

Jonathan Jaquette

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Education

Ph.D. Mathematics	May 2018
Advisor: Konstantin Mischaikow	Rutgers, The State University of New Jersey
B.A. with Honors	May 2011
Major: Mathematics, Minor: Physics	Swarthmore College

Ph.D. Dissertation

Counting and discounting slowly oscillating periodic solutions to Wright's equation

Academic Employment History

- Postdoctoral Fellow, Brandeis University Jan. 2019 – Present
- Postdoctoral Associate, Mathematical Sciences Research Institute Aug. 2018 – Dec. 2018

Peer Reviewed Publications

1. "A proof of Jones' conjecture"; *Journal of Differential Equations* 266 no. 6 (2019): 3818-3859.
DOI: <https://doi.org/10.1016/j.jde.2018.09.017> .
2. "A proof of Wright's conjecture" with van den Berg, J.B.; *Journal of Differential Equations*, 264, no. 12 (2018): 7412-7462.
DOI: <https://doi.org/10.1016/j.jde.2018.02.018> .
3. "Stability and uniqueness of slowly oscillating periodic solutions to Wright's equation" with Lessard, J.P., & Mischaikow, K.; *Journal of Differential Equations*, 263, no. 11 (2017): 7263-7286.
DOI: <https://doi.org/10.1016/j.jde.2017.08.018> .
4. "On ε approximations of persistence diagrams" with Kramár, M.; *Mathematics of Computation*, 86, no. 306 (2017): 1887-1912.
DOI: <https://dx.doi.org/10.1090/mcom/3137> .

Preprints

1. "Rigorous numerics for nonlinear heat equations in the complex plane of time" with Takayasu, A., Lessard, J.P., & Okamoto, H.; *Submitted* (2019).
URL: <https://arxiv.org/abs/1910.12472> .
2. "Fractal Dimension Estimation with Persistent Homology: A Comparative Study" with Schweinhart, B.; *Submitted* (2019).
URL: <https://arxiv.org/abs/1907.11182> .

Research Support, Fellowships, and Awards

- 2019 *Susan Lindquist Award*: Awarded by Brandeis University for professional development of young scientists.
- 2019 *SIAM Early Career Travel Award*: Awarded by SIAM to attend the SIAM Conference on Applications of Dynamical Systems (DS19).
- 2018 *TA/GA Professional Development Fund Award*: Awarded by the Rutgers University Graduate School for summer research support.
- 2017 *TA/GA Professional Development Fund Award*: Awarded by the Rutgers University Graduate School for summer research support.
- 2017 *SIAM Student Travel Award*: Awarded by SIAM to attend the SIAM Conference on Applications of Dynamical Systems (DS17).
- 2016 *Special Study Award*: Awarded by the Rutgers University Graduate School for conference travel.
- 2012 *Lockwood Fellow*: Awarded by Swarthmore College for graduate study.

Extended Research Visits

- 2019 April; CRM Program on Topological and Rigorous Computational Methods for High Dimensional Dynamics, Montréal Canada.
- 2018 May-July; Universitat de Barcelona, Spain.
- 2015 Sept.-Dec.; Vrije Universiteit Amsterdam, the Netherlands.

Teaching Experience: (Brandeis University)

2019 Fall	Math 037a: Differential Equations	Instructor
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Teaching Experience: (Rutgers University)

2018 Spring	Math 421: Advanced Differential Equations	Teaching Assistant
2017 Fall	Math 244: Differential Equations	Teaching Assistant
2017 Spring	Math 152: Calculus II	Teaching Assistant
2016 Fall	Math 151: Calculus I	Teaching Assistant
2016 Spring	Math 252: Differential Equations	Teaching Assistant
2015 Summer	Math 252: Differential Equations	Instructor
2014 Fall	Math 135: Calculus I	Teaching Assistant
2014 Spring	Math 152: Calculus II	Teaching Assistant

