



FRIAS

ALBERT-LUDWIGS-UNIVERSITÄT FREIBURG • FREIBURG INSTITUTE FOR ADVANCED STUDIES

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The city of Freiburg and its University just belong together: they have a common history that goes back more than 500 years. When the University was founded in 1457, it strengthened Freiburg's position as a center of trade and commerce. And the unique flair of university life in Freiburg today has a lot to do with the medieval old city with its cathedral, narrow cobblestone streets, and the typical "Freiburger Bächle" (open gutters set with colourful stones). Thanks to Freiburg's geographical situation in the upper Rhine valley between the Black forest, Kaiserstuhl and the Vosges as well as its proximity to Switzerland and France, there is a wide range of opportunities for recreational activities, but also for top-level research and teaching. Cross-border cooperation

is supported through EUCOR, a confederation of universities in the upper Rhine valley including the Universities of Freiburg, Basel, Strasbourg, Mulhouse, and Karlsruhe. In Germany Freiburg is consistently ranked among the top universities. Not to mention its success in the fierce competition within the framework of the German Government's Excellence Initiative in 2007. Today, the University of Freiburg is one of only nine excellence universities in Germany.



SCHOOL OF HISTORY



Research at the FRIAS School of History centres on “Comparative European History from the 18th to the 20th Century”. Rather than focusing on individual European national histories, the Freiburg approach is focused on developing the history of the different European societies not only in their temporal course, but also by comparative thematic cross sections. Through such a focus, the FRIAS School of History seeks to analyse the currents and events that brought together, or separated, the different states at different historical periods. The goal of this research focus is to analyse the differences and similarities, the exchanges and connections between European national histories from the beginning of the modern era up to the present.

Two-thirds of the School of History fellows carry out research in this key area. A third group focuses on thematically related topics which deal with non-European issues or other historical periods. The specific research approach of the School of History functions as a thematic grouping that brings together all the different projects.

The School of History has very quickly become a centre for intensive research and intellectually stimulating discourses. Scientists from Germany and abroad with outstanding qualifications usually spend one year at the School where they are able to concentrate on a research topic of their own choice without having to commit themselves to other obligations. The weekly research colloquium, international workshops, and conferences provide a forum for the disciplinary work of the fellows and simultaneously open up inter- and transdisciplinary fields of research with

their huge potential for the future. Through its lecture series, individual talks, and courses held by fellows at the University of Freiburg,



the School of History maintains a close connection with the Faculty of Philosophy and the Department of History. Fellowships of the School of History are advertised once a year on a national and international level. An international Advisory Board selects the best scientists and the most promising projects for the School of History from all the applications received. It has been shown that the appointment of fellows at different stages of their careers – ranging from doctoral students to emeritus professors – and from the historical sciences and neighbouring disciplines focusing on historical issues is very fertile.

SCHOOL OF LANGUAGE & LITERATURE



The objective of the FRIAS School of Language & Literature is to be a top-notch research institution of international stature in its field. The School advocates an approach to literary studies and linguistics that is theoretically and methodologically up-to-date and interdisciplinarily open.

The School consists of two branches – linguistics and literary studies – which have equal strength and weight, and which communicate intensively with one another within the forum of cultural and cognitive studies.

The goal of the School is to explore the synergies at the intersection of linguistics and literary studies (as well as between these two disciplines and other fields in the humanities and the social and natural sciences with which they interact) in search of new approaches and concepts which will lead to a contemporary reformulation of the research agenda in the humanities. In line with the guiding profile of linguistics and literary research at the University of Freiburg, the School favours, in linguistics, the concept of empirical and – above all – corpus-based quantitative and qualitative research on language which is complemented by experimental investigations. In literary studies, the School follows a marked comparative and transdisciplinary approach to the analysis of literature and culture.

