



Welcome to the Bonn Science Scape

A Global Hub on the Rhine





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WELCOME TO THE BONN RESEARCH ALLIANCE (BORA)

The University of Bonn founded the Bonn Research Alliance (BORA) in 2018 to better connect and collaborate with non-university research institutions in the region. BORA currently encompasses **12 non-university and research capacity building institutions** from the national research societies Max Planck and Fraunhofer, the research associations Helmholtz and Leibniz, the regional Johannes Rau Research Foundation, as well as the United Nations University, based in Bonn.

Collaboration and cooperation pave the way for us to make the most of the **diverse and vibrant research landscape** in Bonn. Our member institutions contribute their expertise and perspectives to jointly shape and further develop the region. Science can better meet many of the **global challenges** of our time by working together. At the same time, **people in the scientific community need a good environment** in which to advance and implement their approaches. The realization of an excellent, **internationally flourishing scientific landscape on the Rhine** with a global focus and outlook is the common perspective.





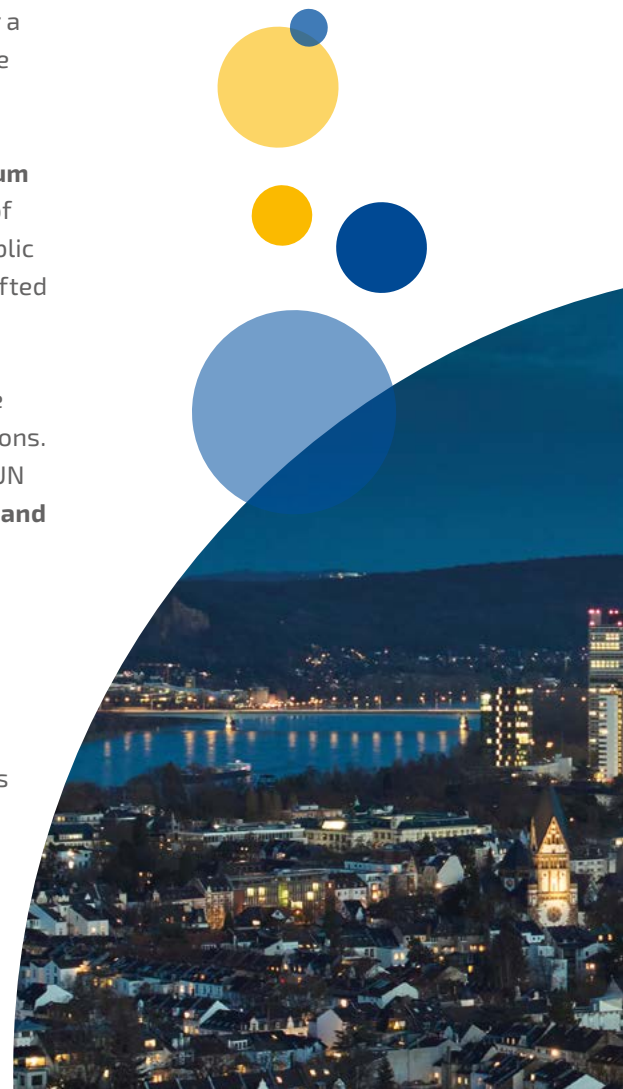
THE BONN SCIENCE SCAPE: KNOWLEDGE CULTURE WITH A HISTORY

At this point, you are usually greeted by a prominent person who will provide you with an overview, give a statement and introduce you to the subject matter. Bonn's science scape, however, stands best for itself. It brings together a wealth of **expertise on global challenges** and **social transformation** while also being a **witness to the city's development**.

The **Leibniz Institute for the Analysis of Biodiversity Change (LIB), Museum Koenig Bonn**, for example, does not only study and document the status of global biodiversity, but also witnessed the foundation of the Federal Republic of Germany. The inaugural session of the Parliamentary Council, which drafted our Basic Law, took place in the museum's atrium in 1948.

Upon relocation of the German capital from Bonn to Berlin in the 1990s, the freed-up urban space at the Rhine attracted many international organizations. The former federal district today hosts more than 25 UN agencies on the UN campus and is the heart of Bonn as a **global hub for international politics and sustainable development**. The **United Nations University Institute for Environment and Human Security (UNU-EHS)**, the **German Institute of Development and Sustainability (IDOS)**, the **Max Planck Institute for Research on Collective Goods**, and **bicc (Bonn International Centre for Conflict Studies)** are key contributors to this hub.

Transformative expertise in artificial intelligence, data, digital technologies and security with a focus on application is represented in particular by the **Fraunhofer Institutes for Communication, Information Processing and Ergonomics FKIE**, **for Intelligent Analysis and Information Systems IAIS**, and **for Algorithms and Scientific Computing SCAL**.



Brain research for a healthy life is conducted at the **German Center for Neurodegenerative Diseases (DZNE)**, the first member of the German Centers for Health Research (DZG), established in 2009 with its main site in Bonn. The **Max Planck Institute for Neurobiology of Behavior – caesar** started its research on neuronal activity and animal behavior on the same premises and are today located in the beautiful Rheinaue.

Being a good host has a long tradition in the cheerful Rhineland region. In 1845, the inauguration of the statue of **Ludwig van Beethoven**, Bonn's most famous citizen, was witnessed by guests of honor such as Queen Victoria, who were seated on the balcony of the Fürstenberg Palace. Today, the **Max Planck Institute for Mathematics** invites brilliant mathematicians from all over the world into the same building with its prominent guest program. Many international visitors are also drawn to the Effelsberg radio telescope, one of the largest fully steerable radio telescopes in the world. It is operated by the **Max Planck Institute for Radio Astronomy** whose researchers explore our dynamic universe.

