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Research Interests

Algebraic geometry, Tropical Geometry, Logarithmic Gromov-Witten Invariants, Mirror symmetry, Gross-Siebert Program, Birational Geometry, Stability Conditions, Perverse Sheaves.

Positions

Apr 2021–present Postdoctoral Researcher, SFB/TRR 191, Ruhr-Universität Bochum

Education

Oct 2017–Mar 2021 PhD in Mathematics, University of Hamburg
Supervisor: Bernd Siebert
Thesis title: *Tropical Correspondence for Smooth del Pezzo Log Calabi-Yau Pairs*

Apr 2015–May 2017 MSc in Mathematical Physics, University of Hamburg
Grade: 1.16 (with distinction)
Supervisor: Bernd Siebert
Thesis title: *Tropicalization of the Lines on the Dwork Pencil of Quintic Threefolds*
Thesis grade: 1.0

Oct 2012–Jun 2015 BSc in Mathematics, University of Hamburg
Grade: 1.64 (good)

Oct 2011–Jun 2015 BSc in Physics, University of Hamburg
Grade: 1.76 (good)
Supervisor: Bernd Kniehl
Thesis title: *All-Order Renormalization of the Fermion Propagator*
Thesis grade: 1.0

Publications/Preprints

May 2020 *Tropical correspondence for smooth del Pezzo log Calabi-Yau pairs*, arXiv:2005.14018
submitted to Journal of Algebraic Geometry at 06.10.2020

In preparation *Theta functions, broken lines and 2-marked log Gromov-Witten invariants*
The proper Landau-Ginzburg potential is the open mirror map
with Helge Ruddat and Eric Zaslow

Logarithmic Gromov-Witten invariants of log Calabi-Yau pairs and smoothing
with Lawrence Jack Barrott and Navid Nabijou

Teaching

- Winter 20/21** Exercise class *Enumerative Geometry*, University of Hamburg
Exercise class *Mathematics for Physicists 1*, University of Hamburg
- Summer 2020** Exercise class *Complex Geometry*, University of Hamburg
- Winter 19/20** Organisation of the RTG Student Seminar, University of Hamburg
Topic: *Mirror Symmetry and the Strominger-Yau-Zaslow Conjecture*
- Summer 2016** Exercise class *Mathematics for Physicists 2*, University of Hamburg
Exercise class *Mathematics for Physicists 4*, University of Hamburg
- Winter 15/16** Exercise class *Mathematics for Physicists 3*, University of Hamburg
- Summer 2015** Tutorial class *Mathematics for Physicists 2*, University of Hamburg
Exercise class *Mathematics for Physicists 2*, University of Hamburg
- Winter 14/15** Tutorial class *Mathematics for Physicists 3*, University of Hamburg
Exercise class *Mathematics for Physicists 1*, University of Hamburg
- Summer 2014** Tutorial class *Mathematics for Physicists 2*, University of Hamburg
- Winter 13/14** Tutorial class *Mathematics for Physicists 3*, University of Hamburg

Conferences/Talks

- Feb 2020** Online Algebraic Geometry Seminar, Nottingham University
Talk: *Tropical Correspondence for smooth del Pezzo log Calabi-Yau pairs*
- Nov 2020** MIST Seminar, CUHK Hongkong
Talk: *Tropical Correspondence for smooth del Pezzo log Calabi-Yau pairs*
- Feb 2020** RTG 1670 Concluding Colloquium, Hamburg
Talk: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Feb 2020** Hausdorff School *Perverse Sheaves in Enumerative Geometry*, Bonn
- Feb 2020** Gross-Siebert Program Learning Seminar, Boston College
Talk: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Feb 2020** Seminar Geometry and Physics, Boston University
Talk: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Jul 2019** Conference *Non-Archimedean and Tropical Geometry*, Regensburg
Talk: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Jun 2019** Workshop *Logarithmic Enumerative Geometry and Mirror Symmetry*, Oberwolfach
Short talk: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Feb 2019** Conference *Fukaya 60 - Geometry and Everything*, Kyoto
- Nov 2018** *Chow Lectures and Conference NoGAGS*, Max Planck Institute, Leipzig
Poster presented: *Tropical Correspondence for the log Calabi-Yau pair (\mathbb{P}^2, E)*
- Sep 2018** Summer School *Higgs Bundles in Mathematics and Physics*, Hamburg
- Aug 2018** Conference *Tropical Geometry and Moduli Spaces*, Cabo Frio
- Dec 2017** Workshop *Mirror Symmetry and Related Topics*, Kyoto
- Nov 2017** Workshop *Young Researchers in String Mathematics*, Max Planck Institute, Bonn
- Aug 2017** *Stockholm Master Class in Tropical Geometry*, KTH Stockholm
- Aug 2017** Conference *Non-Archimedean and Tropical Geometry*, Regensburg