

universität freiburg

# Shaping Tomorrow's Technology: Faculty of Engineering



**THE FUTURE HAPPENS IN FREIBURG**  
at the Faculty of Engineering



## Welcome

The **Faculty of Engineering (Technische Fakultät „TF“)** at the University of Freiburg, established in 1995, is a hub for innovation and excellence.

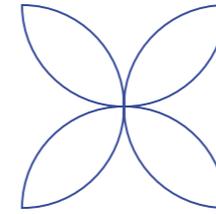
Across three distinguished departments, talented engineers and computer scientists collaborate to develop groundbreaking solutions for the challenges of the future. From energy and medical engineering to environmental technologies, from sustainable mobility to intelligent IT applications, we are at the forefront of shaping tomorrow's world.

### **TF: The Future happens in Freiburg!**

Join us and be part of creating the technologies that will define the future.

Sincerely,  
Prof. Dr. Frank Balle  
**Dean**  
Faculty of Engineering





## Three outstanding departments

The Faculty of Engineering at the University of Freiburg is one of Germany's most research-intensive engineering faculties, renowned for cutting-edge innovation. Here, teaching and research go hand in hand, seamlessly transforming knowledge into pioneering technologies.

Through interdisciplinary collaboration and strong partnerships with prestigious *Fraunhofer Institutes, Hahn-Schickard Institute, and leading global companies and research organisations*, we tackle today's challenges and help shape the future.

Our three exceptional departments are at the core of this success:

- Department of Computer Science (IIF)
- Department of Microsystems Engineering (IMTEK)
- Department of Sustainable Systems Engineering (INATECH)



# Research at the three departments of the Faculty of Engineering



The research conducted within the three departments of the Faculty of Engineering focuses on groundbreaking advancements across multiple cutting edge fields. Each department specializes in interdisciplinary research that is driving innovation in areas of technology and sustainability. These research areas are as follows:

## Department of Computer Science

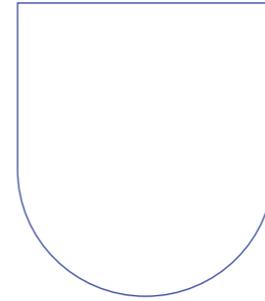
- Cyber Physical Systems
- Information Systems
- Artificial Intelligence and Machine Learning
- Networks and Resilience
- Neurotechnology and Robotics

## Department of Microsystems Engineering

- Biomedical Microsystems
- Intelligent Integrated Microsystems
- Smart Materials and Bioinspired Systems
- Photonics

## Department of Sustainable Systems Engineering

- Sustainable Materials and Processes
- Energy Systems
- Networks and Resilience
- Circularity Engineering



## Innovation and start-ups

At the Faculty of Engineering, start-ups emerge from all research fields, addressing socially relevant challenges with original solutions. Our founders combine technological innovation with a commitment to creating positive impacts on both the economy and society.

### Innovations for the future:

Our start-ups bring revolutionary ideas to life - from sustainable technologies to digital solutions - shaping the markets of tomorrow. They develop special designs with all kinds of materials for micro- and nanostructures, enabling novel applications from medical fields to energy systems.



## Studies and teaching

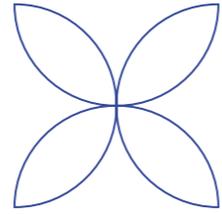
With over 2,500 ambitious students, we are shaping the future together through modern, in demand **Bachelor's and Master's degree programmes**, including:

- Computer Science
- Embedded Systems Engineering
- Microsystems Engineering
- Sustainable Systems Engineering

Our practice-oriented teaching approach provides you with the skills and expertise needed to address the challenges of a digital and sustainable future - empowering you to make a lasting impact!



## First-class academic education



### **Innovative English-language degree programmes:**

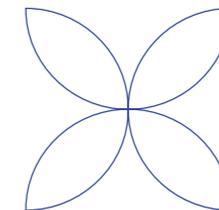
Our programmes focus on cutting edge fields such as artificial intelligence, medical engineering, robotics, life sciences and sustainability, preparing you for the challenges of tomorrow.

