, Spring 2008

University of Illinois at Chicago:

Math220 -- Introduction to differential equations, Fall 2008

Math417 -- Complex analysis with applications, Spring 2009

Math320 -- Linear algebra I, Fall 2009

Math576 -- Boundary value problems, Fall 2009

Math445 -- Introduction to topology I, Fall 2010

Math410 -- Advanced calculus I, Spring 2011

Math583 -- Topics in nonlinear waves, Spring 2011

Math310 -- Applied linear algebra, Fall 2011

Math410 -- Advanced calculus I, Fall 2011

Math417 -- Complex analysis with applications, Spring 2012

Math584 -- Applied stochastic processes, Fall 2012

Math310 -- Applied linear algebra, Fall 2012

Math417 -- Complex analysis with applications, Spring 2013

Math180 -- Calculus I, Fall 2013

Math313 -- Analysis I, Fall 2013

Math414 -- Analysis II, Spring 2014

Math181 -- Calculus II, Fall 2014 and Spring 2015

Math220 -- Introduction to differential equations, Fall 2015

Math533 -- Real analysis I, Fall 2015

Math576 -- Classical methods in partial differential equations, Spring 2016

Math220 -- Introduction to differential equation, Spring 2017

Math417 -- Complex analysis with application, Spring 2017

Students

Advising:

Deniz Bilman: PhD in Mathematics, Summer 2015; currently postdoc at the University of Michigan, Ann Arbor.

Ryan Obermeyer: Expected PhD Summer 2021.

Independent study:

Marta Les, undergraduate mathematics major -- Math 496, Independent study in random matrices, Spring 2010

Navin Agarwal, undergraduate mathematics minor -- Math 496, Independent study in nonlinear dynamics, Fall 2010

Deniz Bilman, graduate student in mathematics -- Math 596, Independent study in random matrices and large data set analysis, Fall 2010

David Iglesias, undergraduate physics major -- Math 496, Independent study in operator theory, Spring 2012

Landon Kavlie, graduate student in mathematics -- Math 596, Independent study in partial differential equations, Fall 2012

Daniel Villegas, undergraduate mathematics major -- Math 496, Independent study in real and functional analysis, Fall 2013

Kevin Lipa, graduate student in mathematics -- Math 596, Independent study in topics in real and functional analysis, Fall 2013

Jack Arbunich, graduate student in mathematics -- Math 596, Independent study in spectral theory for unbounded operators, Spring and Fall 2015

Ryan Obermeyer, graduate student in mathematics -- Math 596, Independent study in spectral theory for unbounded operators, Spring 2018

David Reynolds, graduate student in mathematics -- Math 596, Independent study in spectral theory for unbounded operators, Spring 2018

Conference talks

2008/09:

4th Chicago area PDE Workshop, UIC, March 2009

2009/10:

SIAM Conference on Nonlinear Waves and Coherent Structures -- Special Section on Recent Advances in Nonlinear Integrable Systems, Philadelphia, August 2010

2010/11:

Connections for women workshop, part of the "Random matrix theory, interacting particle systems and integrable systems" workshop, MSRI, Berkeley, October 2010

AMS Spring Central Sectional Meeting, Iowa City, IO -- Special Session on Spectral Theory, March 2011

European Science Foundation Conference on "Completely Integrable Systems and Applications", Erwin Schrödinger Institute, Vienna, Austria, July 2011

2012/13:

AWM Research Symposium 2013, Santa Clara University, Santa Clara, CA, March 2013

The Eighth IMACS International Conference on "Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory", Georgia Center for Continuing Education University of Georgia, Athens, GA, March 2013

Midwest Women in Mathematics Symposium, UIC, April 2013

Joint International Meeting of the AMS and the Romanian Mathematical Society, "1 Decembrie 1918" University, Alba Iulia, Romania -- Special Session on Random Matrices & Special Session on Nonlinear Evolution Equations, June 2013

2013/14:

Undergraduate Math Symposium, UIC, December 2013

2014/15:

74th Midwest PDE Seminar, University of Illinois at Urbana-Champaign, October 2014

Asymptotics in integrable systems, random matrices, random processes and universality (conference in the honor of Percy Deift's 70th birthday), CRM, Montreal, Canada, June 2015

8th Congress of Romanian Mathematicians, Iasi, Romania, July 2015.

