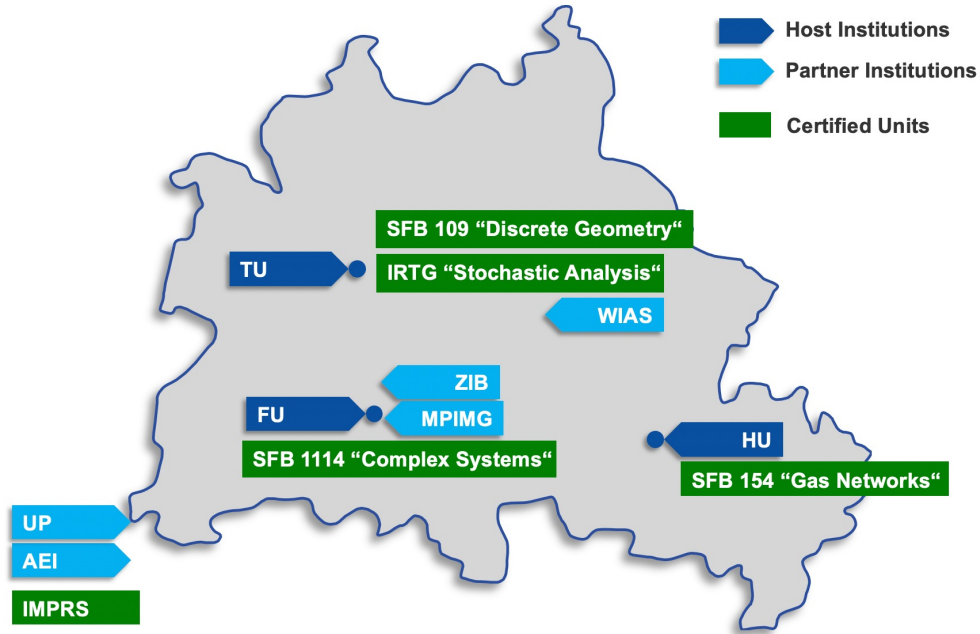


# Berlin Mathematical School (apply by 1 December 2024)



# Berlin's Mathematical Landscape



# Berlin Mathematical School

- Graduate school of the Berlin Mathematics Research Center MATH+
- Joint graduate school of the Berlin math departments (FU, HU, TU)
- Funded 2006 – 2018 by the German “Excellence Initiative”
- Funded since 2019 by the German “Excellence Strategy”
- Combines Berlin’s broad expertise in mathematics into an excellent environment for graduate studies
- Currently c.a. 540 members:  
150 Faculty, 140 Postdocs and Scientists, 250 Students (190 PhD students)

