



University
of Basel

BIOZENTRUM

The Center for
Molecular Life Sciences

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Molecular Life
Sciences

Research
and educa-
tion.



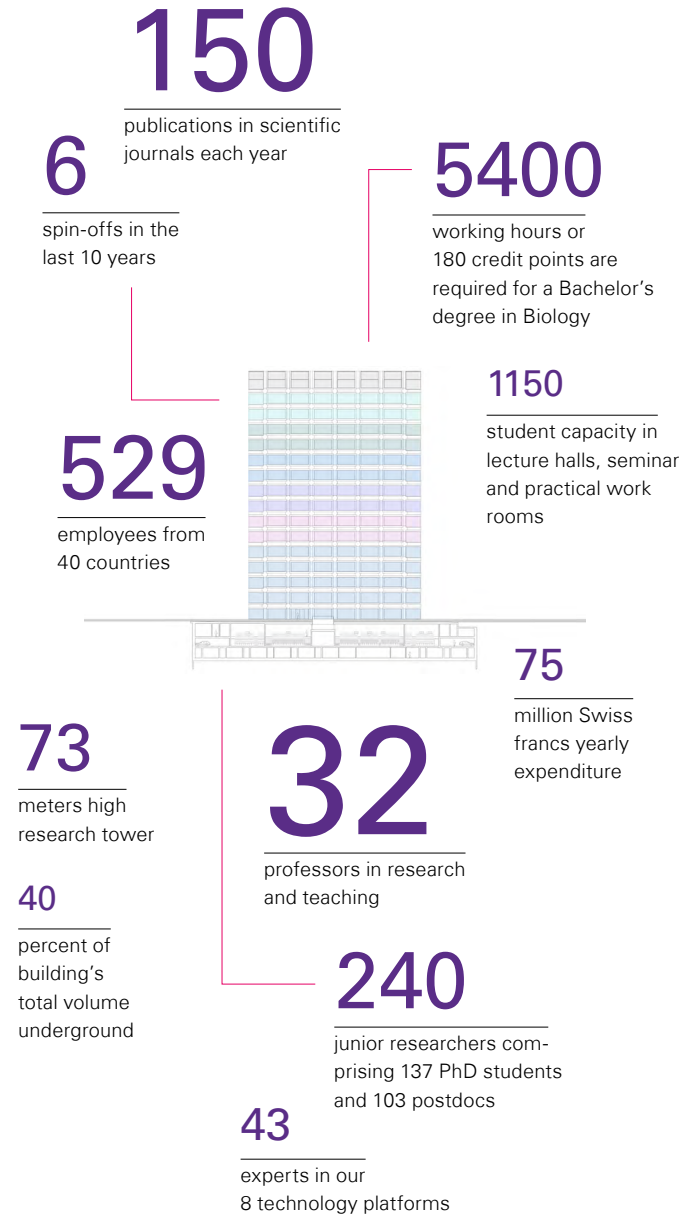
For more than 50 years we have studied the mystery of how molecules and cells create life – from the atom to the organism. We are one of the leading life sciences institutes in the world. With 32 research groups and more than 500 employees, we are a lively and dynamic international community which has, over the years, spawned many fundamental discoveries in biology and medicine as well as several Nobel laureates.

One of our priorities is to train and inspire the next generation of scientists. We focus on early integration into active research and intensive, individual support. This has proven to be a recipe for success: Today, many former Bio-centrists are working as professors at renowned universities or as leaders in industry and business.

Research

The visionary concept of interdisciplinary collaboration in basic molecular and biomedical research has been our strength since the Biozentrum was founded in 1971. We approach the mystery of life from different perspectives and investigate a broad spectrum of questions, such as:

- » How do cells become specialized or change to become cancerous?
- » How does the body defend itself against pathogens?
- » How do animals move, sleep, and form memories?
- » How do organisms develop and age?
- » How do proteins form complex machines?
- » How is the genome folded and read?
- » How are cells organized to transport molecules and transmit signals?
- » What are the theories and computational models that explain biological processes?
- » What could be new strategies to treat diseases such as muscular dystrophies, Alzheimer's or cancer?





Life sciences network

Today, many research projects are so highly complex that they can only be realized in collaboration with other specialists. That is why we have networked from the start with other universities and institutes in Switzerland and abroad and are also closely connected with industry.

Our location in Basel also contributes to the attractiveness of the Biozentrum. Embedded in one of Europe's most important life sciences hubs, we benefit from the close proximity to other research institutions as well as more than 600 life sciences and biotech companies, including Novartis and Roche, two of the world's largest pharmaceutical companies.

