

Wojciech Górny

List of publications and preprints

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Books

- A. W. Górny and J.M. Mazón, *Functions of Least Gradient*, Monographs in Mathematics, vol. 110, Birkhäuser, 2024, ISBN 978-3-031-51880-5, doi.org/10.1007/978-3-031-51881-2.
- B. W. Górny and J.M. Mazón, *Weak Solutions to Gradient Flows in Metric Measure Spaces*, accepted for publication in the Cambridge University Press series “Cambridge Tracts in Mathematics”, to appear in 2026.

Journal articles

1. W. Górny, P. Rybka, A. Sabra, *Special cases of the planar least gradient problem*, *Nonlinear Anal.* **151** (2017), pp. 66–95, doi.org/10.1016/j.na.2016.11.020.
2. W. Górny, *Planar least gradient problem: existence, regularity and anisotropic case*, *Calc. Var. Partial Differential Equations* **57** (4) (2018), Art. 98, doi.org/10.1007/s00526-018-1378-y.
3. W. Górny, *(Non)uniqueness of minimizers in the least gradient problem*, *J. Math. Anal. Appl.* **468** (2018), pp. 913–938, doi.org/10.1016/j.jmaa.2018.08.038.
4. W. Górny, *L^p regularity of least gradient functions*, *Proc. Amer. Math. Soc.* **148** (7) (2020), pp. 3009–3019, doi.org/10.1090/proc/15031.
5. W. Górny, *Least gradient problem with respect to a non-strictly convex norm*, *Nonlinear Anal.* **200** (2020), 112049, doi.org/10.1016/j.na.2020.112049.
6. W. Górny, J.M. Mazón, *Least gradient functions in metric random walk spaces*, *ESAIM: COCV* **27** (2021), S28, doi.org/10.1051/cocv/2020087.
7. W. Górny, *Existence of minimisers in the least gradient problem for general boundary data*, *Indiana Univ. Math. J.* **70** (2021), no. 3, pp. 1003–1037, doi.org/10.1512/iumj.2021.70.8420.
8. W. Górny, *Bourgain-Brezis-Mironescu approach in metric spaces with Euclidean tangents*, *J. Geom. Anal.* **32** (4) (2022), Art. 128, doi.org/10.1007/s12220-021-00861-4.
9. W. Górny, *Local and nonlocal 1-Laplacian in Carnot groups*, *Ann. Fenn. Math.* **47** (1) (2022), 427–456, doi.org/10.54330/afm.114742.
10. S. Dweik, W. Górny, *Least gradient problem on annuli*, *Analysis & PDE* **15** (3) (2022), pp. 699–725, doi.org/10.2140/apde.2022.15.699.
11. W. Górny, J.M. Mazón, *On the p -Laplacian evolution equation in metric measure spaces*, *J. Funct. Anal.* **283** (2022), 109621, doi.org/10.1016/j.jfa.2022.109621.

12. W. Górny, *The trace space of anisotropic least gradient functions depends on the anisotropy*, Math. Ann. **387** (2023), 1343–1365, doi.org/10.1007/s00208-022-02488-4.
13. S. Dweik, W. Górny, *Optimal transport approach to Sobolev regularity of solutions to the weighted least gradient problem*, SIAM J. Math. Anal. **55** (2023), no. 3, 1916–1948, doi.org/10.1137/21M1468358.
14. W. Górny, *Applications of optimal transport methods in the least gradient problem*, Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) **24** (2023), pp. 1817–1851, doi.org/10.2422/2036-2145.202105_049.
15. W. Górny, J.M. Mazón, *The Neumann and Dirichlet problems for the total variation flow in metric measure spaces*, Adv. Calc. Var. **17** (2024), 131–164, doi.org/10.1515/acv-2021-0107.
16. W. Górny, J.M. Mazón, *The Anzellotti-Gauss-Green formula and least gradient functions in metric measure spaces*, Commun. Contemp. Math. **26** (2024), no. 6, 2350027, doi.org/10.1142/S021919972350027X.
17. M. Friedrich, W. Górny, U. Stefanelli, *The double-bubble problem on the square lattice*, Interfaces Free Bound. **26** (2024), no. 1, pp. 79–134, doi.org/10.4171/ifb/510.
18. W. Górny, *Least gradient problem with Dirichlet condition imposed on a part of the boundary*, Calc. Var. Partial Differential Equations **63** (2024), Art. 58, doi.org/10.1007/s00526-023-02646-9.
19. M. Friedrich, W. Górny, U. Stefanelli, *A characterization of ℓ_1 double bubbles with general interface interaction*, Adv. Calc. Var. **18** (2025), 609–637, doi.org/10.1515/acv-2023-0131.
20. W. Górny, *Weak solutions to gradient flows of functionals with inhomogeneous growth in metric spaces*, J. Evol. Equ. **25** (2025), Art. 44, doi.org/10.1007/s00028-025-01071-z.
21. W. Górny, J.M. Mazón, J. Toledo, *Evolution problems with perturbed 1-Laplacian type operators on random walk spaces*, Math. Ann. **392** (2025), 3895–3957, doi.org/10.1007/s00208-025-03180-z.
22. W. Górny, *Strongly anisotropic Anzellotti pairings and their applications to the anisotropic p -Laplacian*, J. Math. Anal. Appl. **552** (2025), 129734, doi.org/10.1016/j.jmaa.2025.129734.
23. W. Górny, J.M. Mazón, *A duality-based approach to gradient flows of linear growth functionals*, Publ. Mat. **69** (2025), 341–365, doi.org/10.5565/PUBLMAT6922504.
24. M. Friedrich, W. Górny, U. Stefanelli, *The ℓ_1 double-bubble problem in three dimensions*, J. Geom. Anal. **35** (2025), Art. 323, doi.org/10.1007/s12220-025-02151-9.
25. W. Górny, M. Łasica, A. Matsoukas, *Euler–Lagrange equations for variable-growth total variation*, Nonlinear Anal. **263** (2026), 113984, doi.org/10.1016/j.na.2025.113984.
26. S. Buccheri, W. Górny, *A metric counterpart of the Gu-Yung formula*, Rev. Mat. Complut. (2025), doi.org/10.1007/s13163-025-00554-4.

Conference proceedings

27. W. Górny, J.M. Mazón, *Weak solutions to gradient flows in metric measure spaces*, Proc. Appl. Math. Mech. **22:1** (2022), e202200099, doi.org/10.1002/pamm.202200099.
28. W. Górny, J.M. Mazón, *Weak solutions to the total variation flow in metric measure spaces*, in: Ferreira et al. (eds.), Proceedings book. XXVII Congreso de Ecuaciones Diferenciales y XVII Congreso de Matemática Aplicada, Zaragoza, July 18th–22nd, 2022. Prensas de la Universidad de Zaragoza, pp. 55–62, 2023, doi.org/10.26754/uz.978-84-18321-66-5.

Preprints

29. W. Górny, M. Łasica, A. Matsoukas, *Adaptive double-phase Rudin–Osher–Fatemi denoising model*, preprint (2025), available at [arXiv:2510.04382](https://arxiv.org/abs/2510.04382).

Lecture notes

- L1. W. Górny, *Functions of bounded variation and their applications*, lectures for doctoral students at the Vienna School of Mathematics, 2024, available [here](#).

Other materials

- O1. W. Górny, M. Łasica, A. Matsoukas, codes related to the double-phase ROF model with adaptive weights, available at <https://github.com/wojciechgorny/double-phase-ROF-model/>.