

# SILVIA GHINASSI

*Curriculum Vitae et Studiorum*

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## Education

- Aug 2013 - May 2019 **Stony Brook University**, Stony Brook, NY. PhD in Mathematics. Advisor: Raanan Schul. Dissertation title: “Higher order rectifiability via Reifenberg theorems for sets and measures”.
- Oct 2011 - Jul 2013 **Sapienza - Università di Roma**, Rome, Italy. Master’s degree in Mathematics, 110/110 cum laude. Thesis advisor: Corrado De Concini. Thesis title: “Korteweg-de Vries type equations and Lie algebras”.
- Oct 2008 - Jul 2011 **Sapienza - Università di Roma**, Rome, Italy. Bachelor’s degree in Mathematics. 110/110 cum laude. Thesis advisor: Adriano Pisante. Thesis title: “Brouwer and Schauder Theorems and applications”.

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## Academic Appointments

- September 2020 - present **University of Washington**, Seattle, WA. Postdoctoral Scholar in the Mathematics Department
- September 2020 - present **Institute for Advanced Study**, Princeton, NJ. Visitor in the School of Mathematics
- Sept 2019 - August 2020 **Institute for Advanced Study**, Princeton, NJ. Postdoctoral member of the School of Mathematics

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## Research and publications

- 2021 *Regularity theory for Mumford-Shah functional*, joint with Camillo De Lellis and Matteo Focardi (survey, in preparation)
- 2021 *A CASSC which is not bi-Lipschitz to the plane*, joint with Matthew Badger, Guy David, and Tatiana Toro (in preparation)
- 2021 *Endpoint regularity for 2d Mumford-Shah minimizers: On a theorem of Andersson and Mikayelyan*, joint with Camillo De Lellis and Matteo Focardi, *Journal de Mathématiques Pures et Appliquées* (2021), 10.1016/j.matpur.2021.05.001
- 2020 *Menger curvatures and  $C^{1,\alpha}$  rectifiability of measures*, joint with Max Goering, *Archiv der Mathematik*, 114(4), 2020, 419-429, 10.1007/s00013-019-01414-6
- 2020 *Sufficient conditions for  $C^{1,\alpha}$  parametrization and rectifiability*, *Annales Academiae Scientiarum Fennicae Mathematica*, Volumen 45, 2020, 1065-1094, 10.5186/aasfm.2020.4557

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## Invited Talks

- January 2022 Special Session on Geometric measure theory, Joint Mathematics Meeting in Seattle

- April 2021 Special Session on Metric techniques in analysis (Zoom talk), AMS Spring Eastern Sectional Meeting
- March 2021 Special Session on Nonsmooth Analysis and Geometry (Zoom talk), AMS Spring Central Sectional Meeting
- March 2021 University of Washington Differential Geometry and PDE seminar (Zoom talk)
- March 2021 University of Minnesota/University of Missouri HA-GMT-PDE Seminar (Zoom talk)
- October 2020 IAS Mathematical Conversations @Home (Zoom Talk)
- June 2020 Princeton University Differential Geometry and Geometric Analysis Seminar (Zoom talk)
- March 2020 "Analysis, Dynamics, Geometry, and Probability", Chris Bishop's birthday conference, Simons Center for Geometry and Physics, Stony Brook, NY
- March 2020 IAS Analysis Seminar, Princeton, NJ
- November 2019 CUNY Harmonic Analysis and PDE Seminar, New York, NY
- October 2019 UCLA Analysis and PDE seminar, Los Angeles, CA
- October 2019 Stanford University Geometry seminar, Stanford, CA
- June 2019 Università di Pisa Calculus of Variations seminar, Pisa, Italy
- April 2019 Special Session on Regularity Theory of PDEs and Calculus of Variations on Domains with Rough Boundaries, AMS Sectional Meeting, University of Connecticut, Hartford, CT
- March 2019 Worcester Polytechnic Institute Analysis/PDE seminar, Worcester, MA
- March 2019 Special Session on Topics at the Interface of Analysis and Geometry, AMS Sectional Meeting, University of Hawaii at Manoa, Honolulu, HI
- December 2018 University of Fribourg/University of Bern Geometric Analysis seminar, Fribourg, Switzerland
- November 2018 MIT PDE/Analysis seminar, Boston, MA
- October 2018 NYU Geometry and Geometric Analysis working seminar, New York, NY
- October 2018 University of Washington Rainwater seminar, Seattle, WA
- September 2018 Special Session on Modern Quasiconformal Analysis and Geometric Function Theory, AMS Sectional Meeting, University of Delaware, Newark, DE
- September 2018 Brown University Analysis seminar, Providence, RI
- September 2018 University of Minnesota Analysis and PDE Working Seminar, Minneapolis, MN
- May 2018 IMPAN Geometric function and mapping theory seminar, Warsaw, Poland
- April 2018 Special Session on Regularity of PDEs on Rough Domains, AMS Sectional Meeting, Northeastern University, Boston, MA
- April 2018 Special Session on Analysis and Geometry in Non-smooth Spaces, AMS Sectional Meeting, Northeastern University, Boston, MA
- April 2018 University of Connecticut Analysis seminar, Storrs, CT
- March 2018 Stony Brook Analysis seminar, Stony Brook, NY

