

**Jacobs University** is a private, state-recognized, English-language research university in Bremen. It offers bachelor, master and PhD programs in the focus areas health, mobility and diversity and is involved in the professional development of specialists and managers and in the transfer of knowledge. The guiding principles include the highest standards in research and teaching, interculturality and systematic cross-disciplinary cooperation. The aim is to optimally prepare talents from all over the world for responsible tasks in a globalized world of work. More than 1,600 people from over 110 nations currently live and learn on campus.

The department „Life Science and Chemistry” invites interested candidates to apply for the next possible date as a

## **PhD candidate / Research Associate in Chemistry or Biochemistry (m/f/d) - part-time**

(limited to 3 years, 19,25 hrs/week)

Job ID: 21~29

### **Project outline:**

We offer one PhD position in the general areas of organic supramolecular chemistry and biochemistry which aim at the following detailed projects and sub-projects:

- 1) Investigation of host-guest binding phenomena of large anions with macrocyclic receptors
- 2) Development of enzyme assays and membrane transport assays based on supramolecular reporter pairs
- 3) Investigation of dispersion interactions in supramolecular assemblies in different phases

Methods vary with the specific project and include organic synthesis as well as the associated characterization by spectroscopic methods, optical titrations (absorption and fluorescence), isothermal titration calorimetry, time-resolved and steady-state fluorescence spectroscopy as well as microscopy, enzyme assays, cellular assays, liposomal preparations, and bio-conjugation with fluorescent probes. With all our applications, we aim at water-soluble systems with biological and environmental utility.

Besides our fundamental studies in the area of host-guest chemistry, particularly involving cucurbituril complexes, we have popularized the importance of high-energy water as a driving force of supramolecular complex formation and are presently introducing the chaotropic effect as an orthogonal assembly motif to the hydrophobic effect. These studies are regularly leading to new bioassays for enzymatic activity and membrane permeability, which have direct implications for drug delivery and in drug discovery.

For our previous work in this area, see

Hennig *et al.* <https://www.nature.com/articles/nmeth1064>

Lee *et al.* <https://www.nature.com/articles/nchem.1618>

He *et al.* <https://www.nature.com/articles/s41557-018-0146-0>

Assaf *et al.* <https://onlinelibrary.wiley.com/doi/pdf/10.1002/anie.201804597>

Biedermann *et al.* <https://www.nature.com/articles/s42003-020-1108-9>

### **Your responsibilities:**

- Laboratory research in a highly collaborative environment
- Independent literature study, manuscript writing, and creative project management
- Support of laboratory management, instrument supervision, and grant application writing
- Involvement in the supervision of student projects

### **Your qualifications:**

- MSc in chemistry, biochemistry, or comparable degree
- BSc in top rank of group (10%) with previous research experience
- Fluency in English, both written and spoken

We look for coworkers who are ambitious, energetic, creative, and independent. The candidate should be keen to work at the forefront of internationally competitive research in an interdisciplinary environment and be a good team worker. We expect that the candidate will develop the project beyond plan, learn new methods, and pursue collaborations with others inside and outside the team.

**We offer:**

Working on a modern campus  
Flexible working hours  
Choice of 4 dining halls on campus  
Easy accessibility by public transport and plenty of parking on the premises  
Various health and sports offers

**Your application:**

For further information regarding this position, please contact Werner Nau, email [w.nau@jacobs-university.de](mailto:w.nau@jacobs-university.de)

Please upload your documents (letter of motivation, curriculum vitae and certificates) via our application tool on our website [here](#).

The review of applications will begin immediately and will continue until both positions are filled. This advertisement expires latest on September 30, 2021.

Jacobs University is an equal opportunity employer.