



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



Table of Contents

Master's degree	2
Life Science Informatics (b-it) • University of Bonn • Bonn.....	2

Master's degree



b-it

Life Science Informatics (b-it)

University of Bonn • Bonn

Overview

Degree	Master of Science in Life Science Informatics
In cooperation with	RWTH Aachen University
Teaching language	<ul style="list-style-type: none">English
Languages	Only English
Full-time / part-time	<ul style="list-style-type: none">full-time
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	Submission of application documents: every year by 1 March for the academic year starting in October of the same year
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>The programme is distinguished by its international orientation, its focus on both natural sciences and IT competence, and its high level of integration of research and teaching. The programme is characterised by a significant number of research lab courses embedded in both basic and applied research at the participating Fraunhofer Institutes of Applied Information Technology (FIT) and for Algorithms and Scientific Computing (SCAI) in cooperation with regional industry.</p> <p>The Master's programme in Life Science Informatics consists of four main blocks:</p> <ul style="list-style-type: none">Computer science and mathematics for natural scientistsBasic principles of life science informaticsBiology of the cell and systems biologyBiomedical data science & AI <p>Major topics include:</p>

- biomedical database systems
- management and retrieval of information
- data mining and machine learning
- statistical genetics
- drug design
- medical imaging and visualisation
- computational neuroscience
- computational modelling of regulatory and metabolic networks
- systems biology and computational systems biology
- analysis of microarrays
- biomedical data science and artificial intelligence

Special courses and internships on information retrieval, data mining, data science and AI provide a special focus on (or within) the important application domain of biomedical information systems, biomedical data science and AI.

The programme also includes training designed to sensitise students to the ethical implications of emerging biotechnologies. The final six months of the programme are dedicated to the Master's thesis, which can be completed in cooperation with partners in the industry.

Course Details

Course organisation	<p>The course contents are structured according to the ECTS (European Credit Transfer System). The programme consists of three semesters with lectures/lab work, and a Master's thesis which is written in the final, fourth semester. Lectures are usually accompanied by course assignments which have to be successfully completed by the students. Lab work is a substantial part of the programme. Several of the courses are mandatory; many electives are offered in the later semesters.</p> <p>The programme emphasises the students' early exposure to eminent scientists. Therefore, courses and lecture series with guest researchers who are prominent in their respective fields are offered to students in order to broaden their horizons.</p> <p>One example of how this is achieved is the LSI's International Lecture Series. Every summer semester, students have the opportunity to discuss current topics from the field of life science informatics with a range of highly experienced, international researchers.</p> <p>Moreover, company visits and specific workshops for students complement the lecture series by giving students insights into industrial research topics.</p>
A Diploma supplement will be issued	Yes
International elements	<ul style="list-style-type: none"> • International guest lecturers
Integrated internships	Optional: in industry and academia, industry workshops within the programme, company visits
Special promotion / funding of the programme	<ul style="list-style-type: none"> • Other (e.g. state level)
Course-specific, integrated German language courses	Yes
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR

None

Semester contribution

The University of Bonn is a public university, meaning that it does not charge tuition fees. However, all students must pay the so-called social contribution (semester fee) of about 330 EUR per semester. It includes a student transit pass for public transport and a statutory accident insurance, among other things.

Costs of living

Compared to the rest of Europe, living in Germany is not very expensive; in fact, it is only slightly above the EU average. The cost of living for students in Bonn is around 800 EUR to 1,000 EUR, with apartment rent accounting for the largest share.

Funding opportunities within the university

No

Requirements / Registration

Academic admission requirements

Candidates must hold a first degree awarded by an internationally recognised, university-level institution (Bachelor of Science or Engineering) in biology, medicine, pharmaceuticals or computer science, or another closely related discipline. Candidates should have performed well above average in their undergraduate studies. The Graduate Record Examination (GRE) is strongly recommended.

In particular, applicants must have knowledge equivalent to a one-year course in each of the following subjects: analysis, linear algebra, fundamentals of biochemistry, theoretical biology, in the areas programming, data structures and algorithms, computer organisation and design, fundamentals of theoretical computer science, molecular biology, genetics, cell biology, neurobiology, biodiversity, microbiology and pharmacology.

Language requirements

Candidates must be able to speak and write English fluently (TOEFL 550 paper-based, 213 computer-based, iBT 80 or IELTS 6.0). A basic command of the German language is recommended. German courses for foreign students are offered at the University of Bonn (<https://www.uni-bonn.de/en/studying/international-students/learning-german/learning-german>).

