Bobby L. E. Wilson

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Education

Ph.D. Mathematics, The University of Chicago, 2015, adviser: Wilhelm Schlag.
Thesis: *Three Results in Analysis*.

M.S. Mathematics, The University of Chicago, 2012.

B.S. Mathematics, Morehouse College, 2010.

Previous Positions

C.L.E. Moore Instructor, Dept. of Math., Massachusetts Institute of Technology, August 2015–June 2018.

Current Positions

Assistant Professor, Dept. of Math., The University of Washington, July 2018–present.

Fields of Research Interest

Harmonic Analysis, PDE, Dynamical Systems, Geometric Measure Theory.

Service

2021 (2022) Pacific Rim International Congress - Scientific Committee Member

UW Faculty Council on Multicultural Affairs

Math Alliance Mentor

UW Math Directed Reading Program Faculty Mentor

Honors, Awards, Grants & Fellowships

GAANN Fellowship, The University of Chicago, 2011, 2012.

NSF Mathematical Science Postdoctoral Research Fellowship, 2015 (declined).

MSRI Postdoctoral Fellowship, Fall 2015 (*New Challenges in PDE*).

CLE Moore Instructorship, MIT, 2015-2018.

MSRI Postdoctoral Fellowship, Spring 2017 (*Harmonic Analysis*).

NSF Grant, Analysis, DMS 1856124, 2019- 2022

Karen EDGE Fellowship, 2020 - 2023

Rainwater Faculty Fellowship, 2021-2026

NSF CAREER Fellowship, DMS-2142064, 2022-2027

Teaching

The University of Chicago

Honors Calculus IBL (Math 161-162-163), 2011-2012, College Fellow for A. Pulemotov, M. Borman.

Calculus (Math 131-132), Fall 2012, Winter 2013.

Calculus (Math 152-153), Fall 2013, Winter 2014.

Calculus (Math 153), Fall 2014.

Linear Algebra (Math 19620), Spring 2013.

VIGRE Summer REU mentor, Summer 2011, Summer 2012.

Basic Math, Chicago Academic Achievement Program, Summer 2013.

Massachusetts Institute of Technology

Differential Equations (18-03), Spring 2016, Recitation leader for D. Jerison, J. Kelner.

Real Analysis (18-100Q), Fall 2016.

Calculus (18.01A), Fall 2017, Recitation Leader for D. Maulik

Differential Geometry (18-950), Spring 2018

The University of Washington

Introduction to Ordinary Differential Equations (Math 307, Two Sections), Fall 2018.

Fundamental Concepts of Analysis III (Math 426), Spring 2019.

Fundamental Concepts of Analysis I (Math 424), Fall 2019.

Calculus with Analytic Geometry II (Math 125), Fall 2019.

Fundamental Concepts of Analysis III (Math 426), Spring 2020.

Calculus with Analytic Geometry II (Math 125), Spring 2020.

Calculus with Analytic Geometry I (Math 124), Fall 2020.

Dynamics of Evolutionary Equations (Math 581), Fall 2020.

Fundamental Concepts of Analysis I (Math 424), Winter 2021.

Graduate Real Analysis I (Math 524), Fall 2021.

Graduate Real Analysis II (Math 525), Winter 2022.

Fundamental Concepts of Analysis II (Math 425), Winter 2022.

Fundamental Concepts of Analysis I (Math 424), Winter 2023.

Graduate Real Analysis II (Math 525), Winter 2023.

Fundamental Concepts of Analysis II (Math 425), Spring 2023.

Conference and Seminar Presentations

University of Illinois at Urbana-Champaign, Analysis Seminar, September 2014.

University of Wisconsin-Madison, Analysis Seminar, April 2015.

University of Washington-Seattle, Analysis Seminar, May 2015.

Invited Speaker, Relations between Banach Space Theory and Geometric Measure Theory, University of Warwick, June 2015.

Invited Speaker, CAARMS Conference, ICERM, June 2015.

Massachusetts Institute if Technology, Analysis Seminar, February 2016.

University of Illinois at Urbana-Champaign, Mathematics Colloquium, April 2017.

Invited Speaker, Recent Developments in Harmonic Analysis, MSRI, May 2017.

Invited Speaker, FRG Conference at Princeton, October 2017.

Invited Speaker, Granville-Brown-Haynes Session of Presentations by Recent Doctoral Recipients, Joint Math Meetings, San Diego, January 2018.

Brown University, Analysis Seminar, February 2018.

Invited Speaker, FRG Conference at University of Wisconsin, May 2018.

Rice University, Geometry/Analysis Seminar, September 2018.

Cornell University, Analysis Seminar, September 2018.

Invited Minicourse Lecturer, Geometric and Harmonic Analysis - A Conference for Graduate Students, March 2019.

Washington University in St. Louis, Analysis Seminar, September 2019.

University of Warwick, Analysis Seminar, March 2020

Georgia Tech, Analysis Seminar, October 2020

University of Wisconsin, Colloquium, February 2021.

MSRI, Program in Fluid Dynamics, April 2021

IAS Analysis Seminar, March 2022

UW Math Colloquium, May 2022

Publications

12. B. Wilson, X. Yu, *Modified Scattering of Cubic Nonlinear Schrödinger Equation on Rescaled Waveguide Manifolds*, Submitted. arXiv:2207.07248, 2022.

11. A. Hrabski, Y. Pan, G. Staffilani, B. Wilson, *Energy transfer for solutions to the nonlinear Schrödinger equation on irrational tori*, Submitted. arXiv:2107.01459 , 2021.

10. I. Altaf, M. Csörnyei, B. Wilson, *Scaled Oscillation and Level Sets*, Proceedings of the American Mathematical Society (2022).

9. M. Csörnyei, B. Wilson, *A Generalization of Multilinear Kakeya*, In preparation.

8. G. Staffilani, B. Wilson, *Stability of the Cubic Nonlinear Schrodinger Equation on Irrational Tori*, SIAM Journal of Mathematical Analysis. arXiv:1806.01635, 2018.

7. X. Du, L. Guth, Y. Ou, H. Wang, B. Wilson, R. Zhang, *Weighted restriction estimates and application to Falconer distance set problem*, Amer. J. of Math. arXiv:1802.10186, 2018. (To Appear in)

6. B. Wilson, *Sets with Arbitrarily Slow Favard Length Decay*, arXiv:1707.08137, 2017, submitted.

5. C. Fan, G. Staffilani, H. Wang, B. Wilson, *On a bilinear Strichartz estimate on irrational tori and some application*, Analysis & PDE, **11** (2018), no. 4, 919–944.

4. D. Bate, M. Csörnyei, and B. Wilson. *The Besicovitch–Federer projection theorem is false in every infinite-dimensional Banach space.* Israel J. Math. (2015): 1–14.

3. M. Csörnyei, B. Wilson, *Tangents of σ-finite curves and scaled oscillation*, Math. Proc. Cambr. Phil. Soc., vol. 161, no. 1, (2014), 1–12.

2. B. Wilson, *On almost everywhere convergence of strong arithmetic means of Fourier series*, Trans. Amer. Math. Soc., **367** (2015), 1467-1500

1. B. Wilson, *Sobolev Stability of plane wave solutions to the nonlinear Schrödinger equation*, Comm. in Partial Diff. Eqns., **40**, 8 (2015), 1521-1542

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