

**Research Interests**

Low dimensional geometry and topology, hyperbolic geometry, Teichmüller and moduli spaces, random surfaces, random 3-manifolds, subgroup growth.

**Employment**

Jan. 2017 - : Post-doc, University of Bonn  
Aug. 2015 - Dec. 2016: Post-doctoral fellow, Max Planck Institute for Mathematics, Bonn  
Feb. 2012 - Jun. 2015: Assistant, University of Fribourg  
Mar. 2008 - May 2011: Analyst, Mercer, Arnhem  
Jan. 2007 - Dec. 2007: Student assistant, Radboud University, Nijmegen  
Nov. 2005 - Jun. 2007: Tutor Mathematics and Physics, Huiswerkinstituut Lindenholt, Nijmegen

**Education**

Jun 2011 - Jun 2015: Doctoral studies in Mathematics, University of Fribourg  
Advisor: Hugo Parlier  
Sep. 2008 - Mar. 2011: MSc. Mathematics *cum laude*, Radboud University Nijmegen  
Sep. 2005 - Sep. 2009: BSc. Physics and Astronomy, Radboud University Nijmegen  
Minor: Mathematics  
Sep. 1999 - Jul. 2005: Atheneum, SG Lelystad

**Longer research visits**

Mar. 2017: IHP, Paris  
Funded by: Université Pierre et Marie Curie.  
Nov. 2014 - May 2015: Brown University, Providence, USA  
Funded by: Mobility in project grant, Swiss National Science Foundation.  
Mar. 2013: Erwin Schrödinger Institute for Mathematics and Physics, Vienna  
Funded by: CSWM Continued education grant.

**Grants**

Swiss NSF Mobility in project grant PP00P2.128557, Nov. 2014 - May 2015  
Amount: CHF 11160,-  
CSWM Continued education grant, Mar 2013  
Amount: CHF 750,-

**Organization**

Geometric Group Theory in Bonn III, 31 Jan. - 01 Feb., 2019.  
Geometric Group Theory in Bonn II, 03 - 04 Dec., 2015.

## Teaching experience

University of Bonn (Germany):

*Quantum unique ergodicity.*

Seminar, autumn 2017.

Audience: MSc and PhD students in Mathematics,  $\sim 10$  students.

Responsibilities: Examiner, help students prepare talks and grade them.

*Property (T).*

Seminar, autumn 2017.

Audience: MSc students in Mathematics,  $\sim 10$  students.

Responsibilities: Examiner, help students prepare talks and grade them.

*Random methods in geometry.*

Lecture course, spring 2017.

Audience: MSc students in Mathematics,  $\sim 10$  students.

Responsibilities: Lecturer, designed the course, wrote lecture notes (available on my homepage) and gave the lectures.

University of Fribourg (Switzerland):

*Analysis III and IV.*

Lecture course, autumn 2013, spring 2014.

Audience: BSc students in Mathematics and Physics,  $\sim 10$  students.

Responsibilities: Teaching assistant, helped the students with weekly exercises and graded these.

*Mathematical methods for computer scientists.*

Lecture course, spring 2012, autumn 2012, spring 2013.

Audience: BSc students in Mathematics and Computer Science,  $\sim 15$  students.

Responsibilities: Teaching assistant, helped the students with weekly exercises and graded these.

Radboud University Nijmegen (The Netherlands):

*Probability theory.*

Lecture course, autumn 2007.

Audience: BSc students in Mathematics and Physics,  $\sim 15$  students.

Responsibilities: Teaching assistant, helped the students with weekly exercises and graded these.

*Calculus 1 and 2.*

Lecture course, autumn 2007.

Audience: BSc students in Mathematics and Physics,  $\sim 15$  students.

Responsibilities: Teaching assistant, helped the students with weekly exercises and graded these.

*Electricity and Magnetism 1A.*

Lecture course, spring 2007.

Audience: BSc students in Chemistry and Molecular Life Sciences,  $\sim 15$  students.

Responsibilities: Teaching assistant, helped the students with weekly exercises and graded these.

## Student supervision

Sofia Amontova, Master's thesis (academic year 2018/2019)

Elizabeth Baker, Master's thesis (academic year 2018/2019)

Muhammad Ardiyansyah, Master's thesis (academic year 2017/2018)

Theo Demenge, internship (Feb. - May 2018).

**Languages**

Dutch: Native speaker  
English: Fluent  
French: Fluent  
German: Basic  
Italian: Basic

**Address**

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Email: [bpetri@math.uni-bonn.de](mailto:bpetri@math.uni-bonn.de)  
Homepage: <http://www.math.uni-bonn.de/people/bpetri/>

## Accepted papers

- T. Budzinski, N. Curien & B. Petri. *Universality for random surfaces in unconstrained genus*.  
Electron. J. Combin., to appear, 2019 +  
Available at ArXiv e-prints (1902.01308).
- H. Baik, B. Petri & J. Raimbault. *Subgroup growth of right-angled Artin and Coxeter groups*.  
J. Lond. Math. Soc. (2), to appear, 2019 +  
Available at ArXiv e-prints (1805.03893).
- H. Baik, B. Petri & J. Raimbault. *Subgroup growth of virtually cyclic right-angled Coxeter groups and their free products*.  
Combinatorica, to appear, 2019 +  
Available at ArXiv e-prints (1806.10527).
- M. Mirzakhani & B. Petri. *Lengths of closed geodesics on random surfaces of large genus*.  
Comment. Math. Helv., to appear, 2019 +  
Available at ArXiv e-prints (1710.09727).
- B. Petri. *Hyperbolic surfaces with long systoles that form a pants decomposition*.  
Proc. Amer. Math. Soc., 146 (3): 1069 - 1081, 2018.
- H. Baik, D. Bauer, I. Gekhtman, U. Hamenstädt, S. Hensel, T. Kastenholz, B. Petri & D. Valenzuela. *Exponential Torsion Growth for Random 3-Manifolds*.  
Int. Math. Res. Notices. IMRN, 21: 6497 - 6534, 2018.
- B. Petri. & C. Thäle. *Poisson approximation of the length spectrum of random surfaces*.  
Indiana Univ. Math. J., 67 (3): 1115 - 1141, 2018.
- P. Cahn, F. Fanoni & B. Petri. *Mapping class group orbits of curves with self-intersections*.  
Israel J. Math., 223 (1): 53 - 74, 2018.
- B. Petri & A. Walker. *Graphs of large girth and surfaces of large systole*.  
Math. Res. Lett., 25 (6): 1937 - 1956. 2018.
- H. Parlier & B. Petri. *The genus of curve, pants and flip graphs*.  
Discrete Comput. Geom., 59 (1): 1 - 30, 2018.
- B. Petri. *Finite length spectra of random surfaces and their dependence on genus*.  
J. Topol. Anal., 9 (4): 649 - 688, 2017
- B. Petri. *Random regular graphs and the systole of a random surface*.  
J. Topol., 10 (1): 211 - 267, 2017.

## Preprints

- M. Fortier Bourque & B. Petri. *Kissing numbers of closed hyperbolic manifolds*.  
Preprint, ArXiv e-prints (1905.11083)
- S. Friedl, J. Park, B. Petri, J. Raimbault & A. Ray. *On distinct finite covers of 3-manifolds*.  
Preprint, ArXiv e-prints (1807.09861), July 2018.
- B. Petri. *Counting non-commensurable hyperbolic manifolds and a bound on homological torsion*.  
Preprint, ArXiv e-prints (1709.01873), Sep 2017.