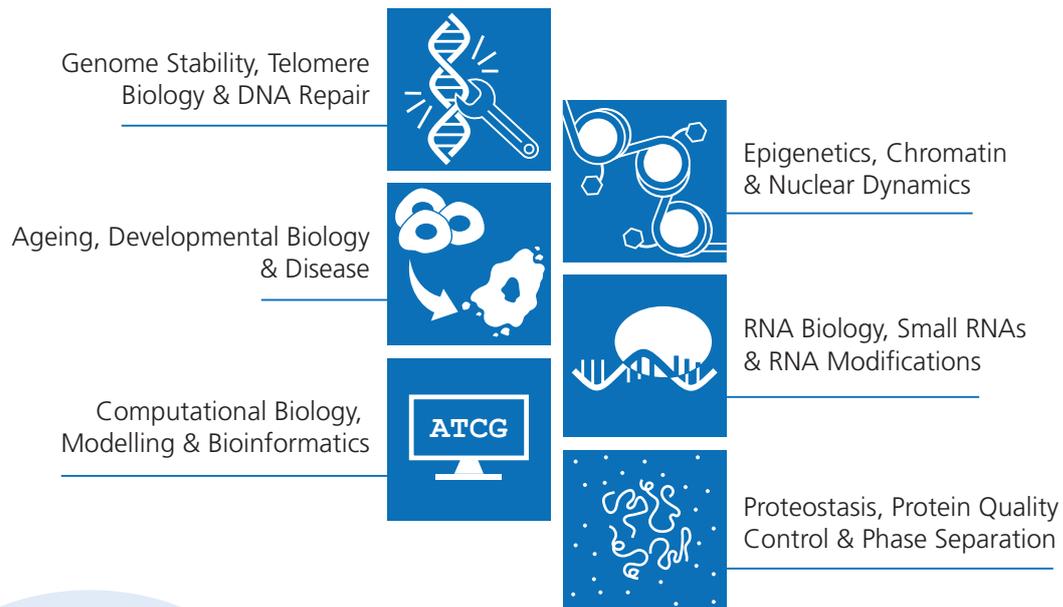


## A CENTRE OF EXCELLENCE FOR LIFE SCIENCE RESEARCH IN MAINZ

The Institute of Molecular Biology (IMB, [www.imb.de](http://www.imb.de)) is a modern, international research institute in Mainz, Germany. We conduct basic research that focuses on two closely connected topics: **regulation of gene expression** and **genome stability**, notably in the context of **ageing**, **age-related diseases** and **development**.

### MAJOR RESEARCH TOPICS AT IMB INCLUDE:



We are a non-profit organisation funded by the State of Rhineland-Palatinate and the Boehringer Ingelheim Foundation. From 2010–2027, the Foundation provided approx. €152m to fund IMB's operation, while the State of Rhineland-Palatinate contributed approx. €100m for the modern research building in which IMB is located, as well as core project-based funding. In addition, IMB currently attracts around **€4m in third-party funding** per year. Our groups enjoy complete autonomy and academic freedom to conduct research and publish their results.

## NATIONALITIES OF IMB STAFF

Rest of the world

23 %

European

77 %



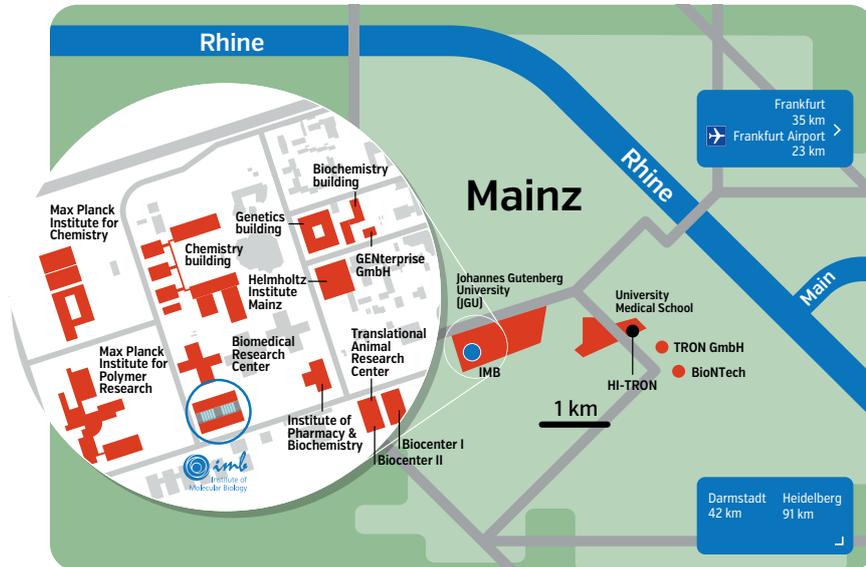
IMB currently has approximately **255** staff. We attract top students and scientists from all over the world, with 65% of our PhD students and postdocs and 42% of our group leaders coming from abroad. Overall, IMB has employees and students from **46** countries and our **working language is English**.