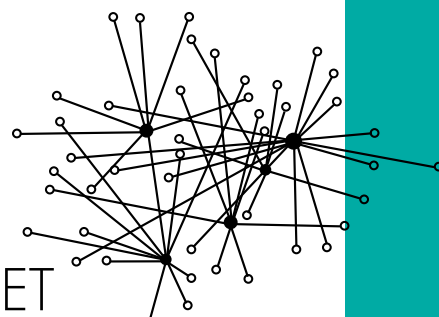
In its first three-year period, the School's research activities are focused on the thematic complex of issues related to “Representation and Knowledge in Language and Literature”,

to which numerous workshops and conferences involving many leading experts from Germany and abroad are dedicated. In line with the idea of a “New Universitas”, the School focuses on unused potential in the relation between linguistics and the literary sciences as well as on the possibility of reaching out to partners in other disciplines and faculties.

The productive interaction with the humanistic and cultural disciplines at the University of Freiburg is essential, as the School sees itself as a generator of ideas and as a research platform for these disciplines.

Special focus is put on the promotion of junior scientists. The School offers a number of outstanding junior fellows the possibility of further scientific qualification and independent profiling on innovative fields of research; it organises annual competitions for Freiburg junior research groups that are part of the linguistics and literary studies spectrum, with the prize being the organisation of own conferences. The School also awards an annual research prize for outstanding dissertations on linguistic and literary topics.





SCHOOL OF LIFE SCIENCES – LIFENET

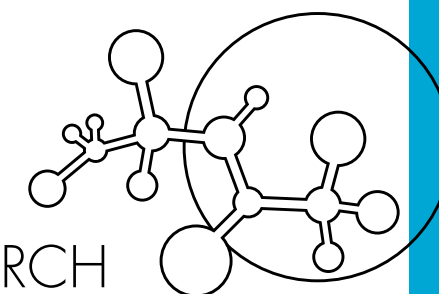
The FRIAS School of Life Sciences – LIFENET focuses on research into complex biological systems. Despite the huge scientific success that has been achieved over the last decades, it has become clear that the investigation of individual genes or proteins has not yet led to a thorough understanding of life processes. For example, it is not a single piece of DNA that enables a liver cell to degrade toxic products; this can only be achieved by the well-coordinated interplay of a large number of different cell components. The study of these complex interactions is one of the major objectives of the life sciences. From today's perspective, systems biology is the one particular area of research that is able to tackle this challenge. Systems biology is an interdisciplinary approach that brings together biology, medicine, mathematics and physics by modelling biological systems on the computer using mathematical methods.

The experimental results obtained by cell biologists and biochemists are translated by physicists and mathematicians into differential equations. If, for example, the activation of a specific signalling cascade is actually responsible for the defective alteration of certain cells, then this process can be transcribed into formulas and be represented on the computer. This multidisciplinary and systems-oriented approach is designed to improve the predictability of disease progression and the success of treatment strategies. In addition, the method enables the use and further processing of the huge amount of data that have been generated by large successful projects such as the sequencing of the human genome.

It is the aim of the School of Life Sciences – LIFENET to become a leader in this cutting-edge field of research, bringing together international researchers of exceptional calibre. At present, LIFENET research is concentrated



on the organisation of cells, regulatory networks, the composition of tissue, the presentation of metabolic processes and products (metabolomics) as well as the analysis of the pathological alterations of such processes. The major focus centres on the development of methods enabling the qualitative and quantitative investigation of the complex regulation of genes as well as the modelling of their interactions. These research activities are complemented by the establishment of a solid and universal data management platform.

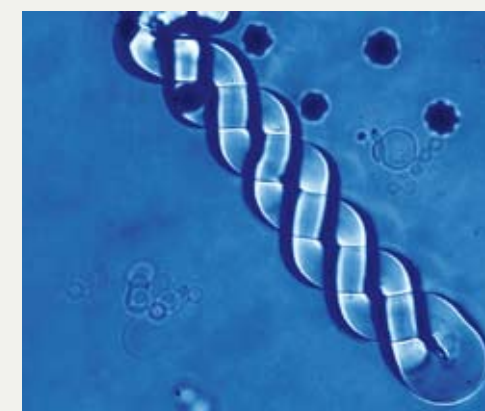


SCHOOL OF SOFT MATTER RESEARCH

One of the major aims of the FRIAS School of Soft Matter Research is to create new and completely innovative organic materials. Renowned scientists from the areas of physics, chemistry, material sciences, biology and microsystems technology are investigating material combinations using properties that are normally only found in living biological systems. Inspired by nature, the researchers are working on the development of "soft matter" systems that are able to sense their environment and react to changes.

