

Reinaldo Resende *(Last updated: Jan 10, 2024)*

Wean Hall 7124

Department of Mathematical Sciences

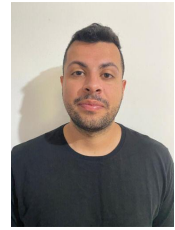
Carnegie Mellon University

Pittsburgh, PA 15213

✉ resende.reinaldo.oliveira@gmail.com

✉ rresende@andrew.cmu.edu

🌐 <https://www.math.cmu.edu/~rresende/>



Academic appointments

Employment history

Sep/23 – 🏢 Postdoctoral Associate at **Carnegie Mellon University (CMU)**.
Mentor: *Robin Neumayer*.

Education

Ago/19 – Jul/23 🎓 Ph.D. in Mathematics at **University of São Paulo (USP)**.
Scholarship: *CAPES - 88882.377954/2019-01*.
Advisors: *Stefano Nardulli and Camillo De Lellis*.

Ago/17 – Jul/19 🎓 Master Degree in Sciences at **University of São Paulo (USP)**.
Scholarship: *CNPq - 166204/2017-0*.
Advisors: *Stefano Nardulli and Gláucio Terra*.

Jan/14 – Jul/17 🎓 Bachelor Degree in Mathematics at **University of São Paulo (USP)**.
Advisor: *Gláucio Terra*.

Research periods

Jan/23-May/23 📅 Visiting Student Research Collaborators (VSRC). **Princeton University**.

Sep/22-Dec/22 📅 Thematic Program on Nonsmooth Riemannian and Lorentzian Geometry, Visiting Research. **Fields Institute**.

Funding and memberships

Grants

Jul/23-Oct/26 💰 Research Associate (RA): **FAPESP - 2021/05256-0**.

Memberships

Apr/23 – 🏢 Member of the American Mathematical Society (AMS).

🏢 Member of the Brazilian Mathematical Society (SBM).

Service and mentoring

Advising

Ongoing ✔️ Co-advisor of the PhD student *Marcos Agnoletto* at the Federal University of ABC.

Service and mentoring (continued)

- ✓ Co-advisor of the PhD student *Victor Vergara* at the Federal University of ABC.

Refereeing

- ✓ Referee for the following journals.
Calculus of Variations and Partial Differential Equations, Proceedings of the International Geometry Center.

Organizing Committees

- 2025 ✓ Session 3: Geometric Variational Problems in Smooth and Nonsmooth Metric Spaces, University of Miami, USA.
- 2023 ✓ Thematic Session on Geometric Measure Theory, IMPA, Brazil.

Research publications

Preprints

- 1 Resende, R. (2023a). *Lipschitz approximation for general almost area minimizing currents*. arXiv: 2306.12530
- 2 Nardulli, S., & Resende, R. (2022). *Density of the boundary regular set of $2d$ area minimizing currents with arbitrary codimension and multiplicity*. arXiv: arXiv:2204.11947

Journal papers




- 1 Andrade, J. H., Conrado, J., Nardulli, S., Piccione, P., & Resende, R. (2023). Multiplicity of solutions to the multiphase Allen-Cahn-Hilliard system with a small volume constraint on closed parallelizable manifolds. *Journal of Functional Analysis (JFA)*.
- 2 De Rosa, A., & Resende, R. (2023). Boundary regularity for anisotropic minimal Lipschitz graphs. *Communications in Partial Differential Equations (CPDE)*.
- 3 Resende de Oliveira, R. (2022). On Clusters and the Multi-isoperimetric Profile in Riemannian Manifolds with Bounded Geometry. *Journal of Dynamical and Control Systems (JDCS)*.

Academic texts

- 1 Resende, R. (2023b). *Some regularity results in geometric measure theory* (PhD thesis).
- 2 Resende, R. (2019). *Regularity of almost minimizing sets* (Master thesis).
- 3 Resende, R. (2017). *Minimal and maximal surfaces* (Bachelor thesis).




Events attended

Talks



- 2023  Study Guide in Harmonic Analysis Writing Workshop at University of Pennsylvania (UPenn).
-  Conferences On Smooth and Non Smooth Geometric Analysis at Federal University of the ABC (UFABC).
- 2022  Isoperimetric Problems at University of Pisa (UniPi).

Events attended (continued)











Seminar Talks

- 2023  Math Seminar at Federal University of ABC (UFABC).
-  CNA Seminar at Carnegie Mellon University (CMU).
-  PDE-Applied Math Seminar at University of Maryland (UMD).

Research schools



- 2022  Hausdorff School on Geometric Analysis and Nonlinear Partial Differential Equations at Hausdorff Center for Mathematics (HCM).
-  CIMPA Research school: Singularities and Applications at University of São Paulo (USP), Campus São Carlos.

Conferences, symposiums and workshops










- 2023  Workshop on Advising and Mentoring Graduate Students and Postdocs at Rice University.
-  Rutgers Geometric Analysis Conference at Rutgers University.
-  37th Geometry Festival at Princeton University.
-  Recent trends in nonlinear and geometric analysis at CUNY Graduate Center.
- 2022  Point Configurations: Deformations and Rigidity at University College of London (UCL).
-  Shape Optimization, related topics and applications at Roscoff Biological Center, France.
- 2019  Workshop on Submanifold Theory and Geometric Analysis at Federal University of São Carlos (UFSCAR).
- 2018  III Brazilian congress of young researches in pure and applied mathematics and statistics at Federal University of Parana (UFPR).
-  Modern Trends in Differential Geometry at University of São Paulo (USP).
-  Symposium in Harmonic Analysis and Geometric Measure Theory at University of São Paulo (USP), Campus Ribeirão Preto.

Teaching





Carnegie Mellon University

- Spring 2024  Principles of Real Analysis II.
- Fall 2023  Principles of Real Analysis II.

University of São Paulo

- Jan/23-Feb/23  Linear Algebra at USP.
- Jan/22-Feb/22  Metric spaces at USP.
- Mar/22-Jul/22  TA - Differential and integral calculus I at USP.
- Ago/21-Dec/21  TA - Differential geometry at USP.
- Feb/21-Jul/21  TA - Series and differentiable functions at USP.
- Aug/20-Dec/20  TA - Calculus of multivariable functions II at USP.
- Feb/20-Jul/20  TA - Differential and integral calculus I at USP.
- Jan/20-Feb/20  TA - Summer course: metric spaces at USP.
- Feb/19-Jul/19  TA - Analytic geometry at USP.

Teaching (continued)

- Jan/19-Feb/19  TA - Summer course: Linear algebra at USP.
- Aug/18-Dec/18  TA - Measure and integration at USP.
- Feb/18-Jul/18  TA - Linear algebra II at USP.
- Aug/17-Dec/17  TA - Introduction to linear algebra at USP.