These institutions work closely with each other and the **University of Bonn**, founded in 1818. While collaboration across institutions is often only visible in isolated cases, we would like to show you the whole colorful landscape in Bonn in the **Bonn Research Alliance (BORA)**.

Dr. Sandra Gilgan

Head of the Staff Unit for the
Bonn Research Alliance (BORA)



BORA MEMBERS IN THE GERMAN RESEARCH LANDSCAPE

The German research landscape encompasses approx. 420 universities, universities of applied sciences, as well as art and music colleges. 90% of these are publicly funded and fall under the responsibility of the federal states.

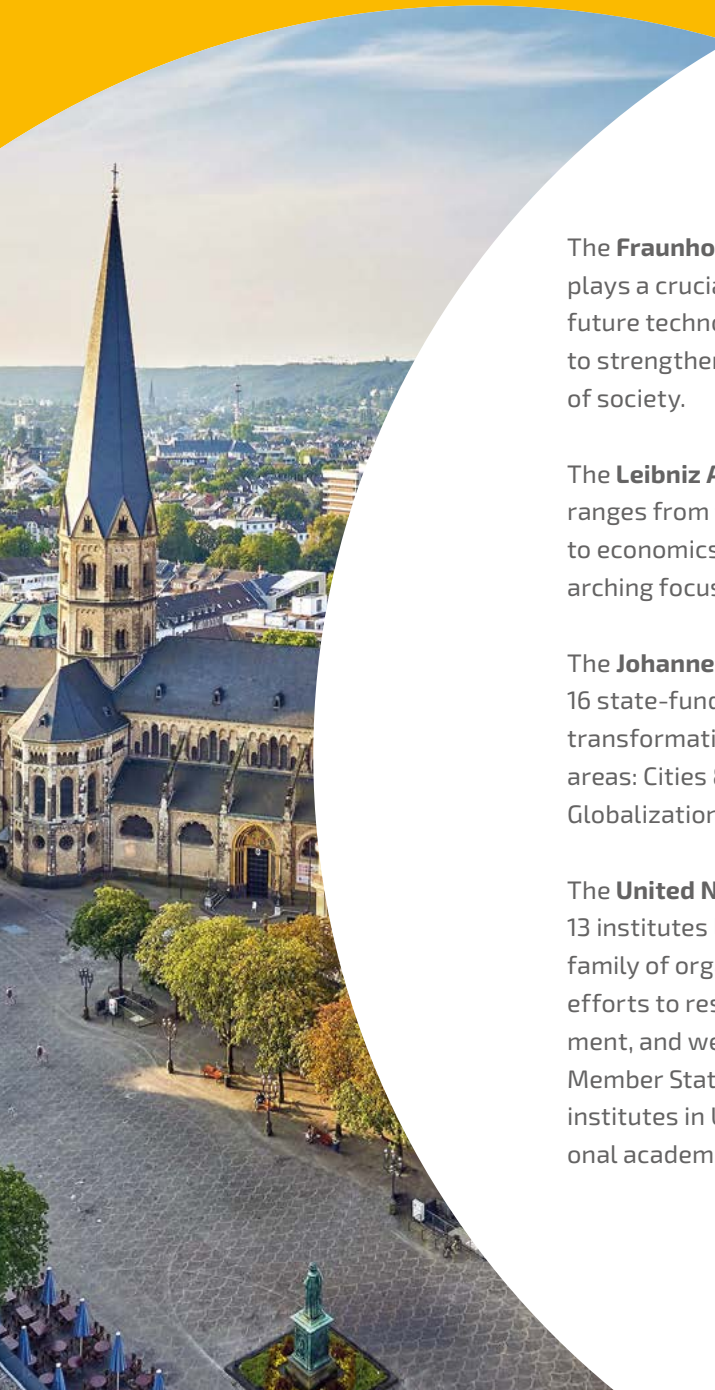
In addition, there are over 1,000 publicly funded research institutions, such as academies of sciences and humanities, federal and state research institutions, and non-university research institutions organized in national research societies or associations, which are in joint responsibility of the federal and state governments.

In the **Bonn Research Alliance (BORA)**, the University of Bonn cooperates with institutes of the four national research societies as well as internationally renowned think tanks from the Johannes Rau Research Foundation in North-Rhine Westphalia, and the United Nations University (UNU).

The **Max Planck Society** is the most important center of foundational research in natural sciences, biosciences, humanities and social sciences outside universities.

The **Helmholtz Association** conducts cutting-edge research in six research areas: energy, earth and environment, health, information, matter, and aeronautics, space and transport. To this end, the institutes are equipped with a top-class research infrastructure.





The **Fraunhofer-Gesellschaft** is a leading applied research organization. It plays a crucial role in the innovation process by prioritizing research in key future technologies and transferring its research findings to industry in order to strengthen Germany as a hub of industrial activity as well as for the benefit of society.

The **Leibniz Association** brings together research institutes whose focus ranges from the natural sciences, engineering and environmental sciences to economics, spatial sciences, social sciences and the humanities. An overarching focus is the transfer of knowledge to politics, business and the public.

The **Johannes Rau Research Foundation (JRF)** is the umbrella organization for 16 state-funded non-university research institutions that contribute to the transformation from an industrial to a knowledge-based society in four key areas: Cities & Infrastructure, Industry & Environment, Society & Digitalization, Globalization & Integration.

