

Curriculum Vitae

Julian Weigt

2025-02-01

Basic Information

Name: Julian Weigt
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Figure 1: Portrait of Julian Weigt

Studies and positions

Date	Position	Affiliation
2025-07-01 - 2027-06-30	Marie Skłodowska-Curie postdoctoral fellow	International Centre for Theoretical Physics Host: Dr. Emanuel Carneiro
2022-11-01 - 2025-06-30	Postdoctoral researcher	University of Warwick, PI: Dr. David Bate
2018-07-01 - 2022-10-31	Doctoral Student	Aalto University, Advisor: Prof. Juha Kinnunen Thesis: Endpoint Regularity of Maximal Functions in Higher Dimensions date of defense: 2022-10-21

Date	Position	Affiliation
2016-10-01 - 2018-06-30	Master of Science in Mathematics	University of Bonn, Advisor: Prof. Christoph Thiele Thesis: Almost-Orthogonality of Restricted Haar Functions
2015-09-01 - 2016-05-31	Erasmus Exchange Student	Lund University
2013-10-01 - 2015-06-30	Bachelor of Science in Mathematics	University of Jena, Advisor: Prof. Daniel Lenz, Marcel Schmidt Thesis: Measurable Equidecomposition
2011-10-01 - 2014-06-30	Bachelor of Science in Physics	University of Jena, Advisor: Prof. Bernd Brügmann, Tim Dietrich Thesis: Oppenheimer-Snyder Collapse

Publications

Year	Publication
2025	with D. Bate, Alberti representations, rectifiability of metric spaces and higher integrability of measures satisfying a PDE. <i>Submitted.</i>
2024	Sobolev bounds and counterexamples for the second derivative of the maximal function in one dimension. <i>Submitted.</i>
2023	with K. Myrskyläinen, C. Pérez, Weighted fractional Poincaré inequalities via isoperimetric inequalities. <i>Calc. Var. Partial Differ. Equ.</i> 63, No. 8, Paper No. 205, 32 p. (2024).
2022	Doctoral thesis: Endpoint regularity of maximal functions in higher dimensions. The Variation of the Uncentered Maximal Operator with respect to Cubes. <i>J. Eur. Math. Soc.</i> (2024), published online first, DOI 10.4171/JEMS/1575 with C. Bilz, The one-dimensional centred maximal function diminishes the variation of indicator functions. <i>to appear in J. Geom. Anal.</i>
2021	with D. Beltran, C. González-Riquelme, J. Madrid, Continuity of the Gradient of the Fractional Maximal Operator on $W^{1,1}$. <i>Math. Res. Lett.</i> 30, No. 3, 689-707 (2023). Endpoint Sobolev Bounds for the Uncentered Fractional Maximal Function. <i>Math. Z.</i> 301, No. 3, 2317-2337 (2022) Variation of the dyadic maximal Function. <i>Int. Math. Res. Not.</i> 2023, No. 4, 3576-3596 (2023)
2020	Variation of the uncentered maximal characteristic Function. <i>Rev. Mat. Iber.</i> 38, No. 3, 823-849 (2022) with J. P. Ramos, O. Saari, Weak differentiability for fractional maximal functions of general L_p functions on domains. <i>Adv. Math.</i> 368 (2020), 107144, 25 pp.
2019	Almost-orthogonality of restricted Haar functions. <i>Proc. Amer. Math. Soc.</i> 148 (2020), no. 2, 601-609.
2018	Master's Thesis: Almost-Orthogonality of Restricted Haar Functions.

Invited Talks

Date	Event
2025-04-16	Third Meeting of the UK Metric Geometry and Analysis Network, Oxford, UK, <i>declined because could not attend</i>
2025-02-13	Warwick Analysis Seminar, Coventry, UK