Invited Colloquium, Conference, and Seminar Presentations

- McGill University; Montréal, Canada 11/11/2019
- Equadiff Conference; Leiden, the Netherlands 07/12/2019
- Universitat de Barcelona; Barcelona, Spain 07/03/2019
- 11th Colloquium on the Qualitative Theory of Differential Equations;
Szeged, Hungary 06/21/2019
- Brown/BU/UMass joint Seminar; Boston, Massachusetts 05/03/2019
- Centre de Recherches Mathématiques; Montréal, Canada 04/05/2019
- Boston University; Boston, Massachusetts 03/18/2019
- Brown University; Providence, Rhode Island 02/11/2019
- Mathematical Sciences Research Institute; Berkeley, California 11/14/2018
- Conference on Algebraic Topology in Data and Dynamics; Bozeman, Montana . 07/10/2018
- Conference on Dynamics, Topology and Computation; Bedlewo, Poland 06/22/2018
- Universitat de Barcelona; Barcelona, Spain 05/23/2018
- Jagiellonian University; Krakow, Poland 01/05/2018
- The XI Americas Conference on Differential Equations and Nonlinear Analysis;
Edmonton, Canada 08/18/2017
- SIAM Conference on Applications of Dynamical Systems; Snowbird, Utah 05/21/2017
- Banff International Research Station; Banff, Canada 05/08/2017
- 11th AIMS conference on dynamical systems, differential equations, and applications;
Orlando, Florida 07/03/2016
- Florida Atlantic University; Boca Raton, Florida 06/28/2016
- Lorentz Center; Leiden, the Netherlands 06/07/2016
- Universitat de Barcelona; Barcelona, Spain 11/18/2015
- VU Amsterdam; Amsterdam, the Netherlands 09/23/2015
- Florida Atlantic University; Boca Raton, Florida 04/03/2015
- Banff International Research Station; Alberta, Canada 09/22/2014

Poster Presentations

- Llavefest: A broad perspective on finite and infinite dimensional dynamical systems;
Barcelona, Spain 06/13/2017.

- The 11th AIMS conference on dynamical systems, differential equations, and applications; Orlando, Florida07/03/2016
- Centre International de Rencontres Mathématiques; Marseille, France03/23/2016
- Institute for Mathematics and its Applications; Minneapolis, Minnesota02/12/2014

Education and Outreach

- 2019 “Wright’s Conjecture and the Prime Number Theorem”; Math Grad Program open house for prospective students Waltham, Massachusetts;Nov.
- 2018 Graduate Math Panel participant; shared advice and experiences about the graduation and job-finding processes; Piscataway, New Jersey;May.
- 2016 Developed a set of MATLAB assignments for the Math 252 differential equations course at Rutgers University; Piscataway, New Jersey;January-May.
- 2015 “Applied and Computational Algebraic Topology” Graduate student research glimpses; Rutgers University; Piscataway, New Jersey; August.
- 2014 “An Introduction to Applied Algebraic Topology” Bozovic Lab Group Meeting (Biophysics), University of California, Los Angeles; Los Angeles, California; May.

Minisymposiums, Special Sessions and Seminars Organized

- 2017 *Minisymposium on Computer Assisted Proofs in Dynamical Systems*: Co-organized with J.B. van den Berg; SIAM Conference on Applications of Dynamical Systems; Snowbird, Utah; July 1-5.

Professional Service

Journal Referee: *Communications in Nonlinear Science and Numerical Simulation*, *Indagationes Mathematicae*, *Journal of Dynamics and Differential Equations*, *Nonlinearity*, *SIAM Journal on Applied Dynamical Systems*

Departmental Service

- 2018 MSRI Postdoctoral Social Organizing Committee Co-chair.
- 2014-2015 Rutgers Mathematics Graduate Student Organization; President.
- 2014-2015 Rutgers AMS Student Chapter; Vice President.

Languages

English - Native Speaker

French - Basic

Computer Skills

C++, IntLab, L^AT_EX, Mathematica, MATLAB.

References

- **Margaret Beck**
Associate Professor of Mathematics
Boston University
Department of Mathematics and Statistics
111 Cummington Mall
Boston, MA 02215, USA.
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- **Jan Bouwe van den Berg**
Professor of Mathematics
VU Amsterdam
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- **Jean-Philippe Lessard**
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- **Konstantin Mischaikow** (PhD Advisor)
Distinguished Professor of Mathematics
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Department of Mathematics
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- **Rebecca Torrey** (Teaching Reference)
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