

Friedrich-Alexander-Universität Erlangen-Nürnberg

# Faculty of Medicine



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# Preface

## Interview with the Dean of the Faculty of Medicine

### **Prof. Schüttler, how would you describe the research approach at the Faculty of Medicine?**

In the tradition of German academic medicine, the Faculty of Medicine at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) and Universitätsklinikum Erlangen (the university hospital) follow a closely integrated approach to research, teaching, and medical care. The Faculty of Medicine combines excellent research with high-quality medical education. The results of these efforts can be observed at Universitätsklinikum Erlangen, where innovative treatment methods serve the benefit of patients. Both institutions are committed to guaranteeing high-quality basic and continuous training for future doctors.



### **What makes Erlangen an interesting place to work, especially for medical researchers and doctors?**

Researchers and doctors benefit from the diverse research profile and activities of one of Germany's largest research universities – interdisciplinary thinking and collaboration have a pivotal role in academic medicine in Erlangen. In addition, most facilities are just a short walk or bicycle ride apart. In this spirit, numerous interdisciplinary research and clinical centers guarantee state-of-the-art treatment across specialties. We are located in the heart of the so-called Medical Valley EMN, a cluster of internationally leading institutions and companies in the field of medical engineering. Within this cluster, researchers, physicians, and students at the Faculty of Medicine and Universitätsklinikum Erlangen collaborate with businesses, non-university research institutions, and other organizations within the healthcare system to develop innovative products and services for improved patient care and affordable healthcare.

### **What do you personally like most about living here?**

Apart from a unique academic environment in one of Germany's most dynamic research and technology regions, Erlangen offers a very high quality of life with many cultural, social, and sporting activities. Personally, I enjoy relaxing in one of the numerous picturesque beer gardens after an exciting day of clinical and research challenges.

# From bench to bedside in five core areas

## The focus of our research

The Faculty strives for excellence in all areas of biomedical research. In the past years, strategic appointments and major research projects have allowed us to establish particular expertise in five core areas:

Researchers and clinicians who specialize in **infection research and immunology** investigate questions in infection biology and immune defense, mechanisms of inflammation, auto-immunity, and transplant immunology.

Our **renal and vascular** experts work towards more effective prevention and regeneration to address the high socio-economic cost of chronic kidney and vascular diseases.

**Experimental and clinical neuroscience research** in Erlangen covers areas ranging from signal transduction, neurotransmission, and information processing to the perception of pain and glaucoma research.

Breast cancer, leukemia, lymphoma, lung cancer, melanoma, renal cell carcinoma, and colorectal carcinoma are the primary areas of interest of our **cancer researchers**.

Researchers and engineers at the Faculty of Medicine, the Faculty of Engineering and the surrounding industries have turned the region into a key location for **medical technologies** (especially imaging, bioinformatics, and intelligent sensors).

[www.med.fau.eu/research](http://www.med.fau.eu/research)

### Facts and figures

- 150 full professors
- 250 associate professors
- 63 institutes, clinical departments, and divisions
- 11 interdisciplinary centers





*“We are very pleased that this grant enables us to open new paths in the research and therapy of inflammatory diseases. This will help to establish FAU as one of the leading universities for inflammation research.”*

Georg Schett, Chair of Internal Medicine III and speaker of the CRC

Researchers at the Collaborative Research Center (CRC) 1181 „Checkpoints for resolution of inflammation“, funded by the German Research Foundation (DFG), aim to decode the mechanisms of resolution of inflammation. The successful and close involvement of FAU’s Optical Imaging Center in this CRC enables all researchers to use the latest microscopy technology.



*“The group is the ideal basis for an intensive education for young researchers in an emerging field of neuroscience. It will contribute to a better understanding of the origin of neuropsychiatric and neurodegenerative diseases, while training young researchers in innovative concepts and key scientific skills to prepare them for their career.”*

Dieter Chichung Lie, Professor of Molecular Medicine with a focus on Molecular Imaging and speaker of the RTG

Starting in 2016, the DFG-funded Research Training Group (RTG) 2162 „Neurodevelopment and Vulnerability of the Central Nervous System“ will train medical students, doctoral candidates, postdoctoral researchers, and physicians in the complex relationship between neurodevelopment and adult-onset CNS disorders.

