Bonn International Graduate School of Mathematics

Promoting the future of excellent research
Content

Bundesstadt Bonn ................................................................. 4
University of Bonn ............................................................. 6
Bonn Graduate Center .......................................................... 8
Bonn International Graduate Schools .................................. 10
Bonn International Graduate School of Mathematics .............. 12
Pro-Motion ........................................................................... 16
Imprint .................................................................................. 18
Bundesstadt Bonn

Bonn is one of Germany’s growth regions and, despite the fact that the parliament and much of the government moved to new capital city Berlin in 1999, Bonn is more international than ever. The city has a lot more to offer than just beautiful surroundings and scenic landscapes. Bonn has a vibrant theater and cinema scene, not to mention a whole host of top-class museums and concert halls. The “Bundesstadt”, or Federal City, of Bonn is also a prospering business center and the heart of a pulsating science region with a number of high-profile research institutions.

Political and Economic Center

Although the parliament and most diplomats have long since made their way to Berlin, Bonn is still a political and administrative center. All ministries maintain offices in Bonn; indeed, six of them still have their official residence here. In recent years, the various United Nations departments that have established their seat in Bonn have added international flair. Additionally, many NGOs are located in Bonn, from Amnesty International to the World Wind Energy Association. Global players like Deutsche Telekom and Deutsche Post DHL together with its subsidiary Postbank offer thousands of highly qualified jobs, as do the property giant IVG, the gummy bear producer Haribo and the German broadcaster Deutsche Welle, to name just a few.
BONN – FACTS & FIGURES

Geographical location: 50°44’2” north; 7°6’8” east (point of reference: university main building); 60 meters above sea level.

Area: 141.2 square kilometers, three-quarters of which are on the left bank of the Rhine; 39.4 square kilometers are wooded. There are 47 streams in Bonn, most of which flow into the Rhine.

Climate: Bonn is one of the warmest regions in Germany.

Population: Over 300,000 inhabitants, of whom about 80,000 have moved to Bonn from 176 countries across the world; 39% of Bonn’s population is Catholic, 22% Protestant.

Employment: Bonn is the economically strongest city in North Rhine-Westphalia and has one of the lowest unemployment rates in the whole state.

Health: Bonn is among the top five cities in Germany when it comes to factors such as healthcare, air quality, green areas, sports facilities, and childcare availability.

Culture and Leisure Opportunities

Ludwig van Beethoven (1770–1827) is one of the greatest composers of all time and Bonn’s most well-known son. The Beethoven-Haus, the composer’s birthplace, contains treasures like original scores and some of the maestro’s musical instruments. Bonn’s Opera House has an excellent reputation, as does the theater in Bad Godesberg. Bonn has a number of museums and exhibitions to offer, including the Haus der Geschichte (House of History), with thousands of visitors marveling at the exhibits from the post-1945 period on display covering 4,000 square meters. Further exhibitions located on Bonn’s “Museum Mile” include the Alexander Koenig Research Museum, Kunstmuseum Bonn, the Art and Exhibition Hall, Bonn’s Deutsches Museum, and FrauenMuseum (women’s museum – once the very first of its kind in the world).

Bonn and leisure – this means a quiet glass of beer in a beer garden, a cup of cappuccino at the Kaiserplatz, or Riebekuche (Reibekuchen – reminiscent of thin, crispy hash browns) at the Christmas market. There is no shortage of eateries in Bonn – from fast food to haute cuisine, from one end of the culinary world to the other, be it in the multicultural Altstadt, in Poppelsdorf, or in the cultural hotspot Endenich.

The Rheinländer

People from all over the world as well as native Rheinländer are the essentially happy-go-lucky inhabitants of this beautiful city, who tend to be more tolerant than opinionated, more hedonistic than spartan, art lovers rather than philistines. These characteristics of Rhineland people and life are particularly manifest during Carnival.
University of Bonn

Rooted in the Rhineland – at home in the world. An excellent reputation, about 34,000 students, and nearly 200 years of history: Rheinische Friedrich-Wilhelms-Universität Bonn is one of the leading universities in Germany and a particularly attractive destination for foreign researchers and students. It is a modern research-oriented university that operates internationally while remaining conscious of its long tradition.

History

The University of Bonn was founded in 1818 by King Friedrich Wilhelm III of Prussia. For over 100 years the Faculties of Catholic Theology, Protestant Theology, Medicine, Law, and Arts were all situated in the University's main building, the former residence of the prince-electors. After prospering in the Wilhelminic era, the University suffered several setbacks. Both the independent academic tradition as well as the University buildings were greatly affected during the Nazi regime. After 1945 the University was rebuilt and soon regained its status as a renowned research institution. Bonn University Museum showcases almost 200 years of history – from the Foundation Charter dated 1818 to a 100-year-old rector's robe.

