Benjamin Matthias Ruppik

Curriculum Vitae

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Personal Information

Name	Benjamin Matthias Ruppik
Date of birth	1994-06-30
Place of birth	Aachen, Germany
Nationality	German

Education

October 2018 – Present	**PhD student, member of the Bonn International Graduate School of Mathematics (BIGS); funded by the the International Max Planck Research School on Moduli Spaces (IMPRS)** , *Max-Planck-Institute for Mathematics, Vivatsgasse 7, 53111 Bonn*, Expected graduation: End of 2021.
July 2016 – August 2018	**Master of Science in Mathematics**, *University of Bonn*, .
October 2013 – June 2016	**Bachelor of Science in Mathematics**, *University of Bonn*, .
2004 – July 2013	**Abitur**, *Gymnasium Haus Overbach*, Jülich-Barmen, .

Preprints

Daniel Kasprowski, Mark Powell, Benjamin Ruppik: Homotopy classification of 4-manifolds with finite abelian 2-generator fundamental groups (arXiv:2005.00274)
Abstract: We show that for an oriented 4-dimensional Poincaré complex with finite fundamental group, whose 2-Sylow subgroup is abelian with at most 2 generators, the homotopy type is determined by its quadratic 2-type.

Talks

Research

2020-04-02	'Deeply slice knots', in the virtual Geometric Topology Grad and Postdoc Seminar (GT GAPS)
2019-06-14	'Stable classification of 4-manifolds', reporting on my master thesis in the LKS-Seminar (organized by Stefan Friedl and Clara Löh) at the university of Regensburg.

Expository

2020-05-03	'Rasmussen's s-invariant and the local Thom conjecture', IMPRS seminar at MPIM Bonn.

2019-11-21 'Fulton MacPherson compactifications' with David Gay in the Seminar on configuration spaces and diffeomorphisms at MPIM Bonn.

2019-04 Co-organized (with Danica Kosanovic) a Study group on Milnor invariants

Posters

2019-07 'Ribbon concordances and doubly slice knots', Poster for the BIGS exhibition at the Mathematical institute in Bonn.

Conferences & Travel

2020-06 Summer Virtual Trisectors Workshop, online, June 22-25, 2020.

2020-06 Nearly Carbon Neutral Geometric Topology Conference, online, June 1-14, 2020.

2020-02 Winter Braids X, Pisa, February 17 - 21, 2020.

2019-10 Low-dimensional topology workshop, Regensburg, October 21 - 23, 2019.

2019-09 Workshop on 4-manifolds, Bonn, September 16 - 20, 2019

2019-07 Swiss Knots, Zurich, July 16 - 19, 2019.

2019-06 Knot concordance and low-dimensional manifolds, Le Croisic, June 17 - 21, 2019.

2019-05 Knots and Braids in Norway, Trondheim, May 2019; 5 minute gong show talk 'Doubly slice knots and satellites'.

Theses

Master Thesis Equivariant intersection forms of 4-manifolds, University Bonn, 2018, supervised by Dr. Daniel Kasprowski & Prof. Dr. Peter Teichner

Bachelor Thesis Torsion in $\Gamma(\pi_2 K)/\pi_1 K$, University Bonn, 2016, supervised by Dr. Daniel Kasprowski & Prof. Dr. Peter Teichner. Development of a SageMath module in Python to calculate an invariant of specific 2-complexes.

Experience

Vocational

August 2013 – Present **Organist**, Kirchengemeindeverband Aldenhoven-Linnich, Linnich.
Employed at Kirchengemeindeverband Aldenhoven-Linnich (Pfarrer-Reiff-Str. 15, 52441 Linnich-Welz) as organ player.

October 2014 – September 2020 **Student associate**, Mathematical Institute of the University of Bonn, Bonn.
Employed as tutor for the lectures *Analysis I, II*, *Linear Algebra I, II, Introduction to Algebra*, *Introduction to Geometry and Topology*, *Topology I, II*, *Algebraic Topology I, II*.

April 2018 – September 2018 **Student associate**, Institute of Computer Science III, Bonn.
Semantic segmentation of RGB-images and point clouds captured by a Velodyne LiDAR.

Miscellaneous

July 2017 – June 2018 **Treasurer for the Debating team at the University of Bonn**.

July 2010 – January 2011 **Stay abroad**, Escondido, CA 92026, USA.
First half of Junior Year at Calvin Christian School (2000 N Broadway, Escondido, CA).

Computer skills

Programming languages C/C++, Python, Go, OpenCV, SageMath, haskell, Prolog, LaTeX

Machine learning frameworks	TensorFlow, PyTorch

Languages

German	Mothertongue
English	Fluent
Latin	Basic

Interests

- Piano, Organ

Bonn, July 26, 2020

Benjamin Ruppik