The **United Nations University (UNU)**, headquartered in Japan, encompasses 13 institutes located in 12 countries around the world and is part of the UN family of organizations. As a global think tank, its mission is to contribute to efforts to resolve the pressing global problems of human survival, development, and welfare that are the concern of the United Nations, its Peoples, and Member States. UNU therefore works with leading universities and research institutes in UN Member States, functioning as a bridge between the international academic community and the United Nations system.





COLLABORATIVE EXPERTISE IN BORA

The colored dots on the map of expertise represent the thematic areas in which the BORA members have strong collaborations with the University of Bonn.

These collaborations are manifested in

18 joint PhD programs,

24 high-profile research projects, and

26 joint appointments which constitute the main interinstitutional personnel linkages.



INTRODUCING THE BORA MEMBERS

For decades, the University of Bonn has maintained strong collaborations with a large number of non-university research institutions in the Bonn region.

On the following pages, the **12 BORA members** present themselves, their research and collaborations with the University of Bonn.

Employees also reveal what they value so much about Bonn as a research location and why they enjoy living and researching here.





UNIVERSITY OF BONN



The University of Bonn has an international reputation as a leading institution of research and teaching, which is reflected in the excellence status since 2019. As one of 11 Universities of Excellence, the University of Bonn has **six Clusters of Excellence**, more than any other university in Germany.

As a comprehensive university, teaching and research are offered in **seven faculties** ranging from natural and formal over social, technological and agricultural sciences to humanities, arts, theology, law, economics, and medicine. Interfaculty research across disciplines is enhanced in so-called **Trans-disciplinary Research Areas (TRAs)** which offer incentives and support for cross-collaboration and innovative ideas, and host new professorships in emerging fields of research.

Faculties and their institutes as well as the university as a whole maintain numerous partnerships with international and strategic partner universities and institutions. This is flanked by the university's **national, regional and local networks** whose impact reach into the vibrant and international science community. With around 4,500 students from over 130 different countries around the world and over 70 partner universities on six continents, the university contributes significantly to the **international living and working atmosphere** in Bonn.

The University of Bonn is the first university in Germany to set up a **Vice Rectorate for Sustainability** and make the topic a cross-cutting task for the entire institution. The Bonn Program for Sustainable Transformation (BOOST) enables all members of the university to participate in this process and specifically encourages student involvement.





"As a 'University of Excellence', one basis for our success is the outstanding international science location of Bonn. With BORA, as a main part of our excellence strategy, we have taken these close relationships with non-university research institutions and think tanks to a new level. The cross-institutional alliance impressively represents top-level research and an intellectually thriving environment. And all of this is embedded in a special region which has always been known for its cosmopolitanism, culture and joie de vivre. I invite you to come over and get to know us!"

Prof. Dr. Dr. h.c. Michael Hoch
Rector

1818 Founding year

7,596 Staff
5,153 scientific, thereof
688 professors
1,167 postdocs

Learners

31,444 students
237 study programs
6,458 PhD students
69 trainees in
18 training professions

We celebrate our colleagues for

8 Nobel Prizes
2 Fields Medals
19 Leibniz Prizes
6 Humboldt Professorships
51 ERC Grants
11 Highly cited Researchers



FRAUNHOFER INSTITUTE FOR ALGORITHMS AND SCIENTIFIC COMPUTING SCAI



The Fraunhofer Institute for Algorithms and Scientific Computing SCAI excels at combining expertise in mathematical and computational methods. It focuses on developing and implementing innovative algorithms in industrial practice, delivering substantial benefits to its customers and partners.

One of the institute's key specialties is the development of professional software packages that are distributed globally, resulting in significant licensing revenue. The ten business areas of Fraunhofer SCAI encompass the entire spectrum from research to customer-specific solutions: bioinformatics, optimization, multiphysics, fast solvers, high-performance computing, network evaluation technologies, virtual material design, numerical data-driven prediction, meshfree multiscale methods, and computational finance.

The institute maintains **academic partnerships** with the **Institute for Numerical Simulation (INS)**, the **Institute of Computer Science**, and the **Faculty of Medicine** at the University of Bonn. Furthermore, Fraunhofer SCAI collaborates with the **Bonn-Aachen International Center for Information Technology (b-it)**, the **Hochschule Bonn-Rhein-Sieg, University of Applied Sciences**, and the **Hochschule Koblenz, University of Applied Sciences, RheinAhrCampus**.

Fraunhofer SCAI also operates a **branch lab at the University of Bonn**, located within the INS.





"At Fraunhofer SCAI, we use mathematical methods and simulation techniques to ensure the energy transition's success. Intending to store solar and wind power at low cost, we are investigating new types of batteries.

Fraunhofer SCAI at the University of Bonn offers state-of-the-art facilities and access to the latest high-performance computers."

Dr. Astrid Maaß

Senior Scientist, Branch Lab Bonn



2001 Founding year

Annual Budget 2023

15.6 million euros

57.3% share of industrial revenues in the operating budget

164 Staff

Collaborations with the University of Bonn

Bonn-Aachen International Center for Information Technology (b-it)

Cluster of Excellence:
Hausdorff Center for Mathematics (HCM)

Branch Lab at the Institute for Numerical Simulation (INS)

Institute of Computer Science

Faculty of Medicine



FRAUNHOFER INSTITUTE FOR COMMUNICATION, INFORMATION PROCESSING AND ERGONOMICS FKIE



The Fraunhofer Institute for Communication, Information Processing and Ergonomics FKIE develops technologies and processes with the aim of **early detection, mitigation and management of existential risks**. In close cooperation with strategic partners, the institute is dedicated to the entire processing chain of data and information: from acquisition, transmission and processing to reliable protection. The Fraunhofer FKIE is committed to this mission both in the civilian sector and in command and reconnaissance processes in the defence technology sector.

