The DWI – Leibniz Institute for Interactive Materials, Aachen, is a research institute that takes on the challenge of surpassing disciplinary limits and tackling new questions relating to substances and materials that combine technology and nature. It is a location where people with different talents, experiences, and skills work together to learn from each other and generate new knowledge and new methods to create a better quality of life in our world