## EMPLOYEES BY CATEGORY

GROUP LEADERS	19	
PHD STUDENTS	79	
POSTDOCS	57	
TECHNICAL STAFF	60	
ADMINISTRATION AND SCIENTIFIC MANAGEMENT	29	

IMB is located on the campus of Johannes Gutenberg University Mainz (JGU), close to the Max Planck Institutes for Polymer Research and Chemistry, and a short distance from Mainz's University Medical Center (UMC), as well as translational and biotechnology organisations and companies such as **BioNTech** (<https://biontech.de/>) and **Translational Oncology Mainz (TRON)** (<https://tron-mainz.de/>).



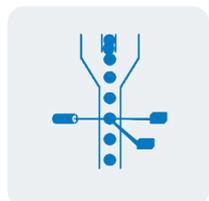
## CORE FACILITIES

IMB's Core Facilities (CF, [www.imb.de/core-facilities](http://www.imb.de/core-facilities)) are a centralised resource that provides instruments, techniques and services to our researchers. Currently, there are 40 CF staff in seven main CF units:



### BIOINFORMATICS

- Consultation for NGS experiments
- Software & data analysis training
- Biostatistics support
- Developing custom analysis methods & tools



### FLOW CYTOMETRY

- Sorting of cells, nuclei, yeast, *C. elegans*, *Arabidopsis* seeds & lipid droplets
- Large particle sorting (0.5-1µm diameter)
- Training in flow cytometry analysis



### GENOMICS

- Full NGS service, incl. quality control & library preparation for: small RNA-Seq, ChIP-Seq, Hi-C, bisulfite sequencing, single-cell protocols & more
- Library sequencing for ATAC-Seq, 4C, iCLIP-Seq & more



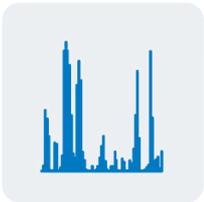
### MICROSCOPY

- Training and access to stereo, widefield, confocal, high-content screening & super-resolution microscopes
- Live-cell imaging
- 3D visualisation
- Deconvolution, image processing & analysis



### PROTEIN PRODUCTION

- Expressing & purifying proteins for analysis
- Developing & optimising protein assays
- Supplying commonly used antibodies & enzymes



### PROTEOMICS

- Mass spectrometry, protein identification & quantification
- Analysis of posttranslational modifications



### MEDIA LAB & GENERAL FACILITIES

- Production of media, buffers & agar plates
- Facilities for mice, zebrafish & *Xenopus*
- Hot lab & S2 lab

The CF offer a broad range of services, from training and assistance with using equipment to a complete service including quality control, sample preparation and data generation. Some CF services are **available to external users**, including Flow Cytometry, Genomics, Microscopy, Proteomics and Protein Production, and CF staff are also open to **scientific collaborations**.