Date	Event
2025-02-05	Virginia Tech Analysis Seminar, online, USA
2025-01-27	Edinburgh Analysis Seminar, Edinburgh, UK
2024-07-12	Chinese Academy of Sciences Analysis Seminar, Beijing, China
2024-06-07	NCTS/NTNU Conference on Fractional Integrals and Related Phenomena in Analysis, Taipei, Taiwan
2024-02-08	Mathematics Essex Seminar Serie, Essex, UK
2023-10-16	Warwick Junior Analysis and Probability Seminar, Coventry, UK
2023-10-09	Birmingham Analysis Seminar, Birmingham, UK
2023-06-08	Analysis seminar at Warwick, Coventry, UK
2023-05-18	International Prague seminar on function spaces, online, Czech Republic
2023-05-08	Jyväskylä geometric analysis seminar, Jyväskylä, Finland
2022-06-17	Izmir Mathematical Days – IV, online, Turkey
2021-12-15	OIST Nonlinear Analysis Seminar Series, online, Japan
2021-12-13	OIST Nonlinear Analysis Seminar Series
2021-03-12	UCLA Analysis and PDE Seminar, online, USA
2019-02-05	Helsinki University, Geometric and Functional Analysis Seminar, Helsinki, Finland

Contributed Talks

Date	Event
2023-06-13	HAPDEGMT 2023, Bilbao, Spain
2022-09-07	IWOTA 2022, Krakow, Poland
2022-08-20	28th Nordic Congress of Mathematicians, Aalto University, Finland
2022-06-07	11th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid, Spain
2021-10-01	Summer School on Brascamp-Lieb inequalities, Kopp, Germany
2019-07-05	Summer School: Restriction Theory BCAM-UPV/EH, Bilbao, Spain
2018-09-04	Summer School on Unique Continuation and Inverse Problems, Kopp, Germany
2017-10-06	Summer School on Decoupling and Polynomial Methods in Analysis, Kopp, Germany

Awards

Date	Award
2023-03-26	Aalto University doctoral thesis award 2023 in the School of Science

Funding

Date	Grant	Funding body	Project title
2025-07-01 - 2027-06-30	Marie Skłodowska-Curie postdoctoral fellowship	European commission	Sharp Regularity Bounds of Maximal Functions (SRMF)

Date	Grant	Funding body	Project title
2021-07-01 - 2022-06-30	doctoral research grant	Magnus Ehrnrooth foundation of the Finnish Society of Science and Letters	Regularity of Maximal Operators
2020-01-01 - 2020-12-31	doctoral scholarship	Vilho, Yrjö and Kalle Väisälä Foundation of the Finnish Academy of Science and Letters	Regularity of Maximal Operators
2019-01-01 - 2019-12-31	doctoral scholarship	Vilho, Yrjö and Kalle Väisälä Foundation of the Finnish Academy of Science and Letters	Regularity of Maximal Operators

Teaching

Date	Role	Course
2021-11-01 - 2021-12-10	Head Assistant	Measure and Integral, Aalto University
2021-10-12 - 2021-02-22	Head Assistant	Differential and Integral Calculus 2, Aalto University
2020-10-26 - 2020-12-04	Head Assistant	Measure and Integral, Aalto University
2020-04-20 - 2020-05-18	Head Assistant	Harmonic Analysis, Aalto University
2020-04-25 - 2020-04-07	Head Assistant	Differential and Integral Calculus 3, Aalto University
2019-10-28 - 2019-12-05	Head Assistant	Measure and Integral, Aalto University
2019-04-16 - 2019-05-29	Head Assistant	Differential and Integral Calculus 3, Aalto University
2018-09-10 - 2018-12-17	Head Assistant	Partial Differential Equations, Aalto University
2016-10-01 - 2017-02-31	Teaching Assistant	Analysis I, Bonn
2015-04-01 - 2015-06-31	Teaching Assistant	Analysis II, Jena
2014-10-01 - 2015-02-31	Teaching Assistant	Lineare Algebra (Linear Algebra) I, Jena
2014-04-01 - 2014-06-31	Teaching Assistant	Lineare Algebra für Lehramtsstudenten (Linear Algebra for teachers) II, Jena
2013-10-01 - 2014-02-31	Teaching Assistant	Mathematik für Geo- und Materialwissenschaftler (Mathematics for Geological and Material Scientists), Jena

Other academic activity

- Referee work for *Mathematische Zeitschrift*, *Communications on Pure and Applied Analysis*, *Studia Mathematica*, *Journal of Fourier Analysis and Applications*, *Journal of Functional Analysis*, and *Pure and Applied Functional Analysis*

Remarks

- The dates prior to 2018 may be inaccurate by up to 14 days.