Research University

Today, the University of Bonn is a research university committed to the idea of the universitas litterarum. Over 150 B.A., M.A., and PhD programs are offered by the University's seven faculties:

- The Faculty of Catholic Theology
- The Faculty of Protestant Theology
- The Faculty of Law and Economics
- The Faculty of Medicine
- The Faculty of Arts
- The Faculty of Mathematics and Natural Sciences
- The Faculty of Agriculture
The University’s belief in the principle of a comprehensive university in no way contradicts its efforts to sharpen its profile by setting subject priorities. Outstanding research focus areas at the University of Bonn are:

- Mathematics
- Economics
- Physics/Astronomy
- Life Sciences
- Chemistry
- Pharma Research
- Philosophy/Ethics
- Geosciences

**Excellent Research Environment**

The University of Bonn makes full use of the opportunities offered by its location in the ABC region (Aachen-Bonn-Cologne). The three ABC universities cooperate in many areas. This multilayered research landscape is also home to four universities of applied science, a whole host of research institutes belonging to the Fraunhofer-Gesellschaft, the Deutsches Zentrum für Luft- und Raumfahrt (German Aerospace Center), the Max Planck Society, the Center of Advanced European Studies and Research (caesar), the Life & Brain Research Center, and the Helmholtz Center of Neurodegenerative Diseases. And in addition to all this, the Deutsche Forschungsgemeinschaft (German Research Foundation), the Alexander von Humboldt Foundation, and the Deutscher Akademischer Austausch Dienst (German Academic Exchange Service) are all located in Bonn.

**The University of Bonn, a Global Player**

The University of Bonn has cross-faculty cooperation agreements with 60 universities around the globe, and there are ERASMUS agreements with a further 300 European universities. This, in turn, is reflected in the course offerings: There are some 30 international courses, most of which are taught completely in English or another foreign language – and there is still an upward trend. In addition, many visiting academics and leading researchers from abroad come to Bonn to teach and conduct research every year.
Bonn Graduate Center

The Bonn Graduate Center (BGC) is the central point of contact for any general or organizational concerns regarding doctoral studies. If you are currently pursuing or planning to pursue a doctoral degree please feel free to contact us. Join the many people who benefit from the Graduate Center’s extensive services!

Individual Consulting for Doctoral Candidates and Postdocs

Are you interested in earning a doctoral degree in Bonn? Are you already a doctoral researcher at the University of Bonn? Or do you work for the University as a postdoc? The Graduate Center will be happy to consult with you on any question you may have about doctoral studies in Bonn and about planning your academic career afterward.
Concerns you could discuss include these:

- Should I pursue a doctorate?
- How can I finance my doctorate?
- What benefits does a doctorate have as part of a structured program or a graduate school?
- What comes after the doctorate?
- How can I finance a postdoc project?
- How do I avoid academic misconduct?

The online portal www.phd.uni-bonn.de provides ample information about first steps on the path to a doctorate at the University of Bonn, on research funding, and on good scientific practice.

“Doctorate Plus”: Training and Orientation

The Graduate Center, together with its cooperation partners – HR Development, the Career Center, and the Bonn Center for University Didactics – offers training and further education measures for doctoral researchers at the University of Bonn. Our semester program, offered partly in English and partly in German, consists of workshops and seminars in four modules:

1. Organizing Research: courses on the organization of scientific work as well as on academic methods. Seminars range from project management for the doctorate to training for the dissertation defense.

2. Developing Competencies: The second module aims at strengthening your extracurricular skills through courses on academic presentation, creativity, or conflict management.

3. Learn How to Teach: training in didactic competencies for your career as a Higher Education teacher.

4. Building Your Career: This module encompasses workshops regarding your orientation on the job market and your career entry.

Funding Opportunities

The Bonn Graduate Center (BGC) posts its own funding opportunities for which doctoral candidates and postdocs can apply. Moreover, the website maintains an overview of all recent job and scholarship announcements at the University of Bonn.