### **Excellence in research and teaching:**

Our professors are leaders in their fields, with some serving as advisors to the federal government, ensuring a world-class academic experience.

### **State-of-the-art laboratories:**

Gain hands-on experience in high-tech laboratories equipped with the latest technology, including a modern clean room, providing you with an unparalleled learning environment.





## Support for international students

With people from all over the world studying, researching, and working at our faculty, we have extensive experience in supporting international students.

### **Intercultural workshops, mentoring, and German language courses:**

We make it easy for you to settle in and feel at home.

### **International Club:**

Discover Freiburg and its beautiful surroundings through excursions and connect with fellow students from across not only the world but also the university's numerous faculties in our International Club, run by the *Studierendenwerk Freiburg-Schwarzwald (SWFR)*.

## Career services and networks



### Student jobs:

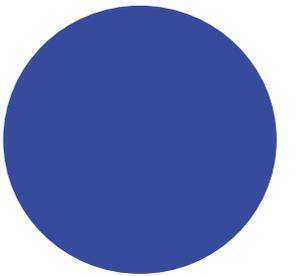
Our own labs as well as many renowned research institutes in Freiburg, including *Fraunhofer Institutes* and the *Hahn-Schickard Institute*, offer abundant opportunities to secure well-paid, study-related student jobs.

### Strong industry collaborations:

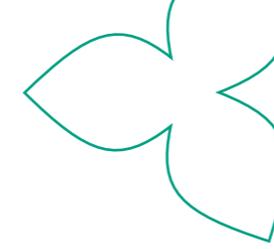
We maintain close partnerships with leading global companies such as *Sick*, *Trumpf Hüttinger*, *Bosch*, *Siemens*, *Infineon* and we offer regular company visits, to provide students with valuable insights and networking opportunities.

### Excellent job prospects:

Europe's strong demand for highly skilled engineers and computer scientists ensures outstanding career opportunities for our graduates.



## Freiburg and the Black Forest: a popular student destination



### **Green City:**

Freiburg is celebrated for its exceptional quality of life, pioneering sustainable initiatives, and a lively, student-friendly atmosphere.

### **Germany's sunniest city:**

Ranked among the top 3 best cities in the world by the travel guide *Lonely Planet*, Freiburg is a lovely place for nature lovers, culture enthusiasts, and anyone who appreciates life's simple pleasures.

### **Prime location:**

Surrounded by picturesque green hills and vineyards, Freiburg's location offers the ideal blend of tranquility and adventure. With France and Switzerland less than an hour away, it's the perfect gateway for regional exploration and weekend getaways.



## University of Freiburg

The University of Freiburg, founded in 1457, is a prestigious **public university** known for its strong focus on research and academic excellence. **Ranked 5th nationally** in the Shanghai Ranking and among the **top 10 universities** in Germany in the QS Ranking, the university is a leader in higher education.

With a student body of over 25,000, including more than 4,500 international students, the university offers a diverse and vibrant learning environment. It provides a wide range of **230 degree programmes** across various disciplines, including:

- Theology
- Law
- Economics and Behavioural Sciences
- Medicine
- Philology
- Humanities
- Mathematics and Physics
- Chemistry and Pharmacy
- Biology
- Environment and Natural Resources
- Engineering



## The Faculty of Engineering: Key Figures

**36%** International students  
**22%** Female students

> **5** Collaborations  
with Fraunhofer Institutes and  
Hahn-Schickard Institute  
> **20** Start-ups

**2,573** Students enrolled  
**326** Graduates  
**76** Ph.D. theses completed

**50** Nationalities on campus  
**55** Professors  
**3** High-performing departments  
**2** Clusters of Excellence  
**2** Research centers



## Imprint

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Sandra Meyndt: front cover, page 4, 20 (library of the University of Freiburg)  
Adobe Express: page 6 (computer science), 18 (Freiburg with cathedral)  
Jürgen Gocke: page 11, 14  
Harald Neumann: page 12, 13  
Bosch Sensortech: page 16  
Joachim Hirschfeld: page 19 ( „Bächle“ ducks)  
Peter Mesenholl, page 21, 22

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