The Synthetic RNA Biology Lab at the Department of Biology invites applications for

2 PhD Studentships – (m/f/d) 65%

for a funding period of three years initially.

Our research focuses on the discovery and application of regulatory RNA molecules. Synthetic RNA Biology is a core research area, especially the selection, characterisation and application of RNA aptamers.

One project focuses on the development of RNA aptamers that inhibit enzymes responsible for the development of antibiotic resistance. In a German/French collaboration, cutting-edge methods such as *droplet microfluidic* and SELEX are combined to identify inhibiting aptamers. Their detailed characterisation and optimisation should result in active substances that can be used to combat antibiotic resistance.

In the second project, aptamers will be selected and developed into biosensors for the detection of environmental toxins and contamination in food and drinking water. For this purpose, a new SELEX method particularly well suited for low-molecular-weight substances, Capture-SELEX, will be used. The aptamers thus obtained will then be used in gold nanoparticle-based assays to develop inexpensive and rapid test systems

We offer:

Successful applicants will work in an exciting and interactive research environment as members of a dynamic team of international scientists and apply the latest technologies in molecular biology and biochemistry. The positions are integrated into the newly founded Centre for Synthetic Biology and the Collaborative Research Centre (SFB) 902 "Molecular Principles of RNA-based Regulation" as well as the newly founded Graduate School "Life Science Engineering". Thus, an excellent collaborative and interdisciplinary academic environment is combined with a comprehensive and structured educational programme for the development of scientific and other key skills.

We expect:

The prerequisite for employment is a completed degree (Master of Science or comparable) in life sciences or related natural sciences with excellent grades. You have practical experience in the field of molecular biology and/or biochemistry and have a keen interest in experimental research. We expect highly motivated students who enjoy working in a team. Excellent English language skills are essential.

Opportunity to complete a PhD is given. The performance of general lab service also serves the scientific qualification of the applicant.

As an equal opportunity employer, the Technical University of Darmstadt seeks to increase the proportion of women in the workforce and therefore particularly encourages female applicants to apply. Applicants with a degree of disability of at least 50% or equivalent are preferred in case of equal qualification. Salary is based on the Collective Labour Agreement for the Technical University of Darmstadt (TV - TU Darmstadt).

Please send your application with the standard supporting documents in electronic form (as a pdf, max. 10 MB), stating the reference number, directly to Prof. Dr. Beatrix Süß (beatrix.suess@tu-darmstadt.de).

Reference 157

Applications close: (4 weeks)