Bayerisches Hochschulzentrum für Mittel-, Ost- und Südosteuropa (BAYHOST)
Jahresstipendienprogramm des Freistaates Bayern
für Graduierte aus Mittel-, Ost- und Südosteuropa

ERFAHRUNGSBERICHT ÜBER STUDIENERFAHRUNGEN IN BAYERN
[Report on study experiences in Bavaria]

Herkunftsland [county of origin]:   Romania
Studium in Bayern [program in Bavaria]:   von [from] 2020 bis [until] 2023
Hochschule in Bayern [university in Bavaria]:   FAU Erlangen-Nürnberg
Studienfach [subject of study]:   Medical Image and Data Processing
Abschluss [degree]:   Master

Practical experiences and tips

In order to **prepare my stay in Germany** I first chose the master program which matched with my interests. I've decided to apply for the Master degree program Medical Image and Data Processing since it is focused on computer science for medical applications and it is offered in English. The application process for this program is simple and all the information needed can be find on the FAU website. The most important thing that had to be planed before the application at FAU it is the language qualification exam, which is necessary for international students. I've decided to take the IELTS exam to proof the language requirements. Once I found out that I was admitted into the program, I've stared to search for accommodation. I didn't obtain any accommodation in the university student dormitories, so I've applied for a place in the dormitories owned by Joseph-Stiftung and I've managed to get a spot in a two-room apartment, which I share with a colleague. Erlangen is a pleasant city to live in, with a lot of students and people from all around the world. For the city registration, as a European citizen I needed only the proof that I rent an apartment and my identity card.

To **travel from Romania to Erlangen** it is possible by plane, in my case, from Bucharest or Sibiu to Nuremberg. There are also flights from Cluj or Timisoara to Nuremberg. The only document checked at the customs is the identity card. From the Nuremberg airport to Erlangen, it is easy to find a bus or a train ride.

In Erlangen my main way of travel is by bike. I usually ride my **bike** to arrive everywhere I need. There is also the possibility to travel by bus. Student Services Erlangen-Nürnberg offer FAU students a basic semester ticket in collaboration with the local public transport company, VGN. The basic ticket is valid in second class on all forms of transport approved by the network (S-Bahn, U-Bahn, tram, bus, Regionalbahn and Regionalexpress trains, as well as certain other local trains and additional services) in the entire VGN network from Monday to Friday between 7 p.m. and 6 a.m. and all day on Saturdays, Sundays and bank holidays.

Cost of living in Erlangen may vary a lot depending on your needs. In general, is around 700-900€ per month. PC equipment is offered by the university computer labs (CIP – Pools) and library. You can register and use PC whenever you need. Also, when you have classes or you are working at university, you can eat lunch or a snack at several university cafeterias. The prices are, of course, lower than in the restaurants.

Department of Sports Science and **Sport** offers several sport courses at the university. To register for a course the cost is between 10-30 euros per semester. Participation in a sport course is good way to get in contact with other students from different departments. There are also **mentoring programs** for special target groups, such as first-year students (information about these programs is available from the student associations of the relevant degree program). FAU also offers programs geared specifically towards international students. These include the buddy program, FAU Integra for refugees or FVI – FAU Volunteers for Internationals. There are also programs for specific topics such as supporting women with their academic careers,

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B A Y H O S T

Diversity Scouts, who promote an anti-discriminatory culture at the University or a team of students who offer writing consultations.

Academic experiences and further qualifications

Studying at FAU is an interesting experience for me. This offered me the possibility to discover different areas of **medical engineering** through the courses like: Biomedical signal analysis, Visual computing in medicine, Magnetic resonance imaging, Body area communications and many others. FAU has 5 faculties (Faculty of Sciences, Faculty of Engineering, Faculty of Medicine, Faculty of Humanities, Social Sciences, and Theology, Faculty of Business, Economics, and Law) with many study programs to choose from. The Faculty of Engineering (TF), has an excellent reputation in science as well as in commerce. During the last 50 years, highly qualified engineers and computer scientists have been educated in more than 40 highly modern and interdisciplinary degree programs. Medical engineering master program prepares students for a challenging, interdisciplinary work environment by providing them with profound engineering knowledge (mathematics, electrical engineering, computer science), specialized application skills, first-class research opportunities as well as soft skills. It has been quality-checked and accredited by the German Accreditation Council. Moreover, FAU has been ranked among the 75 best universities worldwide in Medical Technology in the Shanghai Ranking.

Seminars and conferences are common in the research community at FAU. As student you have the possibility to participate free of charge at most of them. Some of the most popular at technical faculty are: Digital Health Lunch Series, German Culture and Society, The "WomenInScience@TF" series, Siemens and FAU FemTechTalk and many others. The invitations at these events are usually send via e-mail and everybody who is interested can register. Also, there are some seminars which are graded and are part of the master program. I've taken two of them: Applied Neural Engineering: Brain and Spine Neurosurgery and Human/Machine Interfaces and Seminar Intraoperative Imaging and Machine Learning and it was a great experience since there were presented recent and innovative methods.

FAU has several **libraries**. In Erlangen there are the Main Library, the Science and Technology Branch Library as well as many departmental libraries, whereas the Economic and Social Sciences Branch Library and the Educational Science Branch including the departmental library 15 (Educational Science) are located in Nuremberg. Technology Branch Library, as well as some other departmental libraries, has the Intra-library delivery service and you can ask to pick-up the books from a location which is more convenient for you. There are lecture halls, computers and printing devices in any of the locations.

As a student in the Medical Image and Data Processing I've taken courses and projects mostly offered by the **Pattern Recognition Lab and Machine Learning and Data Analytics Lab**. In general, the professors and the PhD students are open to collaboration and ready to listen new ideas. There are always some proposed projects for interested students on the laboratory's websites, but you can also submit your own idea.

I've done my **research internship** at the Experimental Pharmacology and Toxicology Department and it was a pleasant collaboration. The project is called: "Motif analysis of resting-state and stimulus driven fMRI networks with special focus on neurotransmitter specific subnetworks" and it is focused on the comparison of different networks using motif search. At the current state of the project the research results showed that analyzing brain networks by different NT(neurotransitters) systems and motifs allow a specific decomposition. Motif incidences for NT systems are similar for RS (resting state) and stimulus driven networks demonstrating the underlying importance of NT networks. RS networks differ in motif incidence and have overall more motifs. Increased stimulus intensity decreased the motif incidence. Moreover, mouse phenotype is characterized by motif-specific fingerprints.

Studying in Bavaria was a **great opportunity** for me since I've got in contact with many great researchers in the field and I've learned a lot about how computer science is used for medical applications. I developed professionally and personally during this period. This will definitely impact my future career since I became more confident in my knowledge and I've started to consider working in the research field an option for the future.

Plans or activities after the BAYHOST-funding]

My plans after the BAYHOST- funding are to continue working at the project and to present it as a master thesis. After finishing the master, I am planning to apply for a PhD position in on of the labs at FAU.