Felix Jonathan Boes

Curriculum Vitae

Personal information

name	Felix Jonathan Boes
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Education

Currently	**Postdoc with Michael Meier**, *IT Security work group University of Bonn*.
2018	**Dr. rer. nat., Grade 0.7**, *University of Bonn*, *Mathematics*.
2014	**Master of Science, Grade 1.1**, *University of Bonn*, *Mathematics*.
2012	**Bachelor of Science, Grade 1.5**, *University of Bonn*, *Mathematics*.
2008	**Abitur, Grade 1.2**, *Lessing Gymnasium Düsseldorf*.

Publications

Jun. 2018	**On moduli spaces of Riemann surfaces**, *Dissertation, 158 pages*, `https://net.cs.uni-bonn.de/fileadmin/user_upload/boes/dissertation.pdf`.
May. 2017	**On the homotopy type of the space of Sullivan diagrams**, *Preprint joint with Daniela Egas Santander, 59 pages*, `https://arxiv.org/abs/1705.07499`.
Apr. 2017	**C–Programmierkurs für Fortgeschrittene**, *Joint with Clelia Albrecht and Johannes Holke, 64 pages*, `http://fsmath.uni-bonn.de/sites/default/files/AdvProgkursSkript.pdf`.
Apr. 2017	**Python Skript**, *Joint with Clelia Albrecht and Johannes Holke, 73 pages*, `http://fsmath.uni-bonn.de/sites/default/files/skript_0.pdf`.

Scholarships

2014 – 2018   **Max Planck Research School on Moduli Spaces**.

Organized Events

Apr. 2017   **C und Python Programmierkurs für Mathematiker SS 2017**, *University of Bonn*, Coorganizer and Speaker together with Clelia Albrecht and Johannes Holke, 2 weeks, ca. 70 participants, `http://fsmath.uni-bonn.de/de/AdvProgkurs2017`.

Oct. 2015   **Introductory School on Moduli Spaces**, *Max Planck Institute for Mathematics Bonn*, Coorganizer and speaker together with Elba García Failde and Federico Zerbini, 2 weeks, 10 speakers, ca. 50 participants, `https://www.mpim-bonn.mpg.de/node/6179`.

Sep. 2013   **Schülerwoche 2013**, *University of Bonn*, Coorganizer with Dr. Michael Meier and Clelia Albrecht, 4 days, 4 speakers, ca. 90 pupils from 42 schools, `https://www.mathematics.uni-bonn.de/mathematik-in-bonn/veranstaltungen/weitere/inhalte/11.-14.-sep.-2013-schuelerwoche-2013`.

Given Talks

Jun. 2018   **On moduli spaces of Riemann surfaces**, *University of Bonn*, Promotionskolloquium.

Apr. 2018   **On the homotopy type of the stable harmonic compactification**, *University of Bonn*, 29th NRW Topology Meeting.

Jun. 2017   **The moduli space of Riemann surfaces its harmonic compactification**, *University of Berlin*, Research Seminar.

Apr. 2017   **Lecture on Python**, *University of Bonn*.

Oct. 2016   **The unstable Homology of Mapping Class Groups of Surfaces**, *University of Copenhagen*, Research Seminar Algebra and Topology.

Sep. 2016   **On the Homology of a Compactification of the Moduli Space of Surfaces**, *Nijmegen*, European Autumn School in Topology 2016.

Jan. 2016   **Combinatorial aspects of the compactification of Moduli Spaces of Riemann Surfaces**, *Serbian Academy of Sciences and Arts, Belgrade*, Research Seminar: Combinatorics in Geometry, Topology and Algebra.

Oct. 2015   **The Moduli Space of Riemann Surfaces – Models and Computations; The Moduli Space Polygons**, *Max Planck Institute Bonn*, Introductory School on Moduli Spaces.

Sep. 2015   **On Computations of the Homology of Moduli Spaces of Riemann Surfaces**, *University of Hamburg*, DMV Jahrestagung.

May. 2015   **The Moduli Space of Riemann Surfaces**, *FU Berlin*, Topological Combinatorics Oberseminar.

Dec. 2014	**Three talks on Hilbert Uniformization, Homology Operations and Calculations**, *University of Bonn*, Research Seminar of the Bonn Topology Group, Joint with Prof. Bödigheimer.

