

WHY SHOULD I STUDY PBIOC?

- ✓ Combination of practice and theory
- ✓ Research-oriented and intensive practical training
- ✓ Broad spectrum of cell- and neurobiological sciences
- ✓ Interdisciplinary
- ✓ Advanced methods and modern equipment
- ✓ Individual focus setting
- ✓ Welcoming and personal atmosphere
- ✓ Small classes
- ✓ English as medium of instruction
- ✓ International
- ✓ Scientific campus with short distances to different research institutions
- ✓ Connection to the local research environment
- ✓ Career opportunities



AT A GLANCE

Degree	Master of Science
Duration of study	4 Semester
Begin of study	Winter term
Admission restriction	Yes
Language of instruction	English

FURTHER INFORMATION...

... about the Master programme **Physical Biology of Cells and Cell Interactions** can be found at goethe.link/msc-pbioc



STUDYING IN FRANKFURT

About the Goethe-University

The Goethe-University is a research-strong university in the European financial metropolis Frankfurt. Lively, urban and cosmopolitan, it possesses a unique degree of independence as a foundation university.

Founded in 1914 by Frankfurt citizens as the first foundation university in Germany, it is the third-largest university in Germany with more than 48,000 students (as of WS 17/18).

With currently three excellence clusters, nine LOEWE centres and research clusters and ten Collaborative Research Centres, the Goethe-University proves its research strength on a daily basis. Close collaborations contribute to solving political, social, economic and cultural issues. On the basis of the broad spectrum of subjects offered, the Goethe-University commits to an educational ideal in the spirit of Humboldt.

Frankfurt - surprisingly different!

A small metropolis: Frankfurt is more than stock exchange, skyline and airport. Global thinking and local traditions stand side by side. International public meets villa-ge structures and lively society life. Whether opera or drama, zoo and palm garden, sports and museums, international fairs or rustic „Äbbelwoikneipen“ - the centre of the Rhein-Main region offers something for almost every taste.

In short: Frankfurt is definitely worth a second look!

CONTACT

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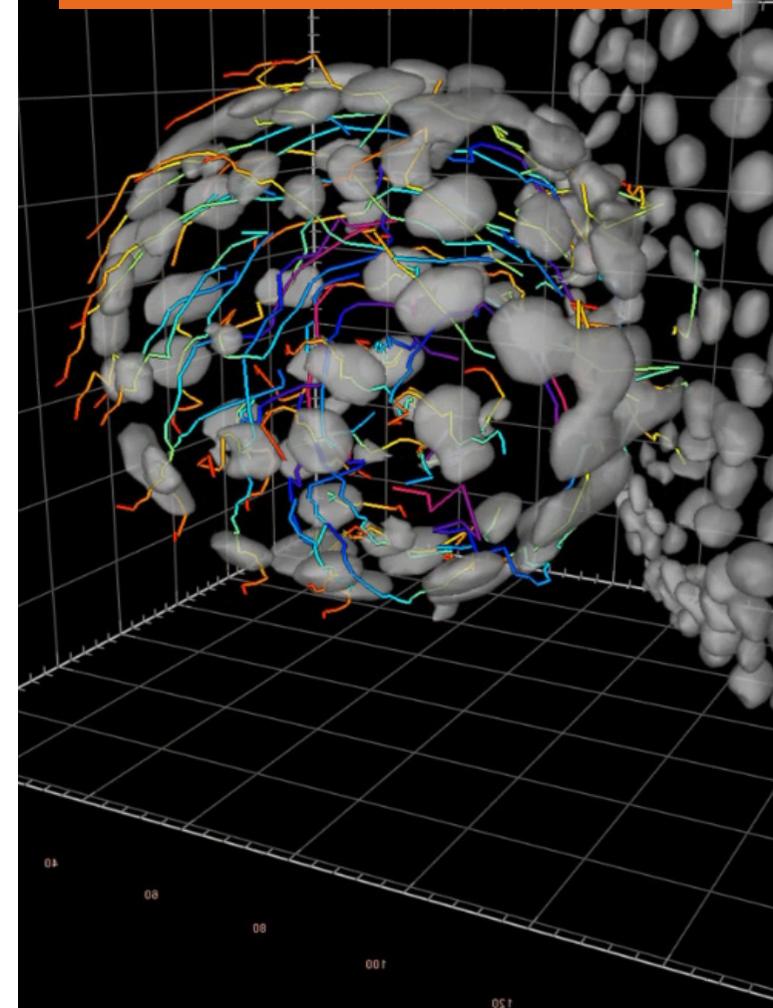
Head of the programme and chairman of the examination board

Prof. Dr. Stefan Eimer

Last update: January 2020 | Photos: von Wangenheim, Bernardi, Moreth, Dettmar
Please inform yourself about current changes on the Goethe-University website.