# Solid foundations for excellent research

## Research environment and support services

### Modern research infrastructure

Researchers at the Faculty of Medicine have access to a series of core facilities such as cell sorting and immune-monitoring, pre-clinical imaging, and next-generation sequencing as well as a pre-clinical experimental animal center. Modern interdisciplinary research centers, often in the direct vicinity of the clinical departments, create an inspiring atmosphere for innovations in healthcare.

[www.med.fau.eu/infrastructure](http://www.med.fau.eu/infrastructure)



### Research funding and career development

FAU's Emerging Fields Initiative (EFI) promotes extraordinary, innovative, and interdisciplinary ideas at an early stage. The Faculty of Medicine's ELAN fund provides start-up or bridge financing for clinical research projects, especially when led by young researchers. The Interdisciplinary Center for Clinical Research (IZKF) funds clinical research projects related to the established research priorities of the Faculty of Medicine through several complementary programs. ARIADNEmed is a mentoring program for young female researchers and physicians who aspire to a career in biomedical research. Research training groups in areas such as immunology, neuroscience, and optics prepare doctoral researchers for the complexities of the academic job market and promote early scientific independence.

[www.med.fau.eu/funding](http://www.med.fau.eu/funding)



### Support services

University and faculty administrative staff help researchers make the most of their work. The support services include advice on ethical issues, the professional management of clinical studies, external funding and internationalization support. Help with patenting and marketing research findings is provided. Researchers from abroad are warmly received by the Welcome Center. The Dual Career Service assists partners of postdoctoral researchers and professors joining FAU in finding a suitable job in the region.

[www.med.fau.eu/services](http://www.med.fau.eu/services)



# Training the healthcare professionals of the future

## Medical education and training

With degree programs in Medicine, Dentistry, Molecular Medicine, Medical Process Management, and Logopedics, the Faculty of Medicine is dedicated to training professionals in different areas of healthcare.

The Faculty promotes future-oriented research in traditional and emerging scientific fields. This research-oriented teaching approach enables our students not only to acquire advanced knowl-

edge, but also to develop the mindset and competencies necessary for life-long learning and for transferring innovative methods and technologies to patient care.

Students receive knowledge and method-based training in order to become independent and responsible individuals capable of applying their knowledge and skills for the benefit of society in healthcare and science.