# BMS Locations



TU



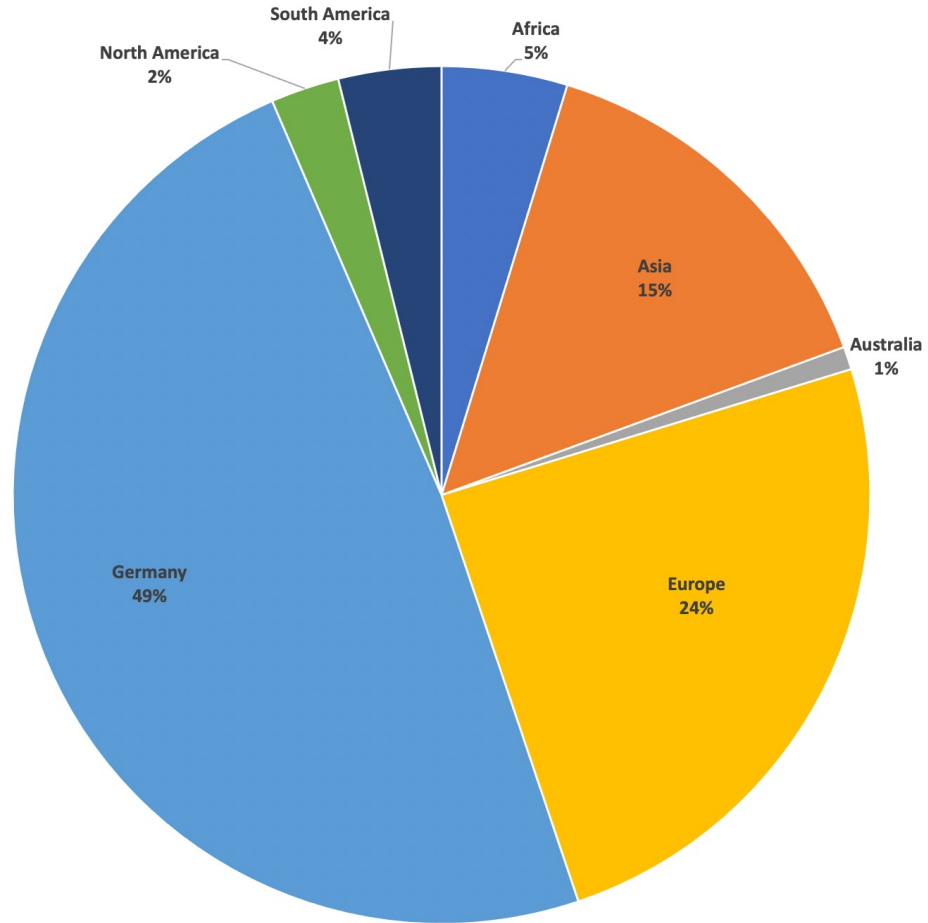
FU

HU



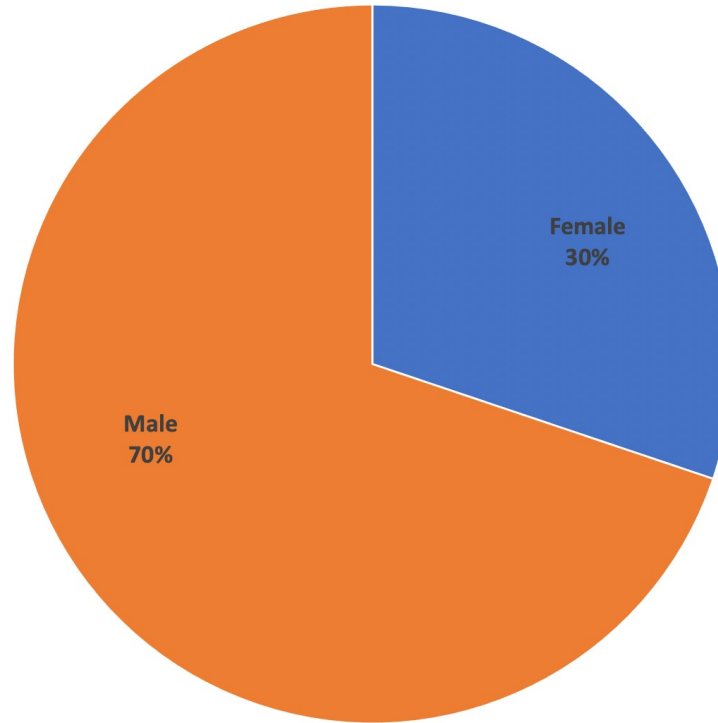
# Statistics

## BMS Students' nationalities



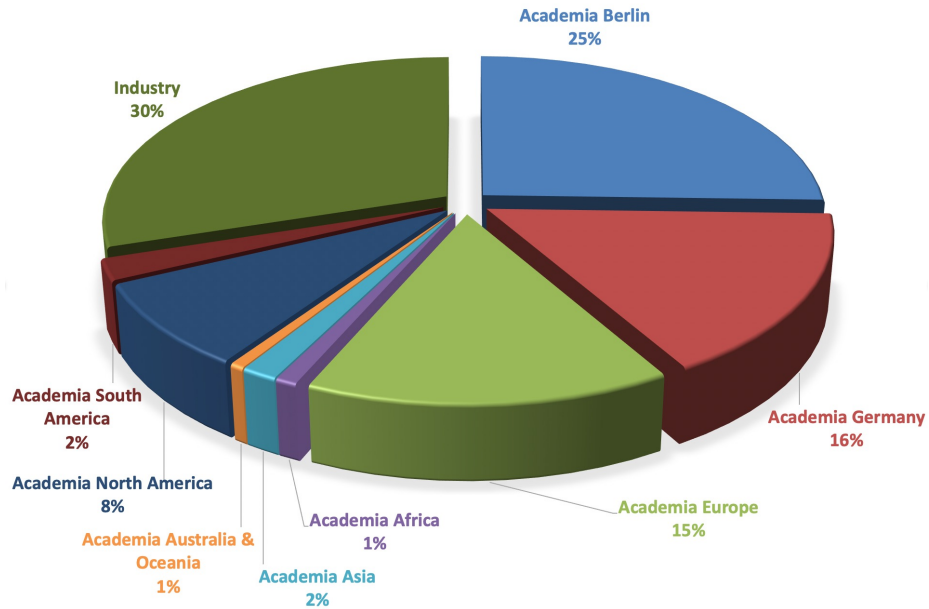
# Statistics

## Gender of current BMS Students



# Completed Doctorates

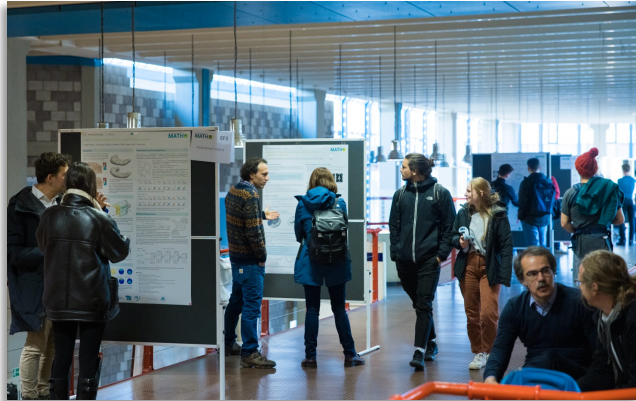
## First Position



470 completed doctorates since 2007

# MATH+ Faculty

- 150 professors
- 140 postdocs and research group leaders





# MATH+ Postdoctoral Faculty

- Assist with supervision
- Teach specialized courses
- Serve as initial mentors
- MATH+ funds Dirichlet Postdocs



# BMS Research Training Areas (new)

1. Geometry and Topology
2. Algebraic Geometry and Number Theory
3. Stochastics and Mathematical Finance
4. Discrete Mathematics and Optimization
5. Discrete Geometry
6. Numerical Mathematics
7. Applied Analysis
8. Mathematics for AI

# Study Program

Bachelor	Phase I				Phase II				
	1	2	3	4	5	6	7	8	9
	Basic courses			QE / Master	Thesis research				
	Advanced courses								
	MATH+ Fridays, soft skills, summer schools, ...								

# Course Program

- Basic and Advanced Courses
- Taught in English
- Synchronized across FU, HU, TU
- Phase I requirements:
  - 5 Basic Courses
  - At most 2 Basic Courses in one area
  - 2 Advanced Courses
- BMS courses open to all students

## Basic Courses

These are the Basic Courses for the summer semester 2024.

### 1. Differential geometry, global analysis, and mathematical physics

Title: [Riemannian Geometry - Differential Geometry II](#)

Lecturer: [Polthier](#), FU

Location: A6/SR 025/026 Seminarraum (Arnimallee 6)

Lectures: TUE 12-14 and THU 12-14

Tutorial: FRI 10-12 at A7/SR 031 (Arnimallee 7)

### 2. Algebraic and arithmetic geometry, number theory

## Advanced Courses

If you are a lecturer at FU, HU, TU or U Potsdam and would like to add your course to this list, please email the relevant info to [bms-courses@math.tu-berlin.de](mailto:bms-courses@math.tu-berlin.de)

These are the Advanced Courses for the summer semester 2024.