The human factor is of central importance to the work carried out at Fraunhofer FKIE. Research focuses on **developing effective and efficient human-machine systems**: people are placed at the center as decision makers and responsible actors. In the context of the German Armed Forces, civilian security agencies and the industry, the Fraunhofer FKIE develops methods and procedures for all aspects of security – be it on the ground, in the air, at sea, under water or in cyberspace.

The Fraunhofer FKIE is active in **six interdisciplinary research fields** as a leading institute for applied research and application-oriented innovation in information and communications technology. It has built up specialized knowledge and its research ranges from studies and tests to the development of prototypes.





1963 Founding year

Annual Budget 2023
45.8 million euros

488 Staff, thereof
275 scientific, thereof
14 professors and
36 graduates

Collaborations with the University of Bonn
Institute of Computer Science 4 -
Security and Networked Systems

Joint Research Project:
Automated Multisensor Stations for
Monitoring of BioDiversity (AMMOD)



FRAUNHOFER INSTITUTE FOR ANALYSIS AND INFORMATION SYSTEMS IAIS



As part of the largest organization for applied research in Europe, the Fraunhofer Institute for Intelligent Analysis and Information Systems IAIS, based in Sankt Augustin/Bonn and Dresden, is one of the leading scientific institutes in the fields of **Artificial Intelligence (AI)**, **Machine Learning and Big Data** in Germany and Europe.

Around 350 employees support companies in the optimization of products, services, as well as in the development of new technologies, processes, and new digital business models.

Fraunhofer IAIS is shaping the digital transformation of our working and living environments: with innovative AI applications for industry, health, and sustainability, with forward-looking technologies such as large-scale AI language models or Quantum Machine Learning, with offers for training and education or for the testing of AI applications for security and trustworthiness.

Bundled research expertise door to door – Fraunhofer IAIS and the neighboring **Institute for Computer Science at the University of Bonn** as well as the **Bonn-Aachen International Center for Information Technology (b-it)**; funded by the Fraunhofer-Gesellschaft, the University of Bonn, the RWTH Aachen, and the Hochschule Bonn-Rhein-Sieg, University of Applied Sciences (H-BRS)) work closely together in common areas of research and interest.



"Bonn has a very long-standing tradition as a place for top-tier international research. Especially for world leading AI research, Bonn offers the very best conditions. There is the university, there are Fraunhofer, Helmholtz and Max Planck Institutes, and there is the Lamarr Institute for Machine Learning and Artificial Intelligence with numerous international colleagues working on AI foundations and its practical applications in areas such as, say, robotics, the life sciences, agriculture, or physics. We are glad to be part of this ecosystem and to benefit from the well-established networks and cooperation structure in and around Bonn."

Prof. Dr. Christian Bauckhage

Lead Scientist Machine Learning at Fraunhofer IAIS & Co-Director at Lamarr Institute for Machine Learning and Artificial Intelligence



2006 Founding year

Annual Budget 2023

33.6 million euros

Staff

220 scientific, thereof

7 professors

65 non-scientific

Collaborations with the University of Bonn

Bonn-Aachen International Center for Information Technology (b-it)

Lamarr Institute for Machine Learning and Artificial Intelligence

AI Service Center WestAI

Cluster of Excellence: PhenoRob – Research for the Future of Crop Production

NRW Leading-Edge Cluster: "Certified AI"



GERMAN CENTER FOR NEURODEGENERATIVE DISEASES (DZNE)



DZNE is a member of the Helmholtz Association (Helmholtz-Gemeinschaft Deutscher Forschungszentren). It **researches neurodegeneration** and the wide range of diseases it triggers. In addition to Alzheimer's and Parkinson's disease, this also includes less common diseases such as frontotemporal dementia, amyotrophic lateral sclerosis (ALS), spinocerebellar ataxia, and childhood dementia.

DZNE consists of ten sites – Berlin, Bonn, Dresden, Göttingen, Magdeburg, Munich, Rostock/Greifswald, Tübingen, Ulm and Witten – and pools expertise distributed nationwide within a single research institute. With some 600 employees, **Bonn is the DZNE's largest site** as well as the seat of the Executive Board and the central administration. The location's research covers a wide variety of topics and disciplines, ranging from **studies in the laboratory to human clinical studies and population health studies.**

DZNE dedicates its efforts towards all aspects of neurodegenerative diseases – from molecular mechanisms to health care and patient care. In order to cover this wide range of topics, DZNE pursues an **interdisciplinary scientific strategy** that includes various interlinked areas of research: DZNE scientists **work together across disciplines and sites**, so that new findings can be rapidly transferred into practical application. Within this **"translational" approach**, DZNE collaborates with universities, university hospitals, research institutes and research-driven companies – both in Germany and worldwide.





"What I love about Bonn as a research location is the international, first-class research community and the great scientific infrastructure. Combined with the beautiful city, wonderful surroundings and the cosmopolitan Rhinelanders – it's perfect!"

