

Dan-Andrei Geba

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Personal

Born on July 21, 1973.
American and Romanian citizenship.

Education

Ph.D. in Mathematics, Princeton University, 2002.
Dissertation: A Local Well-Posedness Result for the Quasilinear Wave Equation in \mathbb{R}^{2+1} .
Advisor: Sergiu Klainerman.
M.A. in Mathematics, Princeton University, 1998.
B.A. in Mathematics, Al. I. Cuza University, Iasi, Romania, 1997.
Diploma with Honors, Valedictorian of Class '97.

Academic Experience

University of Rochester, Department of Mathematics

Professor, 2017–Present.
Associate Professor, 2009–2017.
Assistant Professor, 2006–2009.

University of California, Berkeley, Department of Mathematics

Lecturer, 2005–2006.
Charles B. Morrey Assistant Professor, 2002–2005.

Mathematical Sciences Research Institute, Berkeley

Postdoctoral Fellow, Fall 2005.

Recent Publications

Dan-Andrei Geba and Manoussos G. Grillakis, Large Data Global Regularity for the $2 + 1$ -Dimensional Equivariant Faddeev Model, preprint, [arXiv:1709.00331](https://arxiv.org/abs/1709.00331) (2017).
Dan-Andrei Geba and Manoussos G. Grillakis, Large Data Global Regularity for the Classical Equivariant Skyrme Model, preprint, [arXiv:1707.02917](https://arxiv.org/abs/1707.02917) (2017).
Dan-Andrei Geba and Manoussos G. Grillakis, An Introduction to the Theory of Wave Maps and Related Geometric Problems, *World Scientific* (2016), xviii+478 pp., ISBN: 978-9814713900.
Dan-Andrei Geba, Kenji Nakanishi, and Xiang Zhang, Sharp Global Regularity for the $2 + 1$ -Dimensional Equivariant Faddeev Model, *Int. Math. Res. Not.* 2015 (2015), rnv037-17.

Dan-Andrei Geba, A. Alexandrou Himonas, and David Karapetyan, Ill-Posedness Results for Generalized Boussinesq Equations, *Nonlinear Anal.* 95 (2014), 404-413.

Dan-Andrei Geba, Allan Greenleaf, Alex Iosevich, Eyvindur Palsson, and Eric Sawyer, Restricted Convolution Inequalities, Multilinear Operators and Applications, *Math. Res. Lett.* 20 (2013), 675-694.

Dan-Andrei Geba and Daniel da Silva, On the Regularity of the $2 + 1$ -Dimensional Equivariant Skyrme Model, *Proc. Amer. Math. Soc.* 141 (2013), 2105-2115.

Dan-Andrei Geba, Kenji Nakanishi, and Sarada G. Rajeev, Global Well-Posedness and Scattering for Skyrme Wave Maps, *Commun. Pure Appl. Anal.* 11 (2012), 1923-1933.

Teaching Experience

Courses taught at University of Rochester

MTH 163, Ordinary Differential Equations.

MTH 164, Multidimensional Calculus.

MTH 165, Linear Algebra with Differential Equations.

MTH 173, Honors Calculus III.

MTH 174, Honors Calculus IV.

MTH 190, Topics in Problem Solving.

MTH 235, Linear Algebra.

MTH 265H, Functions of a Real Variable (Honors).

MTH 266, Real Analysis II.

MTH 463, Partial Differential Equations (graduate).

MTH 467, Theory of Analytic Functions (graduate).

MTH 471, Real Analysis (graduate).

MTH 472, Functional Analysis (graduate).

MTH 565, Introduction to Hyperbolic PDE's (graduate).

MTH 565, Topics in Nonlinear Dispersive Equations (graduate).

MTH 565, An Introduction to the Theory of Wave Maps and Related Problems (graduate).

MTH 565, Small Data Global Regularity for Wave Maps and Related Problems (graduate).

Problem Solving Seminar.

Courses taught at University of California, Berkeley

MATH 104, Introduction to Analysis.

MATH 105, A Second Course in Analysis.

MATH 110, Linear Algebra.

MATH 140, Metric Differential Geometry.

MATH 185, Introduction to Complex Analysis.

Courses taught at Princeton University

MAT 203, Advanced Multivariable Calculus.

Students Mentored

Undergraduate Students

Bai Lin (2013-2016) - Putnam competition.
 Brian McDonald (2012-2016) - Putnam competition.
 Douglas Miller (2010-2015) - Honors thesis, Putnam competition.
 Vincent Yu (2010-2014) - Putnam competition.
 Xiaoqing Tang (2008-2012) - Putnam competition.
 Kevin Lin (2008-2012) - Putnam competition.
 Christopher Kauffman (2007-2011) - Honors thesis, Putnam competition, independent study.
 Cheng Sun (2006-2009) - Honors thesis, Putnam competition.
 Michael Wijaya (2006-2008) - Putnam competition.
 Marcello Magno (2004) - Summer REU through the UCLEADS program.
 Daniel Nolan (2003-2005) - Putnam competition.
 David Karapetyan (2003-2004) - Putnam competition.
 Neil Molino (1997-1999) - Putnam competition.