### 1. Differential geometry, global analysis, and mathematical physics

Title: [Mathematical Physics II](#)

Lecturer: [Suris](#), TU

Location: MA 751

Type: Lecture (4h) + Tutorial (2h)

Lecture: TUE 12-14 and THU 14-15:30

Tutorial: MON 14-16 at MA 651

Title: [Catastrophe Theory](#)

Lecturer: [Wendl](#), HU

Location: Johann von Neumann-Haus, Rudower Chaussee 25, room 3.008

Type: Seminar (2h)

Seminar: FRI 9-11

See also [here](#).

Title: [Geometric Group Theory](#)

Lecturer: [Farkas](#), HU

Location: Johann von Neumann-Haus, Rudower Chaussee 25, WED at room 3.011 and THU at room 3.007

Type: Lecture (4h) + Tutorial (2h)

Lecture: WED 9-11 and THU 13-15

Tutorial: WED 11-13 at Johann von Neumann-Haus, Rudower Chaussee 25, room 3.011

# Example of Phase I

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5
Partial Differential Equations II FU, 10 LP (RTA 7)	Partial Differential Equations III FU, 5 LP (RTA 7)	Block Course: Multiscale Problems and Homogenization FU, no exam taken (RTA 7)	Master Thesis (RTA 4)	
Stochastic Processes II: Continuous Time FU, 10 LP (RTA 3)	Numerical Methods for PDEs FU, 10 LP (RTA 6)	Discrete Geometry I FU, 10 LP (RTA 5)		
Discrete Optimization (ADM I) TU, 10 LP (RTA 4)	Seminar: Mathematical Modeling of Complex Social Systems FU, 5 LP (RTA 6)	Seminar: Recent Advances in Discrete Optimization TU, 6 LP (RTA 4)		
	Discrete Optimization (ADM II) TU, 10 LP (RTA 4)	Algorithmic Game Theory (ADM III) TU, 10 LP (RTA 4)		
	BMS Summer School, BMS-BGSMath Junior Meeting		TES Workshops, BMS Summer School, ADYN Summer School	

BMS Basic courses

BMS Advanced courses

# Transition into Phase II

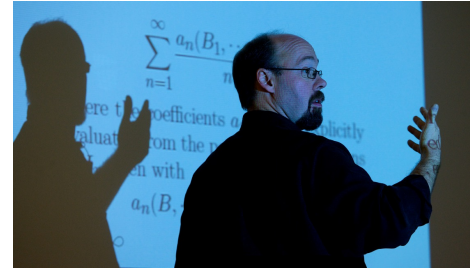
- Find PhD supervisor
- Qualifying Exam
- Master thesis
- Funding
  - All Phase II students have funding:
    - About 20% get a BMS Funding
    - About 70% get a PhD project or TA position
    - About 10% have other sources of funding (e.g. a scholarship from a foundation)

# BMS Dirichlet Postdoc Fellowships

- 2 year 100% TVL 13 position
- Choose any BMS research area
- Last/ current position must be outside of Berlin
- Focus on early-career researchers
- Incl. Teaching one BMS Advanced Course
- Apply by 1 December 2024
- <https://www.math-berlin.de/bms-faculty/dirichlet-postdoctoral-program>

# MATH+ Friday Colloquia

- Distinguished speakers, e.g. Dana Scott, Maria Chudnovsky, Richard Schwartz, Jürgen Richter-Gebert, Edriss Titi, Sylvie Méléard, Cedric Villani, Wendelin Werner, Peter Scholze ...
- Regular meeting point for all Berlin mathematicians
  - coffee, tea, fruit and cookies before lecture
- Student-run “*What is ...?*” seminar series
- Every second Friday during the lecture period
- <https://www.math-berlin.de/events/friday-colloquia>





