The Center for Behavioral Brain Sciences CBBS overarches the research activities of the neuroscience-oriented professorships and departments in the Faculty of Natural Sciences, the Faculty of Medicine, the Leibniz Institute for Neurobiology (LIN) and the German Center for Neurodegenerative Diseases (DZNE). The CBBS is one of the largest neuroscience research networks in Germany.

Teaching within the international Master program Integrative Neuroscience is provided by professors as well as lecturers from these renowned research institutes. The curriculum format is based on the model of US graduate schools. The English-language program recruits German and international scientists specializing in biology, biochemistry, biosystems technology, chemistry, physics, psychology, computer science, electrical engineering, and veterinary medicine.

There are attractive professional fields for graduates in the following areas:
1. Basic research and teaching
2. Applied research, for example in the fields of medical technology or Nanotechnology
3. Science journalism
4. Science policy

The course, which is strongly research-oriented in terms of both theory and practice, comprises a broad spectrum of neuroscientific areas and technologies. The neurobiological principles of animal and human behavior, and in particular of learning and memory processes, are conveyed within the neuroscientific areas and technologies. The neurobiological principles of animal and human behavior, and in particular of learning and memory processes, are conveyed within the neuroscientific areas and technologies.

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- University of Technology Magdeburg
- Center for Neurosciences Innovation and Technology (ZMNT) GmbH

The program Molecular Biosystems aims to generate a comprehensive understanding of complex biological processes, their dynamics and regulatory mechanisms on a system level. For this, complementary knowledge in biochemistry and molecular biology, as well as in system biology, regulation biology, bioinformatics and system theory is taught.

In the Molecular Biosystems program, the structure, function and dynamics of complex biological systems are investigated and quantitatively described, as well as the targeted modifications of biological systems. Molecular and cellular mechanisms are particularly highlighted. In addition to experimental biology, this also includes the designing and analysis of mathematical models of the underlying biological systems.

In the Molecular Biosystems master program, teaching is centered on biology and natural sciences and, depending on the student’s focus, emphasis is put on systems theory, biotechnological and molecular biology research. Under the mathematical knowledge, the system theoretical knowledge is systematically expanded in order to understand complex molecular biosystems. The four-semester program, which is largely interdisciplinary, is offered jointly by the Faculty of Natural Sciences and the Faculty of Engineering and Information Technology. In addition, the Faculty of Mathematics, the Faculty of Computer Science and the Faculty of Philosophy and Information Technology are also involved in the program.

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In terms of research and teaching, Otto von Guericke University Magdeburg focuses on research and the education of future professionals. The faculty and its departments endeavor to provide students with a high-quality education that is closely aligned with current research and industry trends.

**Institutes**

- Institute of Biology
- Institute of Physics

**Non-University Cooperation Partners in Magdeburg**

- Fraunhofer Institute for Factory Operation and Automation (IGF)
- Leibniz Institute for Neurobiology (LIN)

**Focal areas of research in the Faculty of Natural Sciences**

- Semiconductor nanostructures for solar energy conversion
- Micro- and optoelectronics
- Solid-state physics
- Condensed matter physics
- Plasma physics
- Epitaxy
- Non-linear and complex systems
- Adaptive materials
- Physics of soft matter

**Non-Medical University Cooperation Partners in Magdeburg**

- Molecular mechanisms and regulation of learning and memory processes
- Systems biology
- Molecular mechanisms and regulation of signal transduction

**The Faculty at a Glance**

- Students have access to state-of-the-art facilities and excellent student support, including comprehensive career guidance.
- The university's main areas of research are bioinformatics, biochemistry, biophysics, and biotechnology.
- Approximately 14,000 students, including over 3,000 international students, are enrolled in the university, covering a wide range of fields.

**University Community**

- The university community strives to follow the values of commitment to the common good and the spirit of the humanities.
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