

Curriculum Vitae Johannes Schmitt, MSc

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Profile

- ◆ Currently PhD student in Mathematics
- ◆ Master of Science and Bachelor of Science in Mathematics
- ◆ Research interests: Algebraic geometry, representation theory, computer algebra, symplectic reflection groups, Cox rings, constructive invariant theory

Employment & Education

- ◆ **since April 2020:** Teaching assistant at RPTU Kaiserslautern-Landau
Organisation and teaching of Bachelor's and Master's level example classes, occasional substitution of the lecturer in lectures
- ◆ **since November 2019:** PhD student in Mathematics at RPTU Kaiserslautern-Landau
Supervisor: Prof. Dr. Ulrich Thiel
Thesis: *On \mathbb{Q} -factorial terminalizations of symplectic linear quotient singularities*
- ◆ **September 2017 – October 2019:** Master of Science in Mathematics at TU Kaiserslautern
Thesis: *On a Theorem of Eichler*, supervised by Jun.-Prof. Dr. Tommy Hofmann
Specialisation: Algebra and number theory
- ◆ **February 2017 – September 2019:** Research assistant at TU Kaiserslautern
Implementation of number theoretic algorithms in the software package Hecke, including algorithms for the computation of maximal orders, Picard groups, and locally free class groups.
- ◆ **October 2014 – August 2017:** Bachelor of Science in Mathematics at TU Kaiserslautern
Thesis: *Lineare Algebra über Polynomringen*, supervised by Jun.-Prof. Dr. Tommy Hofmann
Specialisation: Algebra, geometry and computer algebra
- ◆ **June 2014:** Abitur ('high school degree')

Publications

- ◆ *On parabolic subgroups of symplectic reflection groups*, with G. Bellamy and U. Thiel, *Glasg. Math. J.* (2023), to appear.
- ◆ *Towards the classification of symplectic linear quotient singularities admitting a symplectic resolution*, with G. Bellamy and U. Thiel, *Math. Z.* **300** (2022), no. 1, 661–681.

Talks

- ◆ April 2023: *On \mathbb{Q} -factorial terminalizations of symplectic linear quotient singularities*. Friedrich-Schiller-Universität Jena
- ◆ November 2022: *Computing Cox rings of linear quotients in OSCAR*. Nikolaus school ‘Computational Geometry’ (Fraunhofer Institute ITWM, Kaiserslautern)
- ◆ September 2022: *Towards the classification of symplectic linear quotient singularities admitting a symplectic resolution*. Retreat of the SFB-TRR 191 (University of Bochum)
- ◆ September 2022: *OSCAR case studies: Computing Cox rings of linear quotients in OSCAR*. Sixth annual conference of the SFB-TRR 195 (Eberhard Karls Universität Tübingen)
- ◆ August 2022: *Towards the classification of symplectic linear quotient singularities admitting a symplectic resolution*. A Day of Geometry in Glasgow (University of Glasgow)
- ◆ March 2022: *On the computation of Cox rings of minimal models of symplectic linear quotients*. Retreat of the SFB-TRR 195 (TU Kaiserslautern)
- ◆ December 2021: *On parabolic subgroups of symplectic reflection groups*. Nikolaus conference 2021 (RWTH Aachen University)
- ◆ September 2021: *Towards the classification of symplectic linear quotient singularities admitting a symplectic resolution*. Fifth annual conference of the SFB-TRR 195 (TU Kaiserslautern)

Grants

- ◆ June 2022: Research Support Fund of the Edinburgh Mathematical Society to support a research visit to the University of Glasgow in August 2022

Participation in workshops and summer schools

- ◆ March 2023: Spring school ‘Real, complex, and symplectic reflection groups’ (University of Bochum)
- ◆ November 2022: Nikolaus school ‘Computational Geometry’ (Fraunhofer Institute ITWM, Kaiserslautern)

- ◆ September 2022: ‘Young group theorists workshop: exploring new connections’ (SwissMAP Research Station, Les Diablerets)
- ◆ April 2022: Research school ‘Symplectic singularities in geometry and representation theory’ (CIRM Luminy)
- ◆ October 2021: Block seminar on representation theory and algebraic groups, IRTG of the SFB-TRR 195 (TU Kaiserslautern)

Teaching

- ◆ **Course assistance:**
 - Einführung in das Symbolische Rechnen (“Introduction to symbolic computing”, Summer 23, in German)
 - Algebraic Geometry (Winter 22/23, in English)
 - Cryptography (Summer 21 and Summer 22, in English)
 - Commutative Algebra (Winter 20/21 and Winter 21/22, in English)
 - Computeralgebra (Summer 20, in English)

Further skills

- ◆ Advanced programming skills in the programming language Julia and the computer algebra system OSCAR (including major contributions), intermediate programming skills in the computer algebra systems Magma, GAP, and Singular