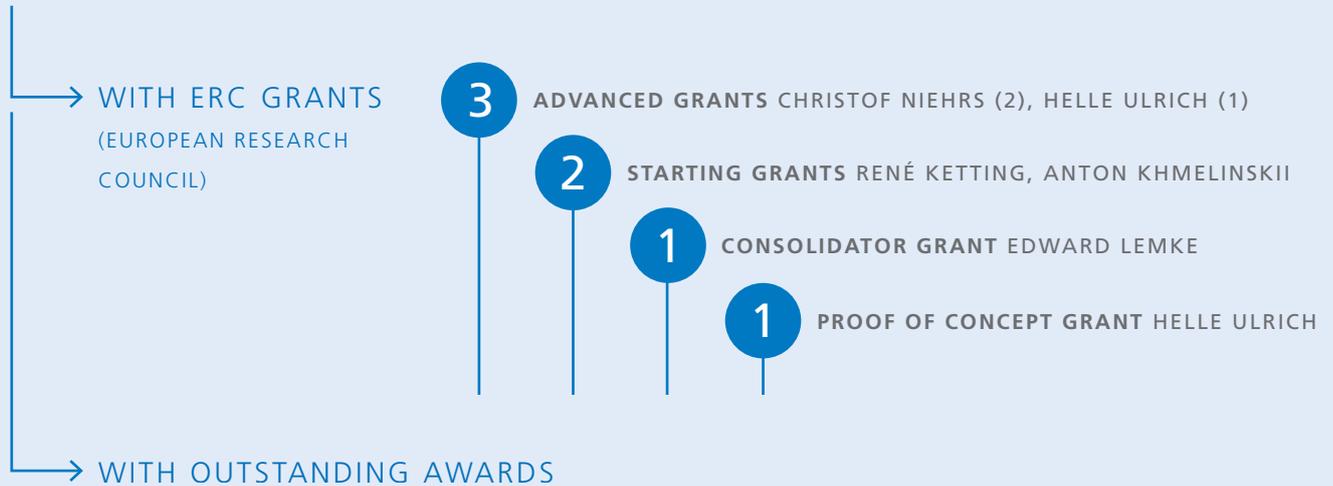


The CF provide regular introductory **lectures on emerging techniques and technologies** ([www.imb.de/students-postdocs/lectures/core-facilities-lectures](http://www.imb.de/students-postdocs/lectures/core-facilities-lectures)) that are relevant to IMB's research, as well as **practical courses** on how to use CF equipment. **Lectures are generally open to everyone** and **external scientists can also apply for places** in CF practical courses.

## WORLD-CLASS RESEARCH AT IMB

Group leaders at IMB have collectively obtained 237 grants (totalling €53 million).

### SCIENTISTS AT IMB



- LEIBNIZ PRIZE CHRISTOF NIEHRS
- HUMBOLDT PROFESSOR PETER BAUMANN
- HEISENBERG PROFESSOR BRIAN LUKE
- 2 EMMY NOETHER GROUP LEADERS PETRA BELI, KATJA LUCK
- EMBO GOLD MEDAL CHRISTOF NIEHRS
- 3 EMBO MEMBERS RENÉ KETTING, CHRISTOF NIEHRS, HELLE ULRICH
- 3 EMBO YOUNG INVESTIGATOR AWARDS RENÉ KETTING, BRIAN LUKE, HELLE ULRICH
- MEMBER OF AMERICAN ACADEMY OF ARTS & SCIENCES CHRISTOF NIEHRS
- 2 GERMAN NATIONAL ACADEMY OF SCIENCES LEOPOLDINA MEMBERS CHRISTOF NIEHRS, HELLE ULRICH

IMB's scientists produced over **348** publications in the last 5 years, representing an average of **4.3** publications per group per year. In 2021, IMB researchers published 72 papers, of which **39%** were in journals with an impact factor of 10 or higher.



## LOCAL AND NATIONAL RESEARCH NETWORKS

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A key goal of IMB is to promote **networking** and **collaborations** between researchers from different institutions, both nationally and internationally. We do this by initiating and coordinating **research initiatives** in strategic focus areas. These initiatives create a critical mass of networked researchers to attract funding and establish Mainz as a leader of life science research in Germany.



The Collaborative Research Centre on **“Regulation of DNA Repair and Genome Stability”** (CRC 1361, [www.sfb1361.de](http://www.sfb1361.de)) aims to elucidate the molecular mechanisms that modulate genome maintenance pathways in the cell. The CRC 1361 is the **largest network on DNA repair and genome stability in Germany** and brings together 22 researchers from IMB, Mainz University, its University Medical Center, the University of Technology Darmstadt, Ludwig Maximilian University Munich and Goethe University Frankfurt. This initiative is funded by the DFG with €12.4m for the first 4 years.



The Research Training Group on **“Gene Regulation in Evolution”** (GenEvo, [www.genevo-rtg.de](http://www.genevo-rtg.de)) is jointly organised by IMB and the Faculty of Biology of Mainz University (JGU) and aims to gain a better understanding of the evolution of complex and multi-layered gene regulatory systems. GenEvo brings together 12 researchers from IMB and JGU. This initiative is funded by the DFG with €5m for the first 4.5 years.