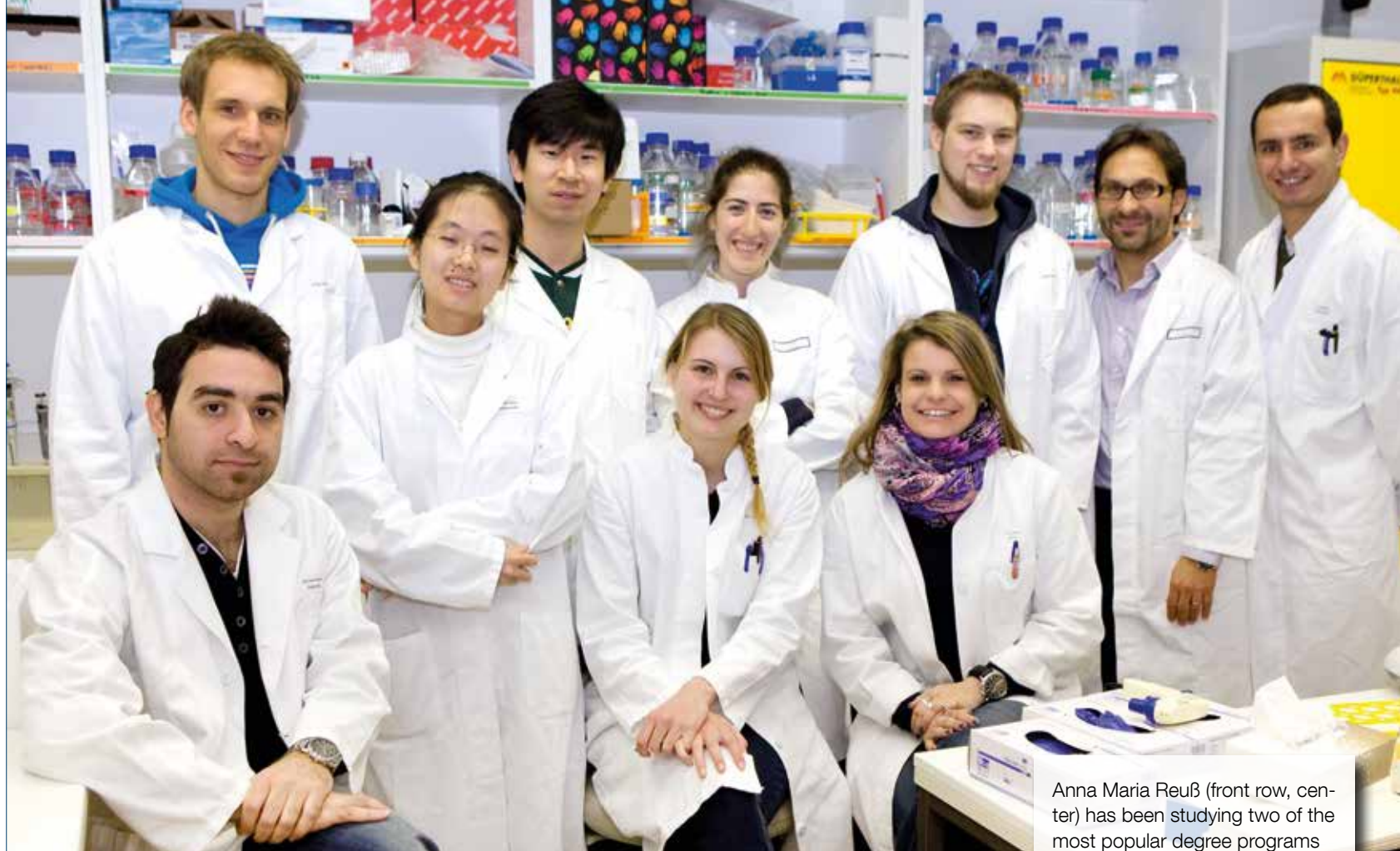
[www.med.fau.eu/education](http://www.med.fau.eu/education)

### Facts and figures

- Over 3,700 students
- 6 degree programs:
  - Medicine
  - Dentistry
  - Logopedics, BSc
  - Molecular Medicine, BSc
  - Molecular Medicine, MSc
  - Medical Process Management, MSc







Anna Maria Reuß (front row, center) has been studying two of the most popular degree programs of the Faculty in parallel: Medicine and Molecular Medicine.

*“I like studying at FAU because here I have the opportunity to combine patient care and biomedical research. Besides the traditional graduate program of Medicine, there is the related, more research-oriented program of Molecular Medicine. Erlangen is a green and bicycle-friendly student city offering a lot of cultural activities and many nice places for recreation.”*

Anna Maria Reuß, student



*“When I got breast cancer for the second time, it was clear I would go back to Breast Center Erlangen for treatment. I knew that all departments involved in my treatment are very closely connected. You realize immediately that there is a good cooperation. I went through difficult times, but thanks to the interdisciplinary expertise and psychooncological support I managed to cope quite well.”*

Angelika M, patient

Breast Center Franconia is a network of specialists from different institutes and departments of Universitätsklinikum Erlangen. Through interdisciplinary cooperation and the participation in clinical studies, patients have access to multimodal and innovative therapy options.