Physical Biology of Cells and Cell Interactions

Master of Science

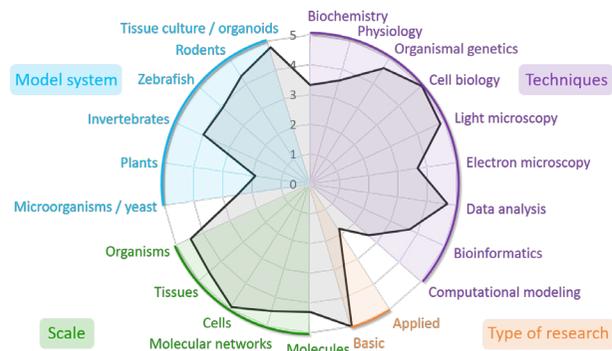


CONTENTS OF STUDY

The two-year Master's programme Physical Biology of Cells and Cell Interactions (PBioC) takes place at an **international level** and promotes an in-depth **research-oriented** education in the fields of **cell biology** and **physical biology**.

The Master's programme provides students with an **understanding of fundamental life processes** from cell growth, cell-cell communication and differentiation to hormonal, inflammatory, angiogenic signalling and aging. These processes are studied in different animal and plant **model systems** in context of cells, tissues and entire model organisms. The experimental and conceptual approaches of the programme include cutting-edge methods in **cell and molecular biology**, **biochemistry**, **bioinformatics**, **immunology** and **genetics**, combined with various **advanced microscopy** techniques and applications, **data analysis** as well as **(neuro-)physiology** and **morphological analysis**.

The programme offers a combination of **theoretical courses** and **experimental activities** from the first semester on. In addition, students are introduced to the current state of **international** research and acquire occupational skills that enable **interdisciplinary** research, independent **scientific thinking** and responsible action.



PROFESSIONAL FIELDS AND PERSPECTIVES

The fields of activity of Master graduates include **research**, **teaching** and **research management** at **universities**, **clinics** and other **public research institutions**. Further fields are employment in **industry** and **economy**, moreover in **research and development**, **production**, **quality assurance**, **marketing** or **sales**, e.g. in the medical field or in the pharmaceutical industry.

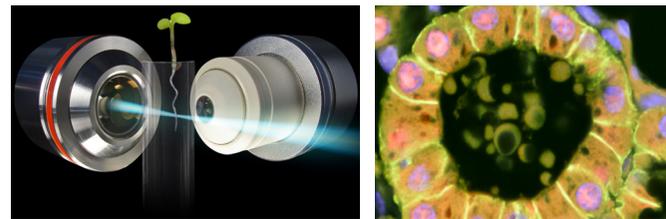
The Master's degree in PBioC is a (further) professional qualification and opens the door to a **doctorate**, which qualifies for a **scientific career** as well as for many other professional fields outside of research. The opportunities for doctoral studies in Frankfurt are excellent due to the numerous and well-networked research groups at the university and public research institutions.

COURSE OF STUDY

Sem.	Study section
1	Introductory session Basic methods in cell biology (lecture, practical course and seminar) Advanced cell biology I (lecture, seminar and colloquia) one elective module* (practical course)
2	Advanced cell biology II (lecture, seminar and colloquia) two elective modules* (practical course)
3	Current concepts in cell biology (project work and seminar), Advanced methods in cell biology (practical course and seminar)
4	Master thesis (6 months in a research group)

* The modules are to be selected from a wide range of electives.

Information on the contents of the individual modules can be found in the current module handbook at goethe.link/msc-pbioc-content



REQUIREMENTS

Formal prerequisites for study are a **Bachelor degree** from an institution of higher education (i.e. university or university of applied sciences) in **biology**, **medicine**, **chemistry**, **physics**, **mathematics** or **related sciences** with a standard study period of 6 semesters. Preparatory internships, vocational training or work experience are not required for the admission to the Master programme.

Temporary admission is possible subject to reservation if at least 80% of the CP required for the Bachelor's degree (usually 144 CP) have been achieved.

If not a native speaker, the applicant has to provide a proof of knowledge of **English language skills** on B2 level of the Common European Framework of Reference Languages (CEFR).

A basic knowledge of German is recommended for the daily private activities but is not a must.

APPLICATION

The Master programme can only be taken up in winter term. Application deadline for the academic year beginning in winter semester is May 31. Further information on the admission requirements and application procedure can be found at goethe.link/msc-pbioc-application.

WE ARE LOOKING FORWARD TO YOUR APPLICATION!



RESEARCH LOCATION FRANKFURT

The research of the **Institute of Cell Biology and Neuroscience** focuses on cell and neurobiological questions ranging from the characterization and analysis of biological processes on the molecular, cellular and organismic level to their modeling. Three questions are of primary interest: (1) How do genes and their products interact during the development of an organism and how are disorders of these interactions related to the development of diseases? (2) How are organs formed during the development of an organism? (3) How are learning and behavior coordinated?

The Physical Biology of Cells and Cell Interactions program includes the **Faculty of Biological Sciences**, research groups from the **Faculty of Medicine**, the neuroscientific **Edinger Institute**, the **Max Planck Institute** for Heart and Lung Research, the **Frankfurt Institute for Advanced Studies (FIAS)**, and the **Paul Ehrlich Institute**.

The students benefit from the Goethe-University's **international network** and from numerous **interdisciplinary research** approaches. Modern course rooms, a large library for natural sciences, computer pools, and the Science Garden, together with the proximity to non-university research institutions, provide an inspiring study environment at Campus Riedberg.