The **“Science of Healthy Ageing Research Programme”** (SHARP, [www.cha-mainz.de/SHARP](http://www.cha-mainz.de/SHARP)) is a joint PhD programme designed to strengthen **cooperation in ageing research** between researchers at IMB and the University Medical Center Mainz. SHARP brings together 25 basic and clinical researchers in collaborative projects to train PhD students with interdisciplinary expertise. SHARP is funded by Rhineland-Palatinate’s Ministry of Science, Education and Culture with €1.8m for 4 years.



The **Centre for Healthy Ageing (CHA, [www.cha-mainz.de](http://www.cha-mainz.de))** is a virtual research centre launched in September 2021 that brings together 41 researchers with a focus on ageing and age-related diseases. Members come from IMB, Mainz University, its University Medical Center, the Leibniz Institute for Resilience Research (LIR, <https://lir-mainz.de>) and Translational Oncology Mainz (TRON, <https://tron-mainz.de>), combining perspectives from basic to clinical and translational research.



**“Resilience, Adaptation & Longevity” (ReALity, <https://reality.uni-mainz.de>)** is a joint initiative of Mainz University’s Faculty of Biology, the University Medical Center Mainz and IMB, which brings together researchers who seek to understand the mechanisms of resilience, ageing and longevity to promote healthy ageing. This initiative is funded by the State of Rhineland Palatinate with €8.6m until 2024.

## INTERNATIONAL NETWORKING

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IMB is a member of two Marie Curie Innovative Training Networks (ITN), namely UBICODE and UBIMOTIF, a partner in the EU Twinning project INTEG-RNA, and has an institutional collaboration with the European Research Institute for the Biology of Ageing (ERIBA) in Groningen, The Netherlands.

# INTERNATIONAL PHD PROGRAMME

Our **International PhD Programme (IPP)**, [www.imb.de/PhD](http://www.imb.de/PhD) recruits talented and enthusiastic students from all over the world and gives them the opportunity to undertake PhD research at the forefront of modern biology. The IPP consists of 70 groups, and 177 PhD students are currently enrolled in the programme.

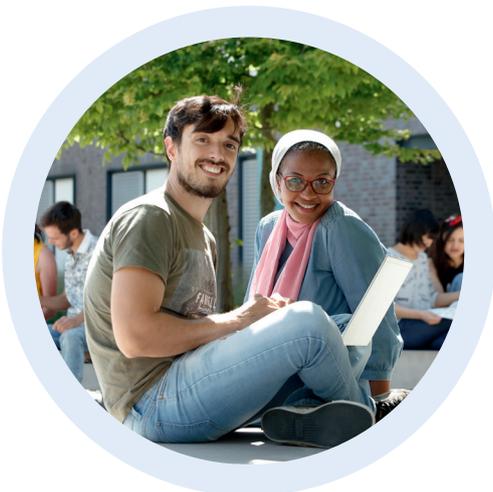
*“The IPP is a model for a structured PhD programme, which is on par with the most prominent schools in Europe.”*

QUOTE FROM A PANEL OF LEADING INTERNATIONAL REVIEWERS IN THE 2021 EVALUATION OF THE IPP

Since 2012

313 participants

covering **55** nationalities



The programme is coordinated by IMB and **is entirely run in English.**

Participating groups are located at the:

- Institute of Molecular Biology (IMB)
- Johannes Gutenberg University Mainz (JGU)
- University Medical Centre (UMC)
- Technical University of Darmstadt (TUD)

Projects within the IPP address key questions relating to the overarching themes of **“Gene Regulation, Epigenetics and Genome Stability”**. In total, the IPP comprises **70 research groups** that cover a **broad range of expertise** while focussing on the following main research topics:



This range of expertise and the open and vibrant atmosphere within the programme encourage **multidisciplinary collaborations** and **innovative research**.

## THE IPP PROVIDES STUDENTS WITH COMPREHENSIVE TRAINING

The IPP is designed to ensure up-to-date training in scientific, technical & professional skills that are necessary for the student’s research projects and personal development as a scientist. **All IPP courses are open to external participants.**



### SCIENTIFIC TRAINING

- Regular scientific lectures on the core topics of the IPP
- Journal Clubs
- Talks by internal & external speakers
- > 600 international speakers over the last 5 years



### TECHNICAL SKILLS

- Lectures on “Modern Techniques in Life Sciences”
- Companies presenting latest technological breakthroughs
- Practical courses on
  - ✓ Bioinformatics
  - ✓ Cytometry
  - ✓ Genomics
  - ✓ Microscopy
  - ✓ Proteomics



### PROFESSIONAL SKILLS

- Lectures & practical courses on
  - ✓ Communication
  - ✓ Organisation
  - ✓ Health & Balance
 e.g. how to write a paper/ grant, how to give a talk, project management, time management, resilience training, critical reasoning & logic...