Prof. Dr. Ina Maja Vorberg,
Group Leader



2009 Founding year

Staff

603 scientific, thereof
24 professors
108 postdocs
423 non-scientific

Learners

15 trainees
173 PhD students

We celebrate our colleagues for

2 Leibniz Prizes
1 Breakthrough Prize
9 ERC Grants
6 Highly cited Researchers (2022)



LEIBNIZ INSTITUTE FOR THE ANALYSIS OF BIODIVERSITY CHANGE (LIB), MUSEUM KOENIG BONN

LIB Leibniz Institute for the Analysis
of Biodiversity Change

MUSEUM
KOENIG
BONN

The Leibniz Institute for the Analysis of Biodiversity Change (LIB) comprises the Museum Koenig Bonn and the Museum of Nature Hamburg. It is dedicated to research into biological diversity and how it changes, the findings from which have illuminating relevance for society as a whole. To better understand ongoing mass extinction of flora and fauna, scientists look for correlations and causes of – often – human-made changes and aim to find solutions for the conservation and preservation of ecosystems and species – the livelihood of mankind. Included and connected to our research on biodiversity is knowledge transfer on these themes in the Museum Koenig Bonn with its research collections and its exhibition for the public.

The LIB structures its work tasks in four centres:

- **Centre for Taxonomy and Morphology**
- **Centre for Molecular Biodiversity Research**
- **Centre for Biodiversity Monitoring and Conservation Research**
- **Centre for Knowledge Transfer**

For its analyses, the LIB draws on its valuable scientific collections comprising more than 15 million objects, which are continuously expanding. Using state-of-the-art technology and various methods, scientists examine these “reference databases” – the collections and heart of the institute – to answer relevant questions about our society for the future.





"Bonn is a great place to work and live: it is big enough to have many opportunities and choices, and small enough to be family-friendly and easy to navigate. It is surrounded by beautiful landscape and a lot of nature reserves with its maritime influenced climate with relatively mild winters and temperate summers. Our institute greatly benefits from Bonn as a university town, which is also home to nature conservation agencies and UN organizations. Our staff and students come from numerous countries and bring different perspectives and cultures into our house – which is creating an inspiring and creative atmosphere. Only mountains are missing!"

Prof. Dr. Dr. h.c. Bernhard Misof
Director General LIB



2012 Founding year

Staff

about **200** scientific
(in Bonn & Hamburg), thereof
4 professors in Bonn
55 postdocs and
about **150** non-scientific

Learners

about **40** students (BSc and MSc)
each semester
65 PhD candidates
thereof **35** with the University of Bonn

We celebrate our colleagues for

8 ERC Grants
1 DFG funded Research Group (FOR)
4 DFG funded CRCs / TRRs (SFB)



MAX PLANCK INSTITUTE FOR RESEARCH ON COLLECTIVE GOODS

MAX PLANCK INSTITUTE
FOR RESEARCH ON
COLLECTIVE GOODS



The Max Planck Institute for Research on Collective Goods is located in the former residence of the Egyptian ambassador in the Bonn district of Gronau in the federal quarter ("Bundesviertel") close to the Rhine and the UN campus. It conducts **inter-disciplinary work at the intersection of economics, law, and psychology**. Most, but not all of the work is behavioral, combining theory, experiments and the analysis of observational data.

The institute hosts three independent research groups:

The **Experimental Economics Group** uses laboratory and field experiments to (i) examine the formation of economic preferences (like risk, time, and social preferences) in childhood and adolescence, (ii) measure the impact of educational interventions on human capital formation, and (iii) improve workplace climate in organizations.

The research in **Economic Design & Behavior** focuses on what might be called "behavioral economic engineering", which combines tools from game theory and behavioral research to design markets, algorithms and competitive strategies.

Behavioral Law and Economics (drawing to a close in 2025) takes a social science perspective on law, often but not exclusively from a behavioral angle. The research group tackles three big questions: Why is legal intervention needed in the first place? In which ways has the law a chance to impact the behavior of its addressees? How is new law made and implemented?





"Arguably for decades, Bonn has been the best place for young economists to study and work. The only German Nobel Prize Laureate in economics (Reinhard Selten) was working at the University of Bonn, making Bonn an international hub for game theory, experimental and behavioral economics. The close interaction of several leading research institutions in and close to Bonn (IZA, MPI for Collective Goods, University of Cologne, University of Bonn) generates a vibrant and inspiring research environment for young scientists. The excellence cluster of the German Science Foundation ECONtribute – the only economics excellence cluster in Germany – offers in particular great opportunities for PhD-students, young postdocs and tenure-track positions."

Prof. Dr. Matthias Sutter

Director

2004 Founding year

81 Staff

We celebrate our colleagues for

- 1** Leibniz Prize
- 1** ERC Grant
- 1** Heinz Maier-Leibnitz Prize
- 1** DFG funded CRC/TRR (SFB)

Collaborations with the University of Bonn

Cluster of Excellence:

ECONtribute: Markets & Public Policy

PhD Program:

International Max Planck Research School (IMPRS) on Behaviorally Smart Institutions



MAX PLANCK INSTITUTE FOR MATHEMATICS (MPIM)

MAX PLANCK INSTITUTE
FOR MATHEMATICS



The Max Planck Institute for Mathematics is located in the city center of Bonn between Münsterplatz and Bottlerplatz.

The institute has only a small number of permanent staff. Most of the scientists visit the institute for a fixed period of time within the famous **Guest Program**.

