

MIHAI TOHANEANU  
CURRICULUM VITAE

**Address**

Department of Mathematics  
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**Academic Positions**

August 2015 -	University of Kentucky Assistant Professor
August 2014 - June 2015	Georgia Southern University Assistant Professor
July 2011 - June 2014	Johns Hopkins University J. J. Sylvester Assistant Professor
August 2009 - May 2011	Purdue University Golomb Assistant Professor
June 2009 - July 2009	University of California, Berkeley Research position

**Education**

May 2009	University of California, Berkeley Ph. D. in Mathematics Thesis title: "Local energy estimates and Strichartz estimates on Schwarzschild and Kerr black hole backgrounds" Thesis advisor: Daniel Tataru
2003-2009	University of California, Berkeley
1999-2003	Dartmouth College A.B. in Mathematics (with honors) and Computer Science, Summa Cum Laudae, 2003 Thesis title: "Vector-valued integration on Banach spaces" Thesis advisor: Dana Williams

**Research Interests**

Partial Differential Equations, General Relativity, Microlocal Analysis, Harmonic Analysis, Differential Geometry

## Publications

- (1) J. Marzuola, J. Metcalfe, D. Tataru, and M. Tohaneanu: *Strichartz estimates on Schwarzschild black hole backgrounds*. *Comm. Math. Phys.* **293**, no. 1 (2010), 37–83.
- (2) D. Tataru and M. Tohaneanu: *Local energy estimate on Kerr black hole backgrounds*. *Int. Math. Res. Not.*, (2011), no. 2, 248–292.
- (3) M. Tohaneanu: *Strichartz estimates on Kerr black hole backgrounds*. *Trans. Amer. Math. Soc.* **364**, no. 2 (2012), 689–702.
- (4) J. Metcalfe, D. Tataru, and M. Tohaneanu: *Price’s Law on Nonstationary Spacetimes*. *Adv. Math.* **230**, no. 3, (2012), 995–1028.
- (5) H. Lindblad, J. Metcalfe, C. Sogge, M. Tohaneanu, and C. Wang: *The Strauss conjecture on Kerr black hole backgrounds*. *Math. Ann.*, **359**, no. 3-4 (2014), 637–661.
- (6) P. Laul, J. Metcalfe, S. Tikare, and M. Tohaneanu: *Localized energy estimates on Myers-Perry spacetimes*. *SIAM J. Math. Anal.* **47**, no. 3 (2015), 1933–1957.
- (7) D.Dmitrishin, A.Khamitova, A.Stokolos and M.Tohaneanu: *Finding cycles in nonlinear autonomous discrete dynamical systems*. *Harmonic Analysis, Partial Differential Equations, Complex Analysis, Banach Spaces, and Operator Theory 2* (2017), 199–237.
- (8) J. Metcalfe, D. Tataru, and M. Tohaneanu: *Pointwise decay for the Maxwell field on black hole space-times*. *Adv. Math.* **316** (2017), 53–93.
- (9) H. Lindblad and M. Tohaneanu: *Global existence for quasilinear wave equations close to Schwarzschild*. *Comm. Partial Differential Equations* **43**, no. 6 (2018), 893–944.
- (10) D.Dmitrishin, A.Stokolos and M.Tohaneanu: *Search for cycles in non-linear autonomous discrete dynamical systems*. *New York J. Math.* **25** (2019), 603–626.
- (11) H. Lindblad and M. Tohaneanu: *A local energy estimate for wave equations on metrics asymptotically close to Kerr*. Accepted to *Ann. Henri Poincaré* 46 pp.

## Preprints

- (1) S. Looi and M. Tohaneanu: *Scattering for the defocusing critical wave equation on perturbations of Minkowski*. arXiv:1912.06795
- (2) K. Datchev, J. Metcalfe, J. Shapiro, and M. Tohaneanu: *On the interaction of metric trapping and a boundary*. arXiv:2008.05408

## Grants

- 2014-2018 NSF grant award DMS-1362725  
 2017-2022 Collaborative research: Ohio River Analysis Meetings awards DMS-1700277 and DMS-2000250  
 2018-2023 Simons foundation, Mathematics and Physical Sciences-Collaboration Grants for Mathematicians, 586051 .

