

Emanuel Roth

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Date & Place of Birth | *October 9 1998, Brunei*

Address | *Edinburgh, United Kingdom*

Languages | *Fluent in English and German, basic command in Tagalog and Chinese*

Citizenship | *German, Filipino*

Education

University of Edinburgh <i>PhD Student in Mathematics</i>	2024 - 2028
• Mathematics PhD supervised by Johan Martens	2024 - 2028
Topic: A symplectic approach to global Springer theory (the symplectic geometry of moduli spaces of parahoric Higgs bundles)	
University of Heidelberg <i>Bachelors and Masters Student in Mathematics</i>	2017 - 2024
• Mathematics Master supervised by Florent Schaffhauser: <i>Note 1,7</i>	2022 - 2024
Topic: “Harder-Narasimhan filtrations of decorated vector bundles”.	
• Mathematics Master Erasmus exchange student: <i>University of Vienna</i>	Winter Semester 2022 - 2023
• Mathematics Bachelor: <i>Note 2,1</i>	2017 - 2022
Topic: “The Mitchell embedding theorem”	

Teaching

Further Complex Variables <i>University of Edinburgh</i>	Winter Semester 2025
General Topology <i>University of Edinburgh</i>	Winter Semester 2025
Honours Analysis - Skills <i>University of Edinburgh</i>	Winter Semester 2025
Proofs and Problem Solving <i>University of Edinburgh</i>	Summer Semester 2025
Fundamentals of Pure Mathematics <i>University of Edinburgh</i>	Winter Semester 2024
Mathematics for Physicists 3 <i>University of Heidelberg</i>	Winter Semester 2023 - 2024
Mathematics for Physicists 2 <i>University of Heidelberg</i>	Summer Semester 2023
Linear Algebra 2 <i>University of Heidelberg</i>	Summer Semester 2022
Linear Algebra 1 <i>University of Heidelberg</i>	Winter Semester 2021 - 2022
Preliminary Courses <i>University of Heidelberg</i>	October 2021
Preliminary Courses <i>University of Heidelberg</i>	October 2020

Preprints

Harder-Narasimhan Filtrations of Decorated Vector Bundles - with Florent Schaffhauser - arxiv:2511.17371v1

Selection of Conferences and Visits

Enumerative Geometry and Geometric Representation Theory <i>Università di Pisa</i>	June 2025
Spring School: Group Actions and Symplectic Singularities <i>University of Lille</i>	June 2025
Stratifications of Higgs bundle moduli spaces <i>Universidade de Santiago de Compostela</i>	May 2025
Research Visit, meeting Florent Schaffhauser <i>University of Heidelberg</i>	February 2025
Winter School on Algebraic Geometry <i>Lancaster University</i>	16 - 20 December 2024
Moduli Spaces of Vector Bundles and Curves <i>Université de Cergy-Pontoise</i>	11 - 13 December 2023

Talks and Seminars

- Organized AGQ reading group on stacks.
- Given talks in AGQ reading groups: Geometric invariant theory, Enumerative geometry, Geometric representation theory, stacks.
- Talk in AGQ Conference and GEARS (Glasgow Edinburgh Algebra Research Student Seminar) December 2025.