Mathematicians with a completed PhD can work at the MPIM for a fixed period of time, ranging from weeks to several months. **Young researchers** at the post-doctoral level can get in contact with established scientists, who enjoy staying at the MPIM for a sabbatical. The whole concept of the program is about stimulating the **communication** within the mathematics community, to **exchange ideas**, or to **discuss new findings** in seminars and at the **traditional four o'clock tea**. Over the years a few thousand mathematicians have used this unique opportunity.



MPIM's working areas are:

- Algebraic Groups
- Arithmetic Geometry
- Number Theory
- Representation Theory, Algebraic and Complex Geometry
- Differential Geometry and Topology
- Algebraic Topology
- Global Analysis
- Non-Commutative Geometry
- Dynamical Systems
- Mathematical Physics



1980 Founding year

Staff

- 4 directors
- 6 research group leaders
- 4 researchers
- 80 long-term visitors (post graduate)
- 20 PhD students
- 16 in administration and service

We celebrate our colleagues for

- 2 Fields Medals
- 1 Leibniz Prize
- 1 ERC Grant

Collaborations with the University of Bonn

Cluster of Excellence:
Hausdorff Center for Mathematics (HCM)

PhD Program: International Max Planck Research School (IMPRS) on Moduli Spaces



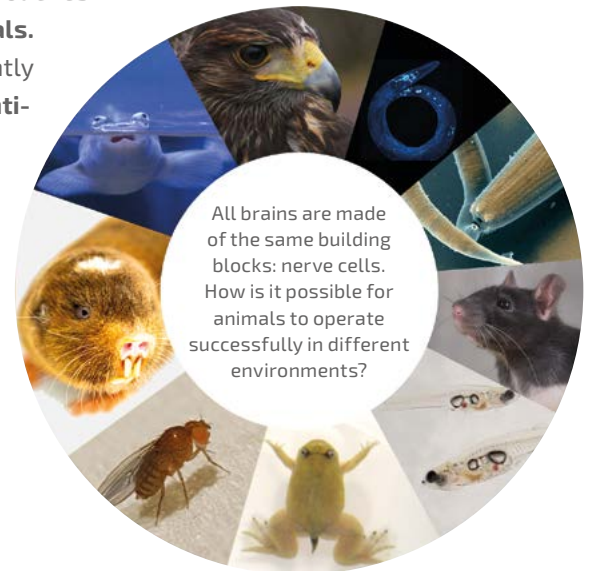
MAX PLANCK INSTITUTE FOR NEUROBIOLOGY OF BEHAVIOR – CAESAR (MPINB)



The MPINB is located in the beautiful Rheinaue, the largest park in Bonn. It focuses on **basic research in neuroethology** – the study of the neural basis of animal behavior. The **international team of researchers** at the institute studies how the collective activity of vast numbers of neurons gives rise to the plethora of animal behaviors. The **interdisciplinary research** spans from imaging neural circuits at the nanoscale to analyzing neural activity in a freely moving and naturally behaving animal.

Understanding how animals perceive and interact with their world is a major technical challenge because you need to study animals and their brains “in action”. A **key highlight** of our research is the **development of experimental approaches to link neuronal activity to naturalistic behavior in freely moving animals**. The **world's lightest, head-mounted multiphoton microscope** was recently developed at our institute. Our technologies include **high resolution quantification of naturalistic behavior, imaging tools** for measuring neuronal population activity during goal directed behavior and the **reconstruction of synaptic connectivity using 3D electron microscopy**.

The MPINB works closely with the University of Bonn and other local research institutes to **train the next generation** of young scientists in a **joint graduate school**.



The Max Planck Institute for Neurobiology of Behavior – caesar is an integral part of the Bonn neuroscience community. One cornerstone is our international graduate program IMPRS for Brain and Behavior. Furthermore, lively exchange among local neuroscientists is fostered through joint teaching activities, collaborative research projects and scientific events. A standout event is the jointly organized BonnBrain³ conference, a dynamic meeting held every summer that features outstanding international speakers, creating a wonderful forum for scientific discussions.

These extensive collaborations and vibrant exchange opportunities within the local neuroscience community make Bonn an exceptional location for our growing international team of researchers and students.

2022 Founding year

185 Staff

- 2 Departments
- 7 Research Groups
- 5 Core Facilities
- 4 ERC Grants

Collaborations with the University of Bonn

iBehave Network

SFB 1089 Synaptic Micronetworks in Health and Disease

SPP 2041 Computational Connectomics

International Max Planck Research School (IMPRS) for Brain and Behavior

Bonn International Graduate School (BIGS) of Neuroscience

Training Modules in the Master of Neurosciences



MAX PLANCK INSTITUTE FOR RADIO ASTRONOMY (MPIfR)

MAX PLANCK INSTITUTE
FOR RADIO ASTRONOMY



The Max Planck Institute for Radio Astronomy (MPIfR) is one of 85 member institutes of the Max Planck Society (MPG). Its main research area is **radio astronomy** while activities of the institute comprise the whole area of astronomical observations throughout the **electromagnetic spectrum** and also **theoretical astrophysics**.

For research into the physics of stars, galaxies and the universe, radio astronomy looks into subjects like stellar evolution, young stellar objects, stars at a late stage of their evolution, pulsars, the interstellar medium of the Milky Way and other galaxies, magnetic fields in the universe, radio galaxies, quasars and other active galaxies, dust and gas at cosmological distances, galaxies at early stages of the evolution of the universe, cosmic ray(s), high-energy particle physics as well as the theory of stellar evolution and active galactic nuclei (AGN).