Graduate Students

Bai Lin (2017-Present) - Doctoral advisor.
 Evan Witz (2017-Present) - Doctoral advisor.
 Matthew Creek (2010-2014) - Doctoral advisor.
Dissertation: Large-Data Global Well-Posedness for the 1 + 2-Dimensional Equivariant Faddeev Model.
 Xiang Zhang (2010-2013) - Doctoral advisor.
Dissertation: A Small Data Global Well-Posedness Result for a 2+1-Dimensional Equivariant Faddeev Model.
 Daniel da Silva (2008-2012) - Doctoral advisor.
Dissertation: Non-concentration of Energy in Generalized Wave Maps.
 Suresh Eswarathasan (2007) - Independent study finished with seminar presentation.

Selected Minicourses and Talks at Conferences, Colloquiums, and Seminars

Minicourses

“An Introduction to the Theory of Wave Maps and Related Problems”, Henan University, China, July 2015.

Conferences

AMS Fall Eastern Sectional Meeting, Special Session on Nonlinear Evolution Equations, State University of New York at Buffalo, Buffalo, September 2017.

1st Northeastern Analysis Meeting, The College at Brockport, State University of New York, Brockport, October 2016.

2016 Northeast Analysis Network Conference, University of Rochester, Rochester, September 2016.

11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Special Session on Evolution Equations and Integrable Systems, Hyatt Regency, Orlando, July 2016.

Joint International Meeting of the American Mathematical Society and the Romanian Mathematical Society, Special Session on Nonlinear Evolution Equations, “1 Decembrie 1918” University of Alba Iulia, Alba Iulia, Romania, June 2013.

8th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Special Session on the Analysis and Applications of Nonlinear Wave Equations, University of Georgia, Athens, March 2013.

Seminars

Binghamton (2013), McMaster (2013), Rochester (2013).

Professional Activities

Member, American Mathematical Society, 1997–Present.

Member, Mathematical Association of America, 2002–Present.

Co-organizer of:

AMS Fall Eastern Sectional Meeting, Special Session on Nonlinear Evolution Equations, State University of New York at Buffalo, Buffalo, September 2017;

8th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Special Session on the Analysis and Geometry of Nonlinear Evolution Equations, University of Georgia, Athens, March 2013;

AMS Fall Eastern Sectional Meeting, Special Session on Microlocal Analysis and Nonlinear Evolution Equations, Rochester Institute of Technology, Rochester, September 2012;

7th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Special Session on the Analysis and Geometry of Nonlinear Evolution Equations, University of Georgia, Athens, April 2011.

Referee for: *Annals of PDE*, *Inventiones Mathematicae*, *Mathematical Research Letters*, *Nonlinearity*, *Proceedings of the American Mathematical Society*, *Proceedings of the Edinburgh Mathematical Society*, *Transactions of the American Mathematical Society*.

Creator and organizer of: Problem Solving Seminar (2006–Present), University of Rochester Math Olympiad (2007–Present), Rochester Area Math Circle (2008–2016), and Mathcounts Club at Our Lady of Mercy School for Young Women (2016–Present).

University service: college enrollment advisory committee (2009), ad-hoc faculty committees.

Departmental service: mathematical competitions adviser and coach (2006–Present), co-organizer of the analysis seminar (2006–2017), curriculum committee (2007–2010, 2011–2015), graduate committee (2011–2013, 2015–2016), hiring committee (2008–2010, 2015–2016), *Meliora* committee (2015–2016), publicity committee (2015–Present), coordinator of undergraduate research (2008–2010).

Honors, Awards, & Fellowships

Simons Foundation Collaboration Grant Award (\$35,000) for the “Regularity Issues for Equations of Mathematical Physics” research proposal, 2015.

Goergen Award for Excellence in Undergraduate Teaching, 2011.

Coach of the 10th (2008), 12th (2010), 14th (2009), 15th (2011, 2016), and 17th (2013, 2015) ranked teams in the William Lowell Putnam Mathematical Competition.

NSF Career Award (\$450,869) for the “Career: Topics in Nonlinear Wave Equations” research proposal, 2008.

Postdoctoral Fellowship, “Nonlinear Partial Differential Equations” Summer Microprogram, MSRI, 2007.

Mentor Recognition Award, University of California, San Diego, 2006.

Postdoctoral Fellowship, “Nonlinear Dispersive Equations” Program, MSRI, 2005.

Graduate Assistantship, Princeton University, 1998-2002.

Graduate Research Fellowship, Princeton University, 1997.

National Merit Scholarship, Al.I.Cuza University, 1992-1997.

Gold Medal, Balkan Mathematical Olympiad, Athens, Greece, 1992.

Member of the Romanian Mathematics Olympic Team, 1990-1992.

Other Recent Conferences and Workshops Attended

“Nonlinear Waves and Dispersive Equations” Workshop, MFO, Oberwolfach, Germany, June 2017.

“Analysis, PDE’s, and Geometry,” Conference in Honor of Sergiu Klainerman, Princeton University, Princeton, January 2016.

“Evolution Equations of Physics, Fluids, and Geometry: Asymptotics and Singularities” Workshop, Banff International Research Station, Canada, September 2012.

Last updated: September 2017.