Quality Assurance

By networking with graduate schools at other universities as well as with Bonn’s institutions for ensuring good academic practice, the Graduate Center provides ongoing quality assurance for doctorates at the University of Bonn.
Bonn International Graduate Schools (BIGS) offer excellent doctoral programs conforming to the highest international standards. They provide graduate students with outstanding research conditions, access to international research partnerships and educational programs tailored to their needs. BIGS provide the best possible preparation to embark on a high-level career in research and beyond.
BIGS in Detail

Excellency in Research
The University of Bonn has established BIGS in its designated areas of excellence in research. BIGS maintain close links with large-scale research projects (e.g. Collaborative Research Centers funded by the German Research Foundation) and in some cases with non-university research institutes, such as Max Planck Institutes, Helmholtz Centers, and Fraunhofer Institutes.

Integrating Master’s and Doctoral Program
Several BIGS offer fast-track programs that take students right from the BA to the PhD level. Unlike most German PhD programs, these BIGS offer four- to five-year integrated master’s and PhD programs.

International Orientation
BIGS provide English-language programs for graduate students from all over the world. BIGS have established numerous collaborations with renowned research partners across the globe and offer international exchange opportunities, thus preparing graduate students for a successful international career.

Transparent Application Process
BIGS take pride in their high admission standards: All positions for graduate students are internationally advertised and filled through a competitive selection process. Places are awarded based on academic excellence.

Support and Supervision
BIGS offer comprehensive support structures which go beyond the traditional mentor–student relationship between doctoral students and their advisors. In regular progress meetings, annual retreats, or PhD poster sessions, BIGS provide frequent feedback to their students and guarantee highest supervision standards.

Integration of Coursework and Research
BIGS combine coursework and active research beginning at an early stage of the program. All graduate students are exposed to research techniques and approaches that will shape their fields in the years to come. They are trained by renowned faculty members and contribute independently to a vibrant research environment.

Free of Tuition
The University of Bonn and the BIGS do not charge tuition. Students are asked to officially enroll with the University of Bonn as doctoral researchers and pay the common contribution of approx. € 250 per semester for general social services. A ticket for public transportation is included in this fee.
Bonn International Graduate School of Mathematics

The Bonn International Graduate School of Mathematics is run by the mathematical institutes of the University of Bonn and the Max-Planck Institute for Mathematics. It offers competitive master’s and PhD programs that cover all major areas in the field of mathematics. Bonn Mathematics provides a rich and active environment for students to develop their own expertise and benefit from direct interaction with leading scientists in their field.
Academic Profile

The BIGS in Mathematics is characterized by a broad thematic range that reflects the wide spectrum of mathematical expertise at the University of Bonn and at the local research institutes. Bonn Mathematics has been distinguished as the best German research department in mathematics and ranks among the top institutions worldwide. Participating institutes of the BIGS in Mathematics are the four mathematical institutes of the University of Bonn as well as the Max-Planck Institute for Mathematics.

Their excellence in research is actively transferred to all areas of teaching and academic training within the BIGS. Bonn Mathematics attracts outstanding students from Germany and around the world and guides them toward research at the forefront of modern mathematics. The BIGS in Mathematics provides new students with support in administrative issues and everyday questions. It helps you to find a German language course and makes it easier to find your way around.

Field of study: Mathematics

Degree awarded: Dr. rer. nat.

Duration: Approx. three years

Requirements: MSc degree in mathematics, or BA degree in mathematics and a qualifying year

Application: via BIGS in Mathematics online application system: www.bigs-math.uni-bonn.de/application/online-application

Scholarships: Hausdorff-Scholarships and Qualification Scholarships

Fee: The University of Bonn and the BIGS Mathematics do not charge tuition (for further information see p. 11).
Courses and Workshops

The BIGS in Mathematics hosts regular workshops on specific topics with local researchers and international guest scientists. An annual poster exhibition offers PhD students the chance to present their achievements and stimulates an active exchange of ideas and experiences among students and visitors. The Plücker, Lipschitz, and Felix Klein lecture series for graduate students provide platforms for discussing the latest research topics and interacting with professors, researchers, guest scientists, and other students. Bonn Mathematics also offers a research-oriented program for master’s students that includes a research thesis and thus supports their early academic independence. Courses and workshops are all held in English.

Funding and Grants

Financial support from the graduate school is available for excellent students. The Hausdorff Scholarships are open to PhD students with an outstanding academic record and provide a monthly grant of €1,468 for up to three years. The Qualifying Grants support promising students with €800/month for one year prior to the beginning of their PhD studies. Foreign students with an excellent bachelor degree can apply for a scholarship of €800/month if they wish to complete their master’s and PhD degrees in Bonn. Numerous other funding possibilities are available in Bonn. The BIGS in Mathematics covers travel expenses for conferences and visits to other universities that are related to the PhD students’ work.
Internationality

Bonn Mathematics has founded the Hausdorff Center for Mathematics, which actively promotes the internationalization of mathematical research and attracts leading academics from all over the world. It organizes international long-term programs, workshops, lectures, and regular events that attract renowned mathematicians from leading institutions worldwide. Students of the BIGS in Mathematics benefit substantially from the inspiring international atmosphere in Bonn and have the chance to discuss their topics with international experts in their field. The constant presence of numerous scientists from all over the world in Bonn initiates and fosters cooperation, triggers new developments, and thereby impacts the future of mathematical research. Moreover, Bonn Mathematics has established international partnerships with prestigious institutions such as the UC Berkeley, Princeton University, University of Kyoto, and the University of Warwick.