The absolute highlight of the institute is the **Radio Telescope Effelsberg**. With a diameter of 100 meters, the Radio Telescope Effelsberg is one of the **largest fully steerable radio telescopes on earth**. Since operations started in 1972, the technology has been continually improved (i.e. new surface for the antenna-dish, better reception of high-quality data, extremely low noise electronics) making it one of the most advanced modern telescopes worldwide.





"The combination of an excellent university and outstanding non-university institutions attracts students from all over the world. This makes Bonn lively and colorful and our research world-leading."

Prof. Dr. Michael Kramer
Director



1966 Founding year

Staff

136 scientific, thereof
5 professors and
22 postdocs
124 non-scientific

Learners

8 trainees
13 students
48 PhD students
thereof **39** with the University of Bonn

Collaborations with the University of Bonn

SFB 1601 Habitats of Massive Starts across Cosmic Time

Bonn-Cologne Graduate School
for Physics & Astronomy (BCGS)

International Max Planck Research School
(IMPRS) for Astronomy & Astrophysics



bicc – BONN INTERNATIONAL CENTRE FOR CONFLICT STUDIES



bicc is an independent international research institute dedicated to research and policy advice on the conditions, dynamics and consequences of violent conflicts to contribute to a more peaceful world.

bicc is located in the western part of Bonn and is a member of the Johannes Rau Research Foundation.

Its multidisciplinary approach covers the topics of building peace and social cohesion, militarization and arms control, violent environments and infrastructures, agents and patterns of security and war as well as migration and forced displacement.

bicc is **known globally** for its **expertise on arms control and disarmament of combatants** and frequently listed as **top think tank worldwide** and frequently listed among the top think tanks worldwide.

Staff at **bicc conducts research in highly dangerous and challenging conflict regions** around the world, including Mali, Chad, South Sudan, Iraq, Afghanistan, and Pakistan. Researchers and practitioners are seconded to the United Nations, the African Union (AU), the Regional Centre on Small Arms (RECSA) and the Economic Community of West African States (ECOWAS).

bicc is also heard as a **critical voice in political and public debates** on topics such as the Ukraine War, the Afghanistan intervention and arms exports.



"At the science location Bonn, university institutes come together with application-oriented research institutions as well as political, administrative and development cooperation institutions. The location provides the ideal conditions for applied research at bicc on issues related to peace and conflict studies."

Marie Müller-Koné
Senior Researcher

"Having easy access to local knowledge and resources play an important role for innovation in science. Bonn's diverse research landscape offers many opportunities for interdisciplinary exchange that inspires scientists to ask new questions and seek solutions to societal challenges."

Maurice Döring
Researcher



1994 Founding year

70 Staff
55 scientific, thereof
2 professors and
15 postdocs
15 non-scientific

Learners

16 students
9 PhD students

We celebrate our colleagues for

22 Third-party funded projects
1 DFG funded TRR (SFB)
4 Highly cited Researchers

Collaboration with the University of Bonn
 TRR 228 Future Rural Africa: Violent futures?
 Contestations along Frontiers in East Africa



GERMAN INSTITUTE OF DEVELOPMENT AND SUSTAINABILITY (IDOS)



IDOS is one of the **world's leading research institutions and think tanks** for global sustainable development.

By basing its work on the interplay between **research, policy advice** and **training**, IDOS builds bridges between theory and practice. IDOS' theory-based, empirically driven and application-oriented research provides the basis for its policy advice. It develops policy-relevant concepts, advises ministries, governments and international organizations, and refers to current policy issues.

IDOS stands in for a **multipolar, closely connected and constructively cooperating world**. The training programs of the institute for university graduates and young professionals are integrated into the research and advisory process.

Since 1965, university graduates have been trained for challenging tasks in international cooperation as part of the Postgraduate Programme. In 2007, a training and dialogue format for young leaders from emerging global powers was added: today's **MGG Academy** is also the cornerstone of the **Managing Global Governance network**, which is dedicated to mutually reinforcing activities in the areas of qualification, knowledge cooperation and policy dialogue. The programme **Shaping Futures: African-European Network on Development and Sustainability with its Shaping Futures Academy** has been an innovative training and dialogue programme since 2021, which is aimed at young leaders from African and European countries since 2021.





"Bonn combines short distances with internationality. This specific environment – from central German scientific institutions to UN bodies – is also appreciated by the participants of our training programs at IDOS, who come here every year from different regions of the world."

Dr. Sven Grimm

Head of Knowledge Cooperation & Training



1964 Founding year

170 Staff

111 scientific, thereof
5 professors and
18 in academic management
41 administrative

Learners

3 trainees
97 research assistants
20 PhD students
thereof **9** with the University of Bonn

Collaborations with the University of Bonn

TRR 228 Future Rural Africa: Violent futures?
Contestations along Frontiers in East Africa

Interfaces – Supporting pathways to
Sustainable Land Management in Africa



UNITED NATIONS UNIVERSITY, INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY (UNU-EHS)



The United Nations University (UNU) is the academic arm of the United Nations and acts as a global think tank. The UNU's Institute for Environment and Human Security (UNU-EHS) is located in Bonn. Its vision is to create a world where people are safe from environmental risks and prosper in harmony with nature.

The Institute's research promotes **knowledge for a sustainable world by uniting science, policy and practice** in the fields of disaster risk, climate change adaptation and transformation. The main areas of work at UNU-EHS are "**Risk and Adaptation**" and "**Transformation**".

