

LEONARDO ABBRESCIA

CURRICULUM VITÆ

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Personal Information

PLACE AND DATE OF BIRTH: Bogotá, Colombia | April 16, 1993
CITIZENSHIP: Colombia, U.S.A.
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Education

PRESENT Ph.D. Candidate in MATHEMATICS
Michigan State University, East Lansing, MI
Advisor: Willie W.Y. Wong
JUNE 2015 B.S. in APPLIED MATHEMATICS
Columbia University, New York, NY
Advisors: Daniela De Silva, Ovidiu Savin

Research Interests

My research invokes analytic and geometric techniques to study partial differential equations. In particular my research investigates global/finite-in-time existence and stability results to geometric equations that model wave-like phenomena (i.e., relativistic membranes). I also work on the regularity theory of generated Jacobian equations.

Papers and Preprints

Preprints:

- L. Abbrescia, W. Wong. Global large data solutions of the membrane equation. *In preparation*.
- L. Abbrescia. Global existence to a convolution-type Vlasov equation. *In preparation*.

Refereed Research Articles:

- [1] L. Abbrescia, I. Huq-Kuruville, J. Nelson, and N. Sultani. Reeb dynamics of the link of the A_n singularity. *Involve, a Journal of Mathematics*, 10(3):417–442, 2017.

Scholarships and Awards

- US National Science Foundation Graduate Research Fellowship, 2015 -
- Herbert T. Graham Scholarship Award, Michigan State University, 2017
- Math Department Fellowship, Michigan State University, 2015 - 2016
- University Fellowship, Michigan State University, 2015 - 2016
- College Fellowship, College of Natural Science, Michigan State University, 2015 - 2016
- Quest Scholar, Columbia University, 2011 - 2015

Workshops

Workshops Attended (or to attend):

- *Nonlinear dispersive PDE, quantum many particle systems and the world between*, MSRI and INdAM and MSI, Cortona, Italy, 2017.
- *Dynamics of the energy critical wave equations*, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2017.
- *Madison Workshop in Analysis and PDE*, University of Wisconsin—Madison, Madison, WI, 2017.
- *Boston City Limits Summer School on the Geometric Analysis of Waves and Fluids*, Massachusetts Institute of Technology, Cambridge, MA, 2016.
- *Calculus of Variations and Nonlinear Partial Differential Equations*, Columbia University, New York, NY, 2016.

Conferences and Seminars

Conferences Organized:

- *Graduate Student Topology and Geometry Conference*, Michigan State University, East Lansing, MI, 2017. (with W. Chen, H. Gakhar, M. Hedden, and A. Mallick.)

Conference Talks:

- *Global large data solutions of the membrane equation*, Great Lakes Mathematical Physics Meeting, Michigan State University, East Lansing, MI, 2018.
- *Reeb dynamics of Lens spaces*, Summer Undergraduate Math research at Yale, Yale University, New Haven, CT, 2014. (funded.)

Conferences Attended (or to attend):

- *Great Lakes Mathematical Physics Meeting*, Michigan State University, East Lansing, MI, 2018.
- *Great Lakes Mathematical Physics Meeting*, Michigan State University, East Lansing, MI, 2017.
- *Graduate Student Topology and Geometry Conference*, Michigan State University, East Lansing, MI, 2017.
- *Graduate Student Topology and Geometry Conference*, Indiana University Bloomington, Bloomington, IN, 2016.
- *Calculus of Variations and Nonlinear Partial Differential Equations*, Columbia University, New York, NY, 2016.
- *Great Lakes Mathematical Physics Meeting*, Michigan State University, East Lansing, MI, 2016.
- *76th Midwest PDE Seminar*, Michigan State University, East Lansing, MI, 2015.
- *Simons Collaboration on Homological Mirror Symmetry*, University of Pennsylvania, Philadelphia, PA, 2015.

Seminars Organized:

- *Student PDE Seminar*, Michigan State University, East Lansing, 2017 -

Seminar Talks:

- *Local and global existence of L^2 solutions to the KdV equation*, Student PDE seminar, Michigan State University, MI, 2017.
- *Global existence for minimal surfaces on Minkowski space*, Student PDE seminar, Michigan State University, MI, 2017.
- *Dirac operators on spinors*, Summer geometric analysis seminar, Michigan State University, MI, 2017.
- *An introduction to spinors*, Summer geometric analysis seminar, Michigan State University, MI, 2017.
- *Regularity for minimal surfaces of codimension 1*, Student Analysis and PDE seminar, Michigan State University, MI, 2016.
- *Sum of four squares*, Student Analysis and PDE Seminar, Michigan State University, MI, 2016.
- *A survey of elliptic PDE*, Student Analysis and PDE Seminar, Michigan State University, MI, 2016.

Service

- Graduate student representative on the mathematics library committee, Michigan State University, 2018 -
- Department of mathematics representative on the graduate student council, Michigan State University, 2017-2018

Teaching Experience

Teaching Assistant: Graded weekly homeworks, held weekly office hours, and held biweekly recitations and problem sessions.

Spring 2015 Fourier Analysis | Columbia University
Spring 2015 Partial Differential Equations | Columbia University
Fall 2014 Calculus III | Columbia University
Spring 2014 Partial Differential Equations | Columbia University
Summer 2013 Pre-Calculus | City College of New York
Summer 2012 Advanced Algebra | City College of New York

Languages

ENGLISH: Fluent
SPANISH: Fluent
ITALIAN: Basic Knowledge

Computer Skills

Basic Knowledge: MATLAB, MATHEMATICA
Advanced Knowledge: L^AT_EX

References

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Michigan State University
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Jun A. Kitagawa Assistant Professor of MATHEMATICS
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