Polona Durcik (24),
first-year PhD student from Slovenia
Topic: Degenerate homogeneous multilinear forms in low dimensions and low degrees of multilinearity
“The BIGS program in Mathematics offers excellent research conditions. The financial support of BIGS allows full dedication to research. I enjoy the motivating atmosphere, which is enriched by the many nationalities present. To relax after a working week I often make use of the many hiking possibilities in the Rhine valley and its surroundings.”

CONTACT

University of Bonn
Bonn International Graduate School in Mathematics
Endenicher Allee 62
53115 Bonn

Karen Bingel
Administration
phone  +49 228 73 7788
e-mail  bigs@math.uni-bonn.de
web  www.bigs-math.uni-bonn.de
The Pro-Motion project aims to welcome international doctoral researchers to Bonn and help them settle in. Services include practical assistance, numerous cultural and social events, as well as a welcome meeting for new international PhD students at the beginning of each semester.
**International Club**

The International Club is a great place to meet German and international students and researchers. The team behind the International Club organizes student orientation activities as well as parties at the end of each semester, film nights, excursions, visits to companies, concerts, etc. Additionally, several social events such as karaoke nights as well as art and cultural nights are offered to allow international students and researchers to get to know Germany and its people.

During lecture periods, people from all over the world come to chat, to read newspapers, to work, or simply to have fun.

The International Club also hosts the international choir practice meetings. All interested students are welcome to join.

**Workshops**

In addition to the numerous courses offered by the university, there are also several workshops. These include an “Intercultural Trainings” workshop and one specifically designed for international doctoral researchers, “Connect Your Career: Managing Dissertation and Career Entry.”

---

**Pro-Buddy Program**

Every interested international doctoral researcher is put in touch with a “Buddy”, i.e. a German doctoral researcher who will lend a helping hand when it comes to issues concerning German bureaucracy, culture, the University of Bonn, and everyday life.

**German Language Courses**

In cooperation with the association Pro-Integration, German language courses specifically targeting international doctoral researchers are offered at the following levels:

- **Beginner (Level A1/A2)**
- **Intermediate (Level B1/B2)**

---

**German Language Courses**

In cooperation with the association Pro-Integration, German language courses specifically targeting international doctoral researchers are offered at the following levels:

- **Beginner (Level A1/A2)**
- **Intermediate (Level B1/B2)**

---

**Contact**

**International Office**

Poppelsdorfer Allee 53
53115 Bonn

[www.pro-motion.uni-bonn.de](http://www.pro-motion.uni-bonn.de)

**Sandra Groeger**

Project Coordinator

phone +49 228 73 9527

e-mail Sandra.groeger@uni-bonn.de

**Sonja Hammer**

German Language Courses

phone +49 228 73 7708

e-mail Sonja.hammer@uni-bonn.de

[www.uni-bonn.de/studying/international-students/german](http://www.uni-bonn.de/studying/international-students/german)

**Tutor:**

e-mail pro-motion@uni-bonn.de

**International Club:**

[www.internationalerclub.uni-bonn.de](http://www.internationalerclub.uni-bonn.de)
Imprint

Published by the Bonn Graduate Center
Rheinische Friedrich-Wilhelms-Universität Bonn
Bonn Graduate Center (BGC)
Franziskanerstr. 2
D-53113 Bonn

Editors
Clara Kaminsky, Dr. Kai Sicks
E-mail: graduiertenzentrum@uni-bonn.de
Web: www.phd.uni-bonn.de

Design: Bosse und Meinhard GbR
Wissenschaftskommunikation

Photos
Dr. Thomas Mauersberg: p. 4
Bonn Region: p. 4, p. 5
iStockphoto: p. 8
Ulrike E. Klopp: p. 17, p. 19
Dezernat Internationales, Universität Bonn: p. 16

Promoted by the German Academic Exchange Service and funded by the Federal Ministry of Education and Research
Promoted by the German Academic Exchange Service and funded by the Federal Ministry of Education and Research