In addition to the supervision by the group leader, students regularly meet with a **Thesis Advisory Committee (TAC)** comprised of leading scientists who support and advise the student on their progress in the research project.

## THE IPP PREPARES STUDENTS FOR SUCCESSFUL CAREERS

To help students succeed in their careers after their PhD, we hold many career events with presentations on professions in academia, industry and beyond, as well as workshops on how to apply and interview for jobs.

### COURSES

e.g.

- Find your career path
- Professional applications
- Career development
- Leadership skills

### CAREER EVENTS & WORKSHOPS

e.g.

- How to find a job in the pharmaceutical industry
- From basic science to start-up
- How to start a career in science communication
- From the bench to consulting

### MENTORING

- Personal mentoring
- Mentoring for job applications & career options



### COMPANY VISITS

e.g.

- Merck, Darmstadt
- GlaxoSmithKline, Marburg
- Boehringer Ingelheim, Biberach

## THE PHD EXPERIENCE IN THE IPP

The IPP and its participating institutions have a vibrant scientific atmosphere that includes regular presentations from **leading international scientists** and technology developers from industry. IMB also hosts a number of **international conferences and workshops**. These events give IPP students the opportunity to hear about the latest research from around the world and interact and collaborate with leading scientists.

As part of the IPP, we organise **annual retreats and symposia** where our students present their work in an informal setting and meet with fellow students and other researchers. There are also plenty of social events to encourage networking. We encourage our students to present their work at national and international conferences, giving them further opportunities to network outside of Mainz.



## THE IPP PROVIDES AN EFFICIENT RECRUITMENT PROCESS

The IPP typically announces two calls for applications each year and receives ~500 applications per call.

Application to the IPP is competitive. The first step is an online application via the programme's webpage. After a stringent selection process including all group leaders within the IPP, shortlisted students (~10% of the applicants) will be invited to Mainz for several days of presentations, interviews and visits of the host labs.



The basic criteria for eligibility in the IPP are:

- A Master's degree or equivalent with outstanding grades (students can apply before receiving their degree)
- Strong communication skills in English
- Prior experience in a lab or research environment

Despite competing with other prominent PhD programmes in Europe, the majority (average 83%) of candidates offered a position in the IPP accept.



### CONTACT

International PhD Programme

[PhD@imb.de](mailto:PhD@imb.de) • [www.imb.de/PhD](http://www.imb.de/PhD)

# INTERNATIONAL SUMMER SCHOOL

IMB's International Summer School (ISS, [www.imb.de/ISS](http://www.imb.de/ISS)) is a 6-week programme that offers outstanding undergraduate, Masters and (exceptionally) PhD students from all over the world an opportunity to develop their scientific knowledge and practical skills, and receive hands-on training from leading scientists. The programme is entirely in English and focuses on **"Gene Regulation, Epigenetics and Genome Stability"**.

The ISS gives students advanced training through lectures by group leaders at IMB, Johannes Gutenberg University Mainz (JGU) and the University Medical Center (UMC). They also have the opportunity to further develop their understanding in discussion groups and work on innovative research projects in a host group at IMB in one of six cutting-edge fields.



Additionally, the ISS provides training in professional skills that scientists need to maximise success in their career, such as presentation and communication techniques.



**Despina Giamaki**  
ISS student from Greece  
ISS 2019

*“The ISS more than met my expectations! It combines great education with excellent hands-on experience.”*

The ISS has participating research groups at:

- IMB
- Johannes Gutenberg University Mainz (JGU)
- University Medical Centre (UMC)



The ISS has a friendly and international atmosphere and includes social activities to allow participants to network with other young scientists in Mainz and all over the world.

**The ISS has welcomed participants from all over the world to Mainz:**



Former participants have evaluated the ISS very positively, with 98% rating the ISS as “excellent” or “very good”:



The training and experience provided by the ISS is an ideal way for young, aspiring researchers to get a head start on a scientific career.



Network with internationally leading researchers



Connect with the ISS alumni community



Join ISS alumni at prestigious institutions like:

- Oxford University
- Cambridge University
- EMBL

**CONTACT**



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