# Putting the patient at the center of care

## Medical excellence since 1816

Teaching, research, and patient care go hand-in-hand in Erlangen. The collaboration between Universitätsklinikum Erlangen and the Faculty of Medicine ensures that patients benefit from innovative treatment options, as research findings are quickly translated to bedside applications. Additionally, medical students acquire cutting-edge knowledge and skills.

More than 7,400 professionals work at Universitätsklinikum Erlangen to promote health and to cure disease. With state-of-the-art equipment and science-based diagnostic and therapeutic procedures, the departments and institutes of Universitätsklinikum Erlangen have an in-depth understanding of all fields in modern medicine. Extensive quality assurance systems and close interdisciplinary collaboration guarantee optimal care.

[www.uk-erlangen.de/en](http://www.uk-erlangen.de/en)



### Facts and figures

- Over 7,400 employees
- 1,368 beds
- 62,884 in-patient cases (2014)
- 149 day-case places
- 11,229 day-case patients (2014)
- 474,850 outpatient services (2014)

# An outstanding working environment

## Opportunities for collaboration across disciplines and sectors

### **Friedrich-Alexander-Universität Erlangen-Nürnberg**

Founded in 1743, FAU is one of the largest research universities in Germany with around 40,000 students. The five faculties cover the entire spectrum of modern academic disciplines – from humanities, social sciences, and theology to medicine, law, economics, sciences, and engineering. One of FAU’s defining features is its commitment to interdisciplinary teaching and research.

[www.fau.eu](http://www.fau.eu)



### **Medical Valley EMN**

The region of Erlangen, Nuremberg and Fürth (the European Metropolitan Region of Nuremberg, EMN) is a highly dynamic environment for research and innovation in the fields of healthcare and medical engineering. It is characterized by a high density of research facilities, including the Max Planck Institute for the Science of Light and the Fraunhofer Institute for Integrated Circuits, and global corporations, such as Siemens Healthcare. Over 16,000 people are employed at around 180 companies dedicated to medical engineering that pool their resources in Medical Valley EMN.

[en.medical-valley-emn.de](http://en.medical-valley-emn.de)





*“The close proximity between Universitätsklinikum Erlangen, the Faculty of Medicine and the Faculty of Engineering, Medical Valley EMN, and the global player Siemens Healthcare offers an ideal environment for interdisciplinary research on innovative imaging techniques and allows them to be quickly translated into clinical applications.”*

Arnd Dörfler, Professor of Neuroradiology

Welcome to Medical Valley EMN  
– the nearest research facility,  
clinical department, business  
incubator, global corporation or  
Faculty of Medicine and Faculty  
of Engineering is usually just a  
short walk or cycle ride away.

# High quality of life and plenty of opportunities

## A great place to live

FAU's two main sites, the cities of Erlangen and Nuremberg, are located at the heart of the Nuremberg Metropolitan Region. Both Erlangen with its 100,000 inhabitants, former home of the Hugenots and a key location for Siemens, and Nuremberg, a city with a population of half a million and a metropolitan flair, have their own unique charm. The opera, theater, and museums, along with a lively pub scene and night life, offer plenty of opportunities to relax after a day in the lecture hall, lab, or library.

The mixture of academia, innovative companies, art, and culture makes the region the perfect place for creative minds. There is also plenty on offer for keen athletes and nature lovers. Franconian Switzerland, a paradise for climbers and hikers located north of Erlangen, is on FAU's doorstep and water sports enthusiasts will love the Franconian lakes south of Nuremberg and the University's water sports center.

Franconia is home to some excellent wines and the famous Franconian bratwurst. The region boasts more breweries per square kilometer than any other area in Europe. Christmas markets, such as at the world-famous Christkindlesmarkt in Nuremberg, are a magical experience in Franconia.

Erlangen offers a safe, welcoming atmosphere and, thanks to its close proximity to Nuremberg International Airport and excellent railway connections, it is easy for you to get to wherever you need to travel.

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