



WORK OFFER

Ref. No. DE-2020-3010-1

Employer Information

Employer: University of Bayreuth
Biomaterials
Universitaetsstr. 30
95447 Bayreuth
Germany

Website: <http://www.fiberlab.de/>

Location of placement: Germany
Nearest airport: Nürnberg or Munich
Working hours per week: 20.0
Working hours per day: 5.0

Number of employees: 31

Business or products: Biomaterials Research

Student Required

General Discipline: 11-COMPUTER AND INFORMATION SCIENCES
40B-PHYSICS
40C-CHEMISTRY, MATERIAL SCIENCE, AND
CHEMICAL ENGINEERING

Completed years of study: 3

Field of Study: 11.0202-Computer Programming, Specific
Applications.
40.0810-Theoretical and Mathematical Physics.
14.1801-Materials Engineering.
40.0508-Chemical Physics.
40.1001-Materials Science.

Student status requirements: Required during the whole period of
internship.

Language required: English Good Or
German Good

Required Knowledge and Experiences:

A necessary condition for this internship is an interest in learning new materials simulation techniques and the underlying principles. Good skills in mathematics (engineer level) and experience with computers are essential. The student should be able to familiarize himself quickly with new simulation programs and research fields. Experience with materials simulations, programming skills and/or theoretical materials science are welcome.

Other requirements:

Our research chair puts an emphasis on social interaction. The student should be open for communications with colleagues and supervisors. She/he should be interested in (and talented at) learning and applying new simulation methods. The student will be expected to accomplish small tasks independently and to analyse results critically.

Work Offered

The student apprentice will work in the field of computer-based material modelling.

Our research group for "Simulation of mesostructured materials" has a long experience in materials simulations. Various simulation techniques and numerical methods are used to study self-organized mesoscopic structures and the resulting material properties. The current focus is on biomaterials and their production processes.

Examples of ongoing research topics are the alignment of filaments in complex flow fields, structure formation in smart hydrogels, quasicrystals formed by cylindrical micelles and phase separation in multicomponent alloys.

There are various active research fields requiring different numerical techniques. A suitable topic will be chosen, depending on the student's skills and interests.

A possible task is calculating the flow field of a hydrogel in 3D bioprinters. Calculations will be performed with finite element methods (FEM) using the wide-spread software OpenFoam.

In another project, solvent-induced bending of hydrogel bilayers are studied with FEM and related methods.

Other studies are based on molecular dynamics (MD) simulations, performed with the well-established software package LAMMPS. MD simulations are used for studying structure formation of colloids in flow fields and for simulating heat transport in a multi-domain alloys.

Given the necessary programming skills, the student may also extend existing simulation software that has been developed in the research group. One task would be the implementation of a newly developed, performance-optimized Monte Carlo simulation technique.

Number of weeks offered: 12 - 24

Within the months: 01-MAY-2020 - 30-APR-2021

Or within: -

Company closed within: 24-DEC-2020 - 06-JAN-2021

Working environment: Research and development

Gross pay: 750 EUR / Month

Deduction to be expected: variable

Payment method / time of first payment: Other Cash or bank transfer / end of month

Latest possible start date:

Accommodation

Canteen at work: Yes

Expected type of accommodation: Info will be handed in later

Accommodation will be arranged by: IAESTE

Estimated cost of lodging: 400 EUR / Month

Estimated cost of living incl. lodging: 750 EUR / Month

Additional Information

Nomination Information

Deadline for nomination: 15-MAR-2020

Date: 29-JAN-2020 On behalf of receiving country: Felicitas Schnabel



IMPORTANT INFORMATION ABOUT YOUR TRAINEESHIP IN GERMANY – PLEASE READ CAREFULLY!

GENERAL INFORMATION

The national committee of IAESTE Germany is located in Bonn as a part of the German Academic Exchange Service (DAAD). Here, the administrative issues of your training are arranged. In Germany there are numerous local committees. In general, the local committees will meet you when you arrive and help you to get in touch with the employer as well as with the public authorities. All of us will do our best to make your stay as pleasant as possible. Not all traineeships are based in large cities where you can find local committees. You will find information regarding the nearest local committee at your form „O“. In case there is no local committee IAESTE might not be able to contact you on a regular basis.

WHAT WE EXPECT FROM YOU

We put a lot of effort in raising the IAESTE jobs in Germany. The companies are assured of highly qualified and motivated students for the job. It is therefore required that you read the job description carefully and apply only if you consider yourself qualified. For a satisfactory working relationship between the company and the trainee, it is expected that the trainee has good social skills and can take initiative.

IMPORTANT DOCUMENTS FOR YOUR APPLICATION

1. Student Nominated Form – *can be downloaded at the IAESTE Exchange Platform*
2. Form „O“ – *can be downloaded at the IAESTE Exchange Platform*
3. Introductory letter to the employer
4. Curriculum Vitae
5. Transcript of records
6. Language certificate
7. Certificate of enrolment – *please only use the attached form*
Please note: You must be enrolled during the whole period of training!
8. Copy of passport

THE FORM „O“

Work offered: It is important to read the job description carefully, as the company expects you to have some knowledge of the particular work offered.

Work period: The period of work is stated on the form „O“ and can only be altered to another period if the employer agrees to the new dates. Please apply always for full month, beginning at the first day of each month.

Language requirements: Please prove your language skills with a current language certificate. The language skills which are required from the employer need to be proven. Most Germans speak at least basic English. If your language skills differ significantly from what is stated in the certificate, the training may be terminated.

Accommodation: Unless explicitly mentioned otherwise, the local committee will organize your accommodation. You have full financial responsibility for the rent. Also, for booking accommodations it's necessary that your internship will last whole calendar months because the rent has to be paid by you for full months. Please note that in Germany, usually male and female students share the same floor and sometimes share a bathroom in student dorms or in shared student apartments.

Payment/taxes: Your salary is normally paid monthly at the end of each month according to the amount stated on the form „O“. If your training ends before the end of a month, the salary will be paid proportionally for the days you completed.

Foreign students who are in Germany for a practical training and who receive a payment from the employer must pay a certain percentage of their wages as social security contributions. You are exempted from this payment if you receive your wages from the DAAD only and/or if your training is a compulsory part of your course of study. This must be confirmed at the certificate of enrolment.

ADDITIONAL INFORMATION

The DAAD portal: In case of acceptance, you must register yourself at the DAAD portal. Any important information will be sent with your acceptance. Payment and insurance can only be activated after you have finished the necessary steps.

Payment: You need to have sufficient funds for the first month, approximately 750,00 €, to cover your expenses until you receive your first salary. The expenses include for example living costs, rent, telephone costs or public transport. The DAAD does not offer financial support for travel costs or airfare.

Insurance: In order to complete an IAESTE training in Germany, an adequate health-, liability- and accident insurance is mandatory. The DAAD will take out and pay the insurance for you during the period of training.

Visa/Passport: You are required to apply for a visa at your nearest German Embassy or Consulate. It is important to apply as soon as you get your acceptance papers from IAESTE Germany. The application procedure sometimes takes 8 to 12 weeks. Make sure you have a valid passport before leaving for Germany.

Work permit waiver: The DAAD issues the work permit waiver which has to be confirmed by the German Federal Employment Agency. Since this is an official document, you are not allowed to write on it. In general, students from EU countries, EEA countries and Switzerland do not require a work permit waiver for a practical training in Germany.

If you have any further questions, please consult your IAESTE national committee.

Finally, we would like to wish you good luck for your application!