# Kovalevskaya Colloquium

- Distinguished female speakers, including Ingrid Daubechies, Marie-Françoise Roy, Stephanie B. Alexander, Kathryn Hess, Ilaria Perugia, Sujatha Ramodorai, Monika Ludwig, Edith Elkind, Maryna Viazovska...
- Preceded by the “Kovalevskaya lunch” where female students can meet the speaker informally
- Once per semester.
- Last date: 32nd Kovalevskaya Colloquium on 31 May 2024 with Anna Wienhard (MPI Leipzig)



30th Kovalevskaya Colloquium on 12 May 2023

# BMS Resources and Services

- BMS Lounges / Office space
- Financial support for travel to conferences and research stays abroad
- Soft-Skills Seminars
- German Language Courses
- BMS Summer Schools
- Career Day/ “Meet the Alumni”
- Peer mentoring, Buddy program, Advisor and Mentor
- Student representatives
- Extensive support by the BMS One-Stop Office



# Soft-Skills Seminars

Winter semester 2024/25

- Intercultural training for new BMS students, 10 October 2024  
(*seminar, mandatory for all international students*)
- Good scientific practice, 31 October 2024  
(*webinar, mandatory for all Phase II students*)
- Time and Self Management, 8 November 2024
- Make an impact! Confident Scientific Communication: Body, voice, arguments  
(for women), 22 November 2024
- Career Orientation within and outside Academia (with additional Coaching for advanced doctoral candidates and postdocs), two days seminar: 17 & 31 January 2025



<https://www.math-berlin.de/academics/soft-skills-seminars>

# Mentoring and Advising

- Phase I Advisor: based on potential research interests
  - Advises on study plan and progress
  - possibly your master's thesis advisor
- Phase II PhD supervisor: advises on doctoral dissertation project
- Phase II Mentor: distinct from doctoral supervisor
  - Second opinion
  - Career planning

# Gender and Diversity

- Hilda Geiringer Scholarship
- Kovalevskaya Lectures with lunches
- Voice and speech seminar (for women)
- Extra funds for scholarship recipients with children
- Unconscious Bias Training for Admissions Committee
- Gender-separate application lists
- 50% international students
- Intercultural training
- <https://www.math-berlin.de/about-bms/equity-diversity>



# BMS One-Stop Office

[www.math-berlin.de/contact](http://www.math-berlin.de/contact)

- ✓ BMS Coordinator: Annika Preuß-Vermeulen
- ✓ FU Liaison Officer Lena Sonemann
- ✓ HU Liaison Officer: Daniele Mariano
- ✓ Gender & Diversity Manager: Tanja Fagel
- ✓ MATH+ Managing Director: Nadja Wisniewski
- ✓ Postdoc Liaison: Dr. Theo Roelofs

# BMS Application for PhD program

[www.math-berlin.de/application](http://www.math-berlin.de/application)

- ✓ Application Deadline: 1 December 2024
- ✓ Online, no German skills, no application fee
- ✓ Personal statement, CV, Transcripts, research statement, two recommendation letters
- ✓ Questions to: [application@math-berlin.de](mailto:application@math-berlin.de)

Admission Statistics: <https://www.math-berlin.de/application/faqs/evaluation-admission>

# BMS Application for Postdoc program

[www.math-berlin.de/bms-faculty/dirichlet-postdoctoral-program](http://www.math-berlin.de/bms-faculty/dirichlet-postdoctoral-program)

- ✓ Application Deadline: 1 December 2024
- ✓ Online, no German skills, no application fee
- ✓ Personal statement, CV, Transcripts, List of publications, research statement, three to four recommendation letters
- ✓ Questions to: [postdoc@math-berlin.de](mailto:postdoc@math-berlin.de)



**Thank you for your attention!**

**We hope you enjoy Berlin and consider applying to the BMS!**

