

Damian Dąbrowski

MaD 338, Department of Mathematics and Statistics, University of Jyväskylä

40014 Jyväskylä, Finland

✉ damian.m.dabrowski [at] jyu.fi • 🌐 damiandabrowski.eu

Employment

University of Jyväskylä

Postdoctoral researcher

2021–2023

Education

Universitat Autònoma de Barcelona

PhD in Mathematics

2017 – 2021

Thesis: Rectifiability of Radon measures

University of Warsaw

MSc in Mathematics

2015 – 2017

Thesis: Characterization of Sobolev-Slobodeckij spaces using geometric curvature energies

University of Warsaw

BSc in Mathematics (*summa cum laude*)

2012 – 2015

Thesis: Hausdorff dimension of Besicovitch sets

Papers

- *The measures with L^2 -bounded Riesz transform satisfying a subcritical Wolff-type energy condition* (with X. Tolsa). Preprint (2021). arXiv:2106.00303
- *Two examples related to conical energies*. To appear in *Ann. Acad. Sci. Fenn. Math.* (2020). arXiv:2011.12717
- *An α -number characterization of L^p spaces on uniformly rectifiable sets* (with J. Azzam). Preprint (2020). arXiv:2009.10111
- *Cones, rectifiability, and singular integral operators*. To appear in *Rev. Mat. Iberoam.* (2020). arXiv:2006.14432
- *Necessary condition for the L^2 boundedness of the Riesz transform on Heisenberg groups* (with M. Villa). Preprint (2020). arXiv:2004.01117
- *Necessary condition for rectifiability involving Wasserstein distance W_2* . *Int. Math. Res. Not. IMRN* 2020 (2020), no. 22, 8936–8972.
- *Sufficient condition for rectifiability involving Wasserstein distance W_2* . *J. Geom. Anal.* (2021).
- *Characterization of Sobolev-Slobodeckij spaces using curvature energies*. *Publ. Mat.* 63 (2019), 663–677.

Talks

Jyväskylä Geometric Analysis Seminar

On measures with L^2 bounded Riesz transform: to AD regularity and beyond!

Jyväskylä, Finland

May 2021

Seminari Informal de Matemàtiques de Barcelona

On measures, projections, and measures of projections

Barcelona, Spain

Mar. 2021

Virtual Maxwell Analysis Seminar

Cones, rectifiability, and singular integral operators

Edinburgh, UK

Apr. 2020

Seminari d'Anàlisi de Barcelona <i>Cones, rectifiability, and singular integral operators</i>	Barcelona, Spain <i>Feb. 2020</i>
Invited talk at the Real Analysis session of V Congreso de Jóvenes Investigadores de la RSME <i>On the importance of rectifiable sets</i>	Castelló, Spain <i>Jan. 2020</i>
Contributed talk at a workshop in geometry and analysis <i>Cones and rectifiability</i>	Warsaw, Poland <i>Oct. 2019</i>
Contributed talk at BAC conference <i>Rectifiability of measures via optimal transport</i>	Barcelona, Spain <i>Jun. 2019</i>
Contributed talk at HAPDE conference <i>Rectifiability of measures via optimal transport</i>	Helsinki, Finland <i>Jun. 2019</i>
Contributed talk at a calculus of variations winter school <i>Rectifiability of measures via optimal transport</i>	Toulouse, France <i>Feb. 2019</i>
Seminari d'Anàlisi de Barcelona <i>Rectifiability of measures via optimal transport</i>	Barcelona, Spain <i>Jan. 2019</i>
Very Informal Seminar, Universitat Autònoma de Barcelona <i>Rectifiable Dr Jekyll and purely unrectifiable Mr Hyde</i>	Barcelona, Spain <i>May 2018</i>
Contributed talk at a GMT workshop <i>Integral Menger curvature</i>	Toulouse, France <i>Sep. 2016</i>

Scientific interests

- geometric measure theory
- harmonic analysis
- partial differential equations

Short research stays and visits

University of Edinburgh <i>Research stay</i>	<i>Feb. 2020 – May. 2020</i>
IMPAN (Warsaw) <i>Simons semester on geometry and analysis</i>	<i>Oct. 2019</i>
University of Bonn <i>Erasmus exchange semester</i>	<i>Oct. 2015 – Feb. 2016</i>

Scholarships

- 2017 – 2020:** Barcelona Graduate School of Mathematics PhD scholarship
- 2016 – 2017:** Warsaw Center of Mathematics and Computer Science scholarship
- 2015 – 2017:** Scholarship from the “Curvature energies for non-smooth subsets of Euclidean spaces” grant
- 2013 – 2017:** University of Warsaw Chancellor’s scholarship, awarded to top 5-10% of all students
- 2012 – 2015:** Scholarship from the “Kierunki zamawiane” government programme

Teaching and other activities

Universitat Autònoma de Barcelona
Teaching assistant

- Mathematics – BSc in Microbiology
- Calculus – BSc in Telecommunications Engineering

Spring 2018/2019
Autumn 2018/2019

Universitat Autònoma de Barcelona

Co-organizer of the Very Informal Seminar

2018 – 2019

University of Warsaw

Grader

- Mathematical Analysis I – BSc in Mathematics

Autumn 2016/2017

Languages

Polish: native language

English: fluent

CAE - A, IELTS - 8.0

Spanish: good working knowledge

German: basic