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## Outreach

- May 2020 Friends Lunch with a Member (Zoom talk), Institute for Advanced Study, Princeton, NJ
- February 2020 Afterhours Conversations, Institute for Advanced Study, Princeton, NJ
- November 2019 Mathematics Continued Conference, University of Connecticut, Storrs, CT

- November 2019 Undergraduate Women and Math Speaker Series, Princeton University, Princeton, NJ  
March 2018 Panelist at the Long Island Women Diversity Summit, SUNY Old Westbury, NY

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### Awards and honors

- July 2021 - present AMS Simons Travel Grant  
June 2018 John W. Milnor Endowed Graduate Fund Travel Award  
September 2014 Award for top female graduates in 2013 at Sapienza University of Rome  
May 2014 Chairman's Award for Excellence in Teaching by a First or Second Year Graduate Student

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### Teaching Experience

- Autumn 2021 MAT 424 - Fundamental Concepts of Analysis  
Autumn 2020 MAT 307 - Introduction to Differential Equations (Zoom, two sections)  
Spring 2019 Grader for MAT 533 - Real Analysis II (Graduate class for PhD students)  
Spring 2019 Grader for MAT 512 - Algebra for Teachers (Graduate class for Master in Teaching)  
Fall 2018 TA for MAT 598 - Teaching Practicum (Graduate class for PhD students about teaching)  
Spring 2018 TA for MAT 125 - Calculus A  
Fall 2017 TA for MAT 122 - Overview of calculus, with applications  
Spring 2017 Grader for MAT 211 - Introduction to Linear Algebra (two sections)  
Fall 2016 Grader for MAT 532 - Real Analysis I (Graduate class for PhD students)  
Spring 2016 TA for MAT125 - Calculus A  
Fall 2015 TA for MAT 320 - Introduction to Analysis (Advanced undergraduate class)  
Spring 2015 Grader for MAT 550 - Real Analysis II (graduate class for PhD students)  
Fall 2014 TA for MAT 125 - Calculus A (two sections)  
Spring 2014 TA for MAT 126 - Calculus B (two sections)  
Fall 2013 Grader for MAT 511 - Fundamental Concepts of Mathematics (Graduate class for Master in Teaching)  
Fall 2013 Grader for MAT 515 - Geometry for Teachers (Graduate class for Master in Teaching)

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### Professional Service

- January 2022 Organizer of AMS Special Session on Analysis in Metric Spaces at JMM 2022  
Fall 2020-present Organizer of Rainwater seminar at UW  
April 2020-present Organizer of Mathematical Conversations @Home (MC@Home)  
Fall 2020-present Member of the AMS Current Events Bulletin committee  
Fall 2020-present Member of Diversity Committee within the Department of Mathematics at UW  
Fall 2019-March 2020 Organizer of the Mathematical Conversations at IAS  
Spring 2020 Co-organizer of Analysis Seminar at IAS

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### Community and Extra-Curricular Activities

- Spring 2019 Mentor in the DRP (Directed Reading Program) in Math at Stony Brook University

October 2016-May 2019 Founder and organizer of the Analysis Student Seminar at Stony Brook  
                                   2017-2018 Teacher for “Math in Jeans” high school program, Stony Brook  
                                   2016-2019 Teacher for Della Pietra High School Applied Math Program, Stony Brook  
 October 2016-October 2018 Founder and Treasurer/Secretary of the AMS Student Chapter at Stony Brook  
 July 2016, July 2017 Teacher for the Summer Math Camp for high school students, Stony Brook  
 Aug 2015-Aug 2017 Graduate Student Representative for the Stony Brook Math Department  
                                   Spring 2015 Instructor for WISE (Women in Science and Engineering) Program at Stony Brook  
                                   2014-2015 Co-organizer of the Graduate Students Seminar, Stony Brook Math Department, Stony Brook  
 Oct 2013- Jan 2016 GSO (Graduate Student Organization) representative for the math department, Stony Brook  
                                   2010-2013 Student representative (bachelor and master), Rome, Italy

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### Professional Affiliations

since 2013 American Mathematical Society (AMS)  
 since 2020 National Association of Mathematicians (NAM)  
 since 2020 Association for Women in Mathematics (AWM)

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### Languages

**English** (fluent), **Italian** (native), **Spanish** (competent), **French** (basic).