The Risk and Adaptation Department focuses on understanding and addressing interconnected risks and the adverse impacts of climate change in science and policy. The Transformation Department creates positive visions of possible futures and catalyses new coalitions and actions for a sustainable and climate resilient world, human well-being, sustainability and equity. Within each of these two departments, the institute has several complementary work streams.

UNU-EHS also offers a **Master of Science degree programme "The Geography of Environmental Risks and Human Security"** jointly with the University of Bonn, and contributes to the University of Bonn's **MSc Programme on Global Health**. The Institute runs a large variety of projects supporting vulnerable populations across the globe and offers courses on issues of environmental risks and sustainable development.





"At UNU-EHS, we carry out research on sustainability and climate topics, bringing scientific evidence to the UN processes. In Bonn, we are among other UN organizations and think tanks, creating synergy to achieve our goal of making a more liveable world. Bonn is a unique place to collaborate with like-minded partners, bringing science and sustainability together."

Prof. Dr. Shen Xiaomeng
Director

2003 Founding year

Staff

88 scientific, thereof

3 professors

7 non-scientific

Learners

81 students

Collaborations with the University of Bonn

OrganoRice – organic rice production in the Mekong delta

COINS – Co-developing innovations for sustainable land management in West African smallholder farming systems

RETO-DOSSO – Science Meets Schools – The nexus of water, food and the economy, driven by renewable energies to improve living conditions in the Dosso region of Niger

International Joint MSc Programme: Geography of Environmental Risks and Human Security



WELCOME TO BONN!

Bonn is located in the Rhineland and places us at the heart of Europe.

As the **German city of the United Nations**, Bonn hosts more than 25 UN organizations. Several diplomatic missions, more than 20 federal institutions, and a range of international organizations make it the **second federal political center** of Germany and an international political center.

As an **international science hub**, Bonn accommodates a great range of research and capacity building institutions, from universities and universities of applied sciences and arts to research institutions and think tanks, many of which you have already encountered.

Between the mountains of the "Siebengebirge" with its hiking trails and the so-called "Museum mile" with exhibitions around **arts, social discourse, and current topics from politics and research, national and natural history and much more**, Bonn has a lot to offer!

Bonn is a **modern, happy and cosmopolitan city** with an exceptionally high quality of life offering a variety of activities for young and old!





WHAT MAKES BONN WORTH WORKING IN?

Bonn is the German city of the **United Nations** with a population of **170 nationalities**, **more than 25 UN organizations** are operating here, with the UN World Climate Secretariat (UNFCCC) being the best known. That is why Bonn has already hosted the famous world climate conference twice, in 1999 (COP5) and in 2017 (COP23).

About **125 international NGOs** complement a vibrant international working environment around climate change, biodiversity, health, education, human security, digitalization, the Sustainable Development Goals (SDGs) and much more.

In 1999, the parliament and parts of the German government moved to Berlin. The federal city of Bonn remains the second **federal political center** of Germany. It hosts **6 federal ministries**, the second official seat of the **Office of the Federal President** (Villa Hammerschmidt), the **Office of the Federal Chancellor**, and **more than 20 federal authorities**. In addition, **13 diplomatic missions** are located in Bonn.





Bonn is a science hub with a total of **6 higher education institutions** (3 of which offer doctoral programs), **16 non-university research institutions and think tanks**, **8 government research institutions**, **6 science funding agencies** as well as **2 political foundation offices**.

With **more than 15,000 companies**, Bonn is also an important economic location. At its center are the two DAX companies and largest employers, **Deutsche Post AG** and **Deutsche Telekom AG**. There are **over 100 large companies** and a lively landscape of small and medium-sized enterprises. Bonn ranks second among German cities with the **highest stock market value**.

The economy plays a pivotal role in the transformation towards sustainability. In March 2023, the city council adopted a climate plan for **climate neutrality** by 2030. With the **Sustainability Hub Bonn Region**, the City of Bonn supports and guides start-ups and existing companies in the implementation of **sustainable business models and products**. Key players in the science scape of Bonn helped to shape this hub.



WHAT MAKES BONN WORTH LIVING IN?

WE ARE A PLACE FOR PEOPLE WITH FLAIR AND FUN FOR EVERYONE

Bonn and the region have more than **200 day care centers (3 of which are international)** and more than **100 general and vocational schools (5 of which are international)**.

AND FOR YOUR LEISURE TIME?

- 41 Museums
 - 11 Theaters
 - 12 UNESCO World Heritage Sites
 - 2 Climbing halls
 - 5 Climbing parks
 - 7 Swimming pools
 - 320 Playgrounds & soccer fields
 - 12 Biking trails & hiking routes and
 - 620 km of hiking trails
- many... bars, pubs and cafés!**

Fun Fact: Did you know that Bonn is the hometown and production site of the world famous HARIBO sweets?





WE ARE A PLACE OF JOY WITH A VIBRANT AND DIVERSE CULTURE

Bonn is the birthplace of **Ludwig van Beethoven** and has the highest density of **art and cultural institutions** in North Rhine-Westphalia.

It is a modern, lively and cosmopolitan city with an **international flair** and an exceptionally high quality of life. Bonn celebrates sparkling spectacles like **carnival** and the annual **cherry blossom** in the Old Town.

Germany's oldest narrow-track train takes you uphill to the top of "Dragon's Rock" (Drachenfels). You can also **explore nature** by foot, mountain bike, kayak and canoe.



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