The Biozentrum has also been the birthplace of several life sciences companies. We actively support our researchers in turning promising ideas into reality and in founding spin-offs. In the past ten years alone, six new companies have emerged. Their innovations range from novel nanotechnologies for cancer diagnostics and the use of proteins for cancer treatment to therapeutic approaches for autism spectrum disorders and muscle diseases.



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Education

Biology is the key science of the 21st century. It is crucial not only for fundamental research but also for the economy, society, and politics. For over 50 years, the Biozentrum has been training top researchers and young talents for Basel as a leading life sciences hub.

Bachelor of Science

At the Biozentrum, students can pursue a Bachelor of Science in Molecular Biology or Computational Biology. A special feature of the program is the early involvement in current research. From the second year onwards, students gain hands-on experience in the laboratory – in both various practical courses and during the 8-week thesis project in one of the research groups.

Master of Science

Students can earn a Master of Science in Molecular Biology at the Biozentrum, and since 2024, also in Physics of Life. Our Master's students are part of a research group right from the start, work on their own projects and are fully integrated into the scientific community.

Doctorate and postdoctoral research

Young scientists from all over the world are attracted to the Biozentrum. There are many reasons: the diversity of research fields, the state-of-the-art technology platforms, the outstanding interdisciplinary teaching, the individual supervision and coaching, the vibrant international community and the location in Europe's most important life sciences hub.

State-of-the-art technologies

Cutting-edge research today relies on highly complex methods of investigation and analysis. Our technology platforms and service teams provide the researchers with world-class equipment and support them with their expertise. They also assist them in developing their own customized instrumentation.

BioEM Lab Investigation of structures using electron microscopy

Bioinformatics Core Facility Data analysis and data management support

Biophysics Facility Measurement of interactions, stability and size of molecules

Electronic & Mechanical Workshops Custom-made lab equipment, maintenance and repair

FACS Core Facility Flow cytometry and cell sorting

Genomics Facility Basel Sequencing techniques in genomics and epigenomics

Imaging Core Facility Light microscopy and imaging analysis

Media & Lab Ware Preparation Provision of ready-to-use pipette tips, glassware, lab coats and media

Proteomics Core Facility Analysis of proteins using mass spectrometry

Research IT Bridging research and IT

Research Instrumentation Facility Catalyzing instrument development

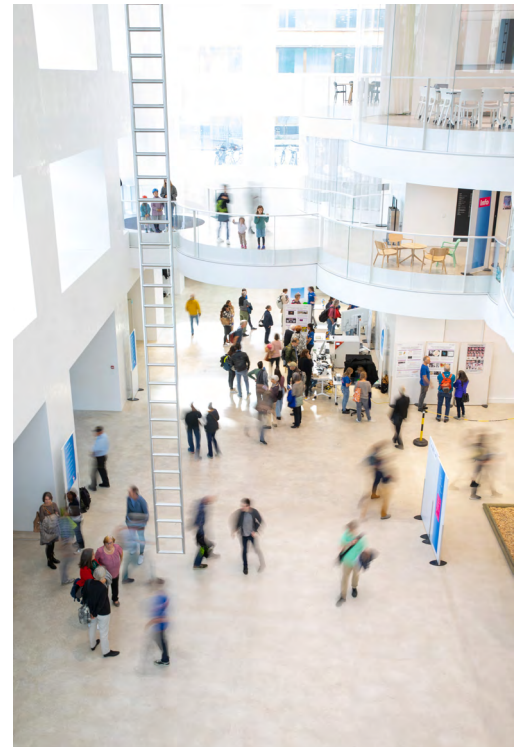
sciCORE High-performance computing and data management

Swiss High-field NMR Facility Studying macromolecules at atomic level

Sharing knowledge

Science thrives on dialogue. New, relevant questions and innovative ideas often arise at the interface of different research fields or through casual conversations. That's why we foster a culture of open exchange at the Biozentrum. We meet at the weekly Discovery Seminars, the annual symposium or retreat, and at informal gatherings like the regular happy hours or during sporting activities.

We also provide opportunities for the local community to engage with our researchers. Our successful lecture series Einblicke Biozentrum invites the public to explore current scientific topics and high school students can get a taste of research during the two-week Summer Science Academy.





Biozentrum, University of Basel
Spitalstrasse 41 | 4056 Basel | Switzerland
www.biozentrum.unibas.ch
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