Attended Conferences

Jun. 2018	**DIMVA 2018**, *Gesellschaft für Informatik / Campus Paris–Saclay*.
Jun. 2018	**ESSoS 2018**, *Gesellschaft für Informatik / Campus Paris–Saclay*.
Apr. 2018	**Sicherheit 2018**, *Gesellschaft für Informatik / HTWG Konstanz*.
Apr. 2018	**29th NRW Topology Meeting**, *University of Bonn*.
Sep. 2017	**Applied and Computational Algebraic Topology (Part 2)**, *Hausdorff Research Institute for Mathematics Bonn*.
Jul. 2017	**Young Topologist Meeting**, *University of Stockholm*.
Summer 2017	**K-Theory and Related Fields**, *Hausdorff Research Institute for Mathematics Bonn*.
Apr. 2017	**Applied and Computational Algebraic Topology (Part 1)**, *Hausdorff Research Institute for Mathematics Bonn*.
Nov. 2016	**26th NRW Topology Meeting**, *University of Osnabrück*.
Oct. 2016	**Configuration Spaces and Moduli Spaces in Homotopy Theory**, *University of Bonn*.
Sep. 2016	**European Autumn School in Topology 2016**, *Nijmegen*.
Sep. 2016	**Topology**, *Hausdorff Research Institute Bonn*.
Jul. 2016	**Young Topologist Meeting**, *University of Copenhagen*.
Apr. 2016	**25th NRW Topology Meeting**, *University Duisburg–Essen*.
Oct. 2015	**Introductory School on Moduli Spaces**, *Max Planck Institute for Mathematics Bonn*.
Sep. 2015	**DMV Jahrestagung**, *Deutsche Mathematiker Vereinigung / University of Hamburg*.
Sep. 2015	**Computational Algebraic Topology**, *University of Oxford*, CMI-LMS Research School 2015.
Aug. 2015	**Conference on Topology and Geometry**, *Hausdorff Research Institute for Mathematics Bonn*.
Jun. 2015	**Convex geometry - discrete and computational**, *TU Berlin and FU Berlin*.
May. 2015	**Topological Combinatorics of Configuration Spaces**, *Oberwolfach Seminar*.
May. 2015	**Homotopy theory, manifolds, and field theories**, *Hausdorff Research Institute Bonn*.
Dec. 2014	**Polymake Conference**, *TU Berlin*.

Nov. 2014 **Discrete, Computational and Algebraic Topology**, *University of Copenhagen*.

Teaching

2018 **Teaching assistent of Prof. Meier**.

2016 – 2017 **Teaching assistent and supervision of exercise sessions of Prof. Bödigheimer**.

2016 **Supervision of exercise sessions of Prof. Teichner**.

2014 – 2016 **Teaching assistent and supervision of exercise sessions of Prof. Bödigheimer**.

2012 – 2014 **Supervision of the participants of the annual "Tutorenschulung"**, *a workshop to improve the quality of the exercise sessions*.

2010 – 2013 **Supervision of exercise sessions**.

Responsible positions

2013 – 2014 **Member of the "Schulteam" of the Hausdorff Center for Mathematics**, *The HCM Schulteam's tasks include: The communication of mathematics to pupils via self contained lectures and workshops; The organization and execution of cultural events of the mathematical community*, `https://www.mathematics.uni-bonn.de/mathematik-in-bonn/schulportal`.

2011 – 2013 **Elected member of the "Fachschaftsvertretung"**.

Software projects

since 2015 **hosd**, *Scientific software written in Python and C++11 for computing the homology of string diagrams*, `https://github.com/felixboes/hosd`, More than 2400 lines of code.

2016 **dnes**, *An emulator for the Nintendo Entertainment System (NES) written in C++11*, More than 3000 lines of code.

since 2013 **Kappa**, *Scientific software written in C++11 and Python for exact homology computations, Joint with Anna Hermann*, More than 8000 lines of code.

Programming languages

C **good**, Familiar concepts and libraries: Standard library, Unix socksts, POSIX Threads, OpenMP, GNU Multiprecision Library, Simple Direct Media Layer.

C++ **good**, Familiar concepts and libraries: Standard (template) library, Template metaprogramming, Concurrent computing via std::thread, Boost.

Python **good**, Familiar concepts and libraries: Standard library, C bindings via Extension Modules and CTypes, TkInter, SageMath.

Java **basic**

Languages

German	**native**
English	**fluent**
French	**basic**