

# FABIO TANANIA

## *Curriculum Vitae*

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### PERSONAL INFORMATION

NAME Fabio  
SURNAME Tanania  
DATE OF BIRTH 30 April 1992  
NATIONALITY Italian  
ADDRESS Fachbereich Mathematik  
Technische Universität Darmstadt  
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64289 Darmstadt  
Germany  
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### RESEARCH INTERESTS

Algebraic geometry, algebraic topology and  $K$ -theory, in particular motivic cohomology and motivic homotopy theory

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### EMPLOYMENT

JUN 2023 - PRESENT TU Darmstadt  
Postdoc position supported by the ERC Starting Grant “Motives and the Langlands program” (PI: Prof. Timo Richarz)  
MAR 2020 - MAY 2023 LMU München  
Postdoc position supported by the DFG Individual Research Grant “Intersection theory and cobordism with a quadratic twist” (PI: Prof. Olivier Hauton)

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### EDUCATION

15 MAR 2020 University of Nottingham  
PhD degree in Mathematics  
Thesis: *Homological and motivic invariants of torsors*  
Supervisor: Prof. Alexander Vishik  
27 OCT 2015 University of Naples “Federico II”  
Master’s degree in Mathematics (110/110 cum laude)  
Thesis: *Spectral sequences and their applications on Steenrod operations*  
Supervisor: Prof. Luciano Amito Lomonaco  
19 Nov 2013 University of Naples “Federico II”  
Bachelor’s degree in Mathematics (110/110 cum laude)  
Thesis: *CW complexes and their homology*  
Supervisor: Prof. Sara Dragotti

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## PAPERS

- *A Serre-type spectral sequence for motivic cohomology*, *Algebr. Geom.* 11 (2024), no. 3, 386–420
- *Motivic cohomology of the Nisnevich classifying space of even Clifford groups*, *Doc. Math.* 29 (2024), no. 1, 191–208
- *Cellular objects in isotropic motivic categories*, *Geom. Topol.* 27 (2023), no. 5, 2013–2048
- *Subtle characteristic classes for Spin-torsors*, *Math. Z.* 301 (2022), no. 1, 41–74
- *Isotropic stable motivic homotopy groups of spheres*, *Adv. Math.* 383 (2021), Paper No. 107696, 28 pp.
- *Subtle characteristic classes and Hermitian forms*, *Doc. Math.* 24 (2019), 2493–2523
- *Homological and motivic invariants of torsors*, PhD thesis (2020), <http://eprints.nottingham.ac.uk/59725/>

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## TALKS

- 5 JUL 2024 *Isotropic motivic fundamental groups*, Research Seminar, TU Darmstadt
- 31 MAY 2024 *Isotropic motivic categories*, Research Seminar, University of Heidelberg
- 11 MAR 2024 *A short story of motives*, Winterseminar 2024, Manigod
- 19 JAN 2023 *Isotropic cellular spectra*, Research Seminar, LMU München
- 25 NOV 2022 *Isotropic motivic homotopy theory*, Research Seminar, TU Darmstadt
- 14 JUN 2022 *On the motivic cohomology of the Nisnevich classifying space of  $PGL_n$* , Summer School on Motives and Arithmetic Groups, IRMA, Strasbourg
- 9 MAR 2022 *On the motivic cohomology of the Nisnevich classifying space of  $PGL_n$* , Online Seminar: Quadratic forms, Linear algebraic groups and Beyond
- 3 FEB 2022 *On the motivic cohomology of the Nisnevich classifying space of  $PGL_n(k)$* , Research Seminar, LMU München
- 24 MAR 2021 *The isotropic stable motivic homotopy category*, Motivic Geometry Seminar, CAS, Oslo
- 25 FEB 2021 *Stable motivic homotopy groups of the isotropic sphere spectrum*, Seminar on  $A^1$ -topology, motives and  $K$ -theory, EIMI, St. Petersburg
- 3 DEC 2020 *Isotropic homotopy groups of the sphere spectrum*, Research Seminar, LMU München
- 10 FEB 2020 *Motivic homotopy theory and characteristic classes*, Research Seminar, University of Naples “Federico II”
- 18 JUL 2019 *Subtle characteristic classes for Hermitian forms*, Research Seminar, LMU München
- 10 JUN 2019 *Subtle characteristic classes for Spin-torsors*, Junior Algebraic geometry Warwick Seminar, University of Warwick

- 15 MAY 2019 *Subtle characteristic classes and Hermitian forms*, Research Seminar, University of Oslo
- 22 NOV 2017 *On the action of the motivic Steenrod algebra on reduced Rost motives*, Research Seminar, University of Nottingham

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## RESEARCH GROUPS

- JUN 2023 - PRESENT Member of the CRC 326 - GAUS (Geometry and Arithmetic of Uniformized Structures), DFG, Germany

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## TEACHING

- SPRING 2024 *Infinity Categories*, Lecturer (42 hours), TU Darmstadt
- FALL 2023 *Algebraic Topology*, Teaching assistant (30 hours), TU Darmstadt
- JUL 2021 *PCMI Graduate Summer School in Motivic Homotopy*, Teaching assistant (4 hours), IAS, Princeton
- FALL 2020 *Simplicial Homotopy Theory*, Lecturer (26 hours), LMU München

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## ORGANIZATION

- 2023/2024 *Seminar on Arithmetic Geometry*, with Sabrina Pauli, Timo Richarz and Torsten Wedhorn, TU Darmstadt

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## VISITING

- NOV 2022 TU Darmstadt. Host: Timo Richarz
- JUL 2019 LMU München. Host: Olivier Haution
- MAY 2019 University of Oslo. Host: Paul Arne Østvær

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## CONFERENCES

- MAR 2024 *Motives in Mainz*, University of Mainz
- JUN 2022 *Harnessing motivic invariants*, University of Duisburg-Essen
- JUN 2022 *Summer School on Motives and Arithmetic Groups*, IRMA, Strasbourg
- JUL 2021 *PCMI Graduate Summer School in Motivic Homotopy*, IAS, Princeton
- SEP 2019 *Emerging Research in Algebraic Groups, Motives, and K-Theory*, EIMI, St. Petersburg
- MAY 2018 *Motivic Homotopy Theory and Refined Enumerative Geometry*, University of Duisburg-Essen
- FEB 2018 *K-Theory,  $A^1$ -Homotopy and Quadratic Forms*, University of Warwick
- JUL 2017 *Young Topologists Meeting 2017*, Stockholm University
- JUN 2017 *Summer School on K-Theory and Related Fields*, HIM, Bonn
- NOV 2016 *East Midlands Seminar in Geometry*, University of Nottingham
- JUL 2016 *Young Topologists Meeting 2016*, University of Copenhagen

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## LANGUAGES

- ITALIAN Native
- ENGLISH Fluent
- GERMAN Beginner

July 14, 2024