2016/17:

Walkshop2017: Mathematical Physics, LMU Munich, Germany, July 2017

2017/18:

TexAMP 2017, University of Texas, Austin, November 2017

Mini Workshop: PDE, Harmonic Analysis & Mathematical Physics *and* IMAR monthly conference, Institute of Mathematics "Simion Stoilow" of the Romanian Academy, Bucharest, Romania, January 2018

Optimal and Random Point Configurations workshop, ICERM, Providence, RI, February/March 2018

Recent seminars and colloquia

University of Michigan, Ann Arbor – Differential Equations Seminar, November 2008

University of Chicago – CAMP Seminar, February 2009

University of Cambridge, UK – Applied and Computational Analysis Seminar, October 2009

University of Illinois at Chicago – Colloquium talk, October 2009

Université de Cergy-Pontoise, France – Mathematical Physics Seminar, May 2010

Université de Bourgogne, Dijon, France – PDE Seminar, May 2010

National Institute of Physics and Nuclear Engineering, Bucharest, Romania – Theoretical Physics Seminar, December 2010

University of Illinois at Chicago – Math Club talk, March 2011

University of Arizona at Tucson – Departmental colloquium, February 2012

University of Illinois at Urbana-Champaign – PDE seminar, March 2012

University of Missouri, Columbia – Departmental Colloquium, September 2012

UIC Visiting Graduate Student Day, UIC, March 2013

Northwestern University – Analysis Seminar, May 2013

University of Vienna, Austria – Analysis Seminar, December 2013

University of Texas, Austin -- Analysis Seminar & Mathematical Physics Seminar, February 2014

Courant Institute, NYU – Probability and Mathematical Physics Seminar, March 2015

University of Rennes, France -- Numerical Analysis Seminar, July 2015

University of Zurich, Switzerland – Mathematical Physics Seminar, December 2015

University of Wisconsin, Madison – Joint Analysis and Probability Seminar, February 2016

DePaul University, Chicago – Departmental Colloquium, May 2017

Service

Department:

Member of the Student awards committee, 2008—2010
Member of the Visitor fund committee, 2009—2015
Masters examination, complex analysis, pure mathematics, Spring/Fall 2009
Preliminary examination, partial differential equations in applied mathematics, Winter and Spring 2010
Member of the RAP hiring committee, 2010—2011
Member of the Graduate mentoring departmental committee, 2010—2011
Masters examination, advanced vector calculus, applied mathematics, Spring/Fall 2011
Masters examination, topology, pure mathematics, Spring/Fall 2011
Member of the Advisory Committee, 2011—2013
Member of the Admissions, Fellowships and Assistantships committee, 2011—2012
Member of the 300 Level Math Curriculum committee, 2011—2012
Co-organizer of the Mathematics and its applications seminar, starting in Fall 2011
Masters examination, topology, pure mathematics, Spring/Fall 2012
Member of the tenure track hiring committee, 2012—2014
Masters examination, complex analysis, pure & applied mathematics, Spring/Fall 2013
Member of the Advisory Committee, 2013--2015 (Chair, 2013--2014)
Chair of the Visitor Fund Committee, 2013--2014
Chair of the Salary Committee, 2013—2014
Masters examination, complex analysis, pure & applied mathematics, Spring/Fall 2014
Member of the RAP hiring committee, 2014—2016
Coordinator for Math 181, Calculus II, 2014—2015
Member of the Undergraduate Studies Committee, 2015—2016
Member of the Graduate Studies Committee, Spring 2017

College of Liberal Arts and Sciences:

Member of the hiring committee for an Assistant Professor in Theoretical Nuclear and Particle Physics, Physics Department, 2011—2012
Member of the Calculus Reform Committee, College of Liberal Arts and Sciences, Summer 2014

UIC:

Member of the UIC Senate, 2016 – 2019.

Mathematical community:

Co-organizer of the Random matrices and integrable systems working seminar, Courant Institute, New York University, 2007—2008;
Co-organizer of the "Connections for women" workshop, part of the "Random matrix theory, interacting particle systems and integrable systems" workshop, MSRI, Berkeley, October 2010;
Member of the Advisory Committee of the NSF-CBMS conference on "Global Harmonic Analysis", University of Kentucky, Lexington, KY, June 2011;
Member of an NSF grant review panel, March 2012;
Co-organizer of the "69th Midwest Partial Differential Equations Seminar", UIC, April 28—29, 2012;
Member of the hiring committee for a Tenure Track position (Maître de Conference à valeur exceptionnelle) in Mathematical-Physics, Université de Bourgogne, Dijon, France, Spring/Summer 2012;
Member of an NSF grant review panel, November 2012;
Co-organizer of the conference "Mathematical Aspects of Solid State Physics, Quantum Transport, and Spectral Analysis" (conference in the honor of G. Nenciu's 70th birthday), Institute of Mathematics "Simion Stoilow" of the Romanian Academy, Bucharest, Romania, July 1—3, 2014;

Co-organizer of the Summer School on “Stochastic Analysis and Geometry”, University of Illinois at Chicago, August 30—September 1, 2014;
Member of an NSF grant review panel, March 2015;
Member of an NSF grant review panel, March 2016;
Co-organizer of the Winter School on “Multi-scale Methods and Applications”, University of Illinois at Chicago, March 19—20, 2016;
Member of the organizing committee for the SIAM Conference on Nonlinear Waves and Coherent Structures, August 8—11, 2016, Philadelphia, <http://www.siam.org/meetings/nwcs16/>;
Co-organizer of the 79/80th Anniversary Midwest PDE Seminar, UIC, September 14 -- 17, 2017.