## Graduate Students

- (1) Shi-Zhuo Looi passed masters March 2019, passed qualifying exam April 2019

**Invited conference talks**

- October 2019 General Relativity, Geometry and Analysis, Mittag Leffler Institute, Stockholm, Sweden
- January 2019 Analysis and Geometry of Nonlinear Evolution Equations, JMM National Meeting, Baltimore
- April 2018 AMS Sectional Meeting, Nashville
- September 2017 AMS Sectional Meeting, Buffalo
- September 2017 AMS Sectional Meeting, Orlando
- November 2016 AMS Sectional Meeting, Raleigh
- May 2016 International Conference on Evolution Equations (two talks), Vanderbilt University
- April 2016 AMS Sectional Meeting, Fargo
- October 2015 Workshop on Geometric Hyperbolic PDE, Imperial College, London
- June 2015 Nonlinear Wave equations and their numerical study, Fields Institute, Toronto, Canada
- April 2015 Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, UGA
- January 2015 Mathematical Problems in General Relativity, Stony Brook
- April 2014 AMS Sectional Meeting, Albuquerque
- June 2013 Joint International Meeting of the AMS and the Romanian Math. Society, Alba Iulia, Romania
- August 2012 ICMP 2012, Aalborg Denmark
- July 2012 A Conference in honor of Michael Taylor, University of North Carolina at Chapel Hill
- September 2011 AMS Sectional Meeting, Wake Forest University
- July 2011 ICIAM 2011, Vancouver Canada
- May 2011 2011 Barrett Lectures in Mathematical Relativity, University of Tennessee
- January 2011 The 2011 Ohio River Analysis Meeting, University of Cincinnati
- August 2010 SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia
- April 2010 AMS Sectional Meeting, Albuquerque
- March 2010 Geometric Scattering Theory and Applications, Banff, Canada
- January 2010 Joint Mathematics Meetings, San Francisco
- November 2009 AMS Sectional Meeting, Florida Atlantic University, Boca Raton
- September 2009 Hot Topics: Black Holes in Relativity, MSRI, Berkeley
- June 2009 Mathematical Challenges of Relativity workshop, Snowbird, Utah
- April 2009 AMS Sectional Meeting, San Francisco State

**Seminar Talks**

March 2020	Analysis and PDE Seminar, Berkeley University
April 2019	CMC seminar, Korea Institute for Advanced Studies, Seoul, South Korea
March 2019	Analysis and PDE Seminar, University of North Carolina at Chapel Hill
February 2019	Analysis and PDE Seminar, Michigan State University
April 2018	Applied Math Seminar, University of Kentucky
April 2018	Analysis and Data Science Seminar, SUNY Albany
January 2018	Analysis and Partial Differential Equations Seminar, Johns Hopkins University
May 2017	Seminar in Real Analysis, UCSD, San Diego
February 2017	Colloquium, Reed College
February 2017	Analysis and PDE Seminar, University of Kentucky
November 2016	PDE seminar, Georgia Tech
May 2016	Minicourse at Zhejiang University, China (four lectures)
April 2016	Theoretical Physics Seminar, University of Kentucky
March 2016	Analysis and PDE Seminar, Berkeley University
November 2015	Analysis Seminar, Princeton University
September 2015	PDE Seminar, Vanderbilt University
September 2015	Analysis and PDE Seminar, University of Kentucky
November 2014	Analysis Seminar, Georgia Southern University
October 2014	Math Physics Seminar, Georgia Southern University
February 2014	Colloquium talk, Georgia Southern University
February 2014	Colloquium talk, Ohio University
May 2013	Analysis Seminar, UCSD, San Diego
March 2013	PDE and Differential Geometry Seminar, University of Connecticut, Storrs
March 2013	Analysis Seminar, New York University, New York
October 2012	Analysis Seminar, Institute of Advanced Studies, Princeton
April 2011	PDE Seminar, Purdue University
March 2011	Analysis Seminar, UC Berkeley
November 2010	Colloquium talk, Georgia Southern University
November 2010	Analysis/PDE seminar, Johns Hopkins University
October 2010	Analysis/PDE seminar, University of North Carolina at Chapel Hill
July 2010	Analysis seminar, Institut Fourier, Grenoble, France
April 2010	Calderon-Zygmund Analysis Seminar, University of Chicago
January 2010	Analysis Seminar, Northwestern University
October 2009	Analysis and Geometry Seminar, University of Rochester
October 2009	Spectral and Scattering Theory Seminar, Purdue University
May 2009	Analysis Seminar, UC Berkeley
March 2009	Analysis Seminar, Princeton University
November 2008	Geometry Seminar, Stanford University
October 2008	Analysis/PDE seminar, University of North Carolina at Chapel Hill

**Teaching Experience**

Spring 2020 MA 633 Graduate PDE 2  
Fall 2019 MA 533 Graduate PDE  
Fall 2019 MA 113 Calculus 1  
Fall 2018 MA 214 ODE (course coordinator)  
Fall 2018 MA 641 Graduate Differential Geometry  
Spring 2018 MA 114 Calculus 2  
Spring 2018 MA 676 Analysis I  
Spring 2017 MA 214 ODE  
Spring 2017 MA 633 Graduate PDE 2  
Fall 2016 MA 533 Graduate PDE  
Spring 2016 MA 641 Graduate Differential Geometry  
Spring 2016 MA 472G Advanced Calculus 2  
Fall 2015 MA 213 Multivariable Calculus  
Spring 2015 Linear Algebra (two sections)  
Fall 2014 Calculus 1 (two sections)  
Spring 2014 Dynamical Systems  
Fall 2013 Multivariable Calculus (two sections)  
Spring 2013 PDE for undergraduates and PDE for graduates.  
Fall 2012 Topics in General Relativity for graduates.  
Spring 2012 ODE (two sections)  
Fall 2011 Complex analysis for undergraduates  
Spring 2011 Linear algebra and differential equations (two sections)  
Fall 2010 ODE (two sections)  
Spring 2010 ODE (two sections)  
Fall 2009 ODE (two sections)  
2003-2009 Taught discussion sessions at UC Berkeley in various subjects: Calculus, Multivariable Calculus, Linear Algebra, Differential Equations.