Application deadline

Submission of application documents: every year by 1 March for the academic year starting in October of the same year

Submit application to

Bonn-Aachen International Center for Information Technology (b-it)
LSI Coordination Team
Friedrich-Hirzebruch-Allee 5
53115 Bonn
Germany

Services

Accommodation

Students of the University of Bonn can apply for a room in a dormitory of the Studierendenwerk Bonn (further information: <https://www.studierendenwerk-bonn.de/en/accommodation/>).

For further information on housing in Bonn, please visit our website: www.uni-bonn.de/en/university/university-life/living-in-bonn.

International applicants who are admitted to the Master's programme can apply for a dorm room through the programme coordinator. Unfortunately, we cannot guarantee that all students will be allotted a room, as these are in short supply.

Career advisory service

The University of Bonn has a central career service, which provides a range of advice and support about choosing a career and applying for jobs. Moreover, international students can join the "iStart" career programme, which teaches participants tangible knowledge and valuable skills that will enable them to write successful applications for jobs in Germany. The programme is geared toward giving students a successful career path both during and after their studies, thus making it easier for them to enter the job market.

Moreover, the programme offers specific career services through its alumni, international lecture series and workshops with international lecturers from industry and academia.

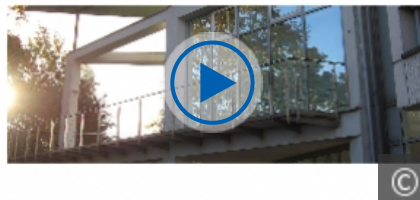
Support for international students and doctoral candidates

- Welcome event
- Buddy programme
- Visa matters
- Accompanying programme

Supervisor-student ratio

1:1

Our Partners



Pattern Recognition

This video features a b-it professor, Dr Christian Bauckhage, delivering his "Pattern Recognition" lecture. Pattern recognition has also a deep impact in the field of Life Science Informatics. Medical imaging analysis as a scientific visualisation technique is based on pattern recognition algorithms.

» more:
<https://www.youtube.com/watch?v=dcJlGqHtz-Y>



b-it building

© b-it

As the former capital of Germany and the seat of the United Nations in Europe, Bonn stands for internationality and diversity. As a globally renowned research institution, this also applies to the university: In addition to research and teaching collaborations with partners around the globe, it is characterised not least by its diverse student body with more than 5,000 students and doctoral candidates from over 135 countries.

According to the Times Higher Education Ranking 2024, the University of Bonn is one of the most international universities in the world and occupies the top position within the diverse university landscape of North Rhine-Westphalia. This international orientation has a long tradition: the university has maintained relationships with universities abroad for a long time. For example, there are interdepartmental cooperation agreements with almost 40 universities around the world.

In addition, the University of Bonn cooperates with 300 partner universities within the framework of student exchange programmes. The internationality of the University of Bonn is also reflected in its range of courses: There are now 39 international degree programmes, many of which are taught entirely in English or other foreign languages or lead to a double degree with a partner university.



University location

Bonn is a beautiful and historic city located on the banks of the Rhine and also known as the birthplace of Ludwig van Beethoven. At the same time, it is a modern, lively and cosmopolitan city with a high quality of life. Bonn is also the German city of the United Nations with 25 UN institutions and many international organisations. With over 4,500 international students from more than 135 countries, the university contributes significantly to the international flair of the city of Bonn.

Contact

University of Bonn

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

Dr Alexandra Reitelmann

Friedrich-Hirzebruch-Allee 5
53115 Bonn

✉ msc-lsi@b-it-center.de

🌐 Course website: <https://www.b-it-center.de/b-it-programmes/msc-in-life-science-informatics/description>

📘 <https://www.facebook.com/bit.institute>

📺 <https://www.youtube.com/channel/UCSJQCWXIrhar3i7rc-HFUfQ>

Last update 28.11.2024 08:43:27

International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

Editor

DAAD - Deutscher Akademischer Austauschdienst e.V.
German Academic Exchange Service
Section K23 – Information on Studying in Germany
Kennedyallee 50
D-53175 Bonn
www.daad.de

GATE-Germany

Consortium for International Higher Education Marketing
www.gate-germany.de

Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

The publication is funded by the German Federal Ministry of Education and Research and by contributions of the participating German institutions of higher education.



Federal Ministry
of Education
and Research