

# Job advertisement

Vacancy ID: 436/2022

Closing date: 04.02.2023



FRIEDRICH-SCHILLER-  
UNIVERSITÄT  
JENA

Friedrich Schiller University is a traditional university with a strong research profile rooted in the heart of Germany. As a university covering all disciplines, it offers a wide range of subjects. Its research is focused on the areas Light–Life–Liberty. It is closely networked with non-research institutions, research companies and renowned cultural institutions. With around 18,000 students and more than 8,600 employees, the university plays a key role in shaping Jena's character as a cosmopolitan and future-oriented city.

The new **DFG Research Training Group (RTG) 2723 Materials-Microbes-Microenvironments (M-M-M): Antimicrobial biomaterials with tailored structures and properties**, at Friedrich Schiller University Jena, Germany, combines expertise in materials, life, medical, optical and computational sciences to **develop ground-breaking and highly innovative antimicrobial biomaterials for the prevention of biomaterial-associated infections (BAI)**. This will be approached by six interdisciplinary PhD tandem projects, with two doctoral researchers (DRs) working on complementary **materials science** and **medical/life science** aspects of these questions in each project, with one materials scientist and one medical/life science professional working as team supervisors. Friedrich Schiller University (FSU) and Jena University Hospital (UKJ) closely cooperate within the RTG. Our full spectrum of excellent expertise in materials science and life sciences will be leveraged to address the critical issues of novel antimicrobial biomaterials in a collaborative spirit. The affiliated early career programs of the RTG, Jena School for Microbial Communication (JSMC) and Jena Graduate Academy offer ambitious, structured and interdisciplinary post-graduate training based on top-level fundamental and applied research.

The Chair of Materials Science of the RTG M-M-M  
invites applications for one

## **Doctoral Researcher (DR) Position (m/f/d)** to conduct research and training in *materials science* of **Switchable antimicrobial materials**

commencing on **15. March 2023**. The position is for **4 years full time (100%)**

### **Project description (Project A1):**

Biomaterial implants are frequently used for the treatment of bone injuries or diseases, which can be complicated by biomaterial associated infections (BAIs). These infections are a major clinical challenge, as they are difficult-to-treat and often require implant replacement.

In our team we aim to develop novel antibiotic-free antimicrobial biomaterials that prevent infections by physical principles on demand and in the long-time course. We aim to develop novel switchable antimicrobial materials that prevent the adhesion of microorganisms and at the same time promote the growth of bone cells. The materials will be tested by in-vitro cultures and in cell culture systems against different microbes, and their virulent behavior will be monitored throughout the microbial contamination process. Furthermore, a potential stimulating effect of the materials on bone cells will be tested for promotion of implant integration.

### **Your responsibilities:**

- Actively and effectively contribute to the development of the project in research, training and organization of the RTG
- Cooperate and support within the project and beyond



- Produce high-quality written manuscripts for publication
- Present your results at national and international conferences
- Assist with training other researchers, including masters' and undergraduate project students, where required
- Contribute to maintaining the collaborative, friendly and welcoming environment within the RTG and its collaboration partners

### Your profile

- An outstanding master's degree (MSc) in materials science or physics or chemistry or chemical science or materials engineering or a closely related area. Candidates in the final stages of obtaining their MSc degree are also eligible to apply.
- Desired methodological skills materials science (one or more): materials design and synthesis, materials characterization and testing, PVD, microscopy methods (AFM, SEM), polymer synthesis and modification, nanomaterials, organic and inorganic materials preparation, materials engineering skills
- Highly motivated individual with an interest in joining the interdisciplinary research areas of the RTG and cooperate with other projects and partners
- The ability to work creatively and independently towards developing your own research project and collaborate with DRs of other disciplines
- An integrative and cooperative personality with enthusiasm for actively participating in the dynamic RTG community
- Outstanding English communication skills, both written and spoken

### We offer:

- Research in cutting edge a clinically highly relevant topic
- A highly communicative atmosphere within an energetic scientific network
- A comprehensive mentoring program and soft skill courses for early career researchers
- An international competitive interdisciplinary training program in materials science and life science
- *Jena – City of Science*: a young and lively town with a vibrant local cultural agenda
- A family-friendly working environment with a variety of offers for families: University Family Office 'JUniFamilie' and flexible childcare ('JUniKinder')
- University health promotion and a wide range of university sports activities
- Attractive fringe benefits, e.g., capital formation benefits (VL), Job Ticket (benefits for public transport), and an occupational pension (VBL)
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) at salary scale E 13 (full time)– depending on the candidate's personal qualifications–, including a special annual payment in accordance with the collective agreement.

DR positions are funded by the German federal and state governments. Friedrich Schiller University Jena is an equal opportunity employer.

The advertised position is limited until 14. March 2027. This is a full-time position of 100% (40 hours per week).



To promote gender equality in science, applications by woman are especially welcome. Candidates with severe disabilities will be given preference in case of equal qualifications and suitability.

Applications in English should comprise a cover letter, a detailed curriculum vitae and copies of academic certificates as well as a minimum of two letters of support from referees in one pdf file. Please submit your application **per email**, under the vacancy **ID 436/2022** by **04. February 2023** to:

Univ.-Prof. Dr. rer. nat. Klaus D. Jandt  
Chair of Materials Science  
Otto Schott Institute of Materials Research (OSIM)  
Friedrich Schiller University Jena  
Löbdergraben 32  
07743 Jena

E-Mail: [k.jandt@uni-jena.de](mailto:k.jandt@uni-jena.de)

Since all application documents will be duly destroyed after the recruitment process, we ask you to submit only copies of your documents.

For further information for applicants, please also refer to [www4.uni-jena.de/stellenmarkt\\_hinweis.html](http://www4.uni-jena.de/stellenmarkt_hinweis.html) (in German)  
Please also note the information on the collection of personal data at [www4.uni-jena.de/en/jobs\\_information\\_collecting\\_personal\\_data.html](http://www4.uni-jena.de/en/jobs_information_collecting_personal_data.html)