The materials, which can include large molecules and polymers as well as fluid crystals or biological materials, are designed to induce highly selective chemical reactions. Furthermore, the materials are altered and combined in a way that enables them to supply their own energy, amplify, regenerate and autonomously organise their structure. The potential of such materials is huge, as materials with made-to-measure functional characteristics open the door to completely new applications. Existing technologies can also benefit from soft matter research. For example, the development of organic solar cells could potentially make energy production from sunlight far cheaper than is currently possible. Organic solar cells could also enable the production of small mobile devices such as mobile phones or laptops covered with solar cell foils, thus rendering them self-sufficient in terms of electricity supply. The close links between the FRIAS School

of Soft Matter Research and the Faculties of Physics and Chemistry, the Freiburg Materials Research Center (FMF) and the Department of Microsystems Engineering (IMTEK) create outstanding conditions for successful research in the field of soft matter research, where junior and senior fellows can find an inspiring environment to pursue innovative research themes that cut across traditional disciplinary borders. In addition, international workshops and colloquia bring together researchers from



various disciplines to exchange information and experiences. Renowned, established scientists from Germany and abroad as well as outstanding up-and-coming researchers are very welcome to apply for a fellowship at FRIAS.

FREIBURG INSTITUTE FOR ADVANCED STUDIES

The Freiburg Institute for Advanced Studies (FRIAS) is the University of Freiburg's international research college. As an integral part of a recognised university with a proud tradition, the Institute brings together the humanities, the natural sciences, and the engineering sciences under one roof. It is the centrepiece of the University of Freiburg's institutional strategy which led to its success in the German government's Excellence Initiative in 2007. Less than six months later, the new college was officially opened with an inaugural speech by Prof. Dr. Peter Goddard, Director of the Princeton Institute for Advanced Study. The first fellows started their research activities in April 2008.

FRIAS consists of four schools which specialise in particularly high profile research areas of the University of Freiburg: the School of History, the School of Language & Literature, the School of Life Sciences – LIFENET, and the School of Soft Matter Research. There are three groups of researchers who are equally represented at FRIAS: Freiburg faculty members (internal senior fellows), invited researchers from around the world (external senior fellows) and outstanding junior researchers (junior fellows). FRIAS fellows are exempt from teaching and board activities in order to be able to concentrate fully on their scientific projects. In this way, the Institute creates new research scope at the University. At the same time, it strengthens the worldwide networking of Freiburg researchers as well as the international profile of research carried out at the University of Freiburg. FRIAS is especially focused on the promotion of promising up-and-coming scientists: the Institute offers promising junior fellows, postdocs and doctoral students a broad range of opportunities for an inspiring exchange with experienced senior fellows who are all international leaders in their fields of research.



In order to promote the idea of a 'New Universitas', which is an integral part of the University of Freiburg's institutional strategy, the Institute opens up new options for interdisciplinary projects. These include the Interdisciplinary FRIAS Symposium, which FRIAS hosts every year during the summer, as well as top-class lecture series in all four schools and the establishment of 'Interdisciplinary Research Groups' that promote innovative research projects within an interdisciplinary framework. FRIAS invites renowned researchers from around the world to carry out cutting-edge research of their own choice in a stimulating work atmosphere. FRIAS provides its fellows with excellently equipped laboratories, with state-of-the-art technology, quiet office rooms in three buildings located within close vicinity to each other, comprehensive support through the schools, and support from personal research assistants. The fellows present their research results at scientific platforms, ranging from workshops to large international conferences. The productive exchange of the FRIAS community is enhanced by an active social life with monthly dinner speeches, film evenings, theatre and museum visits as well as cultural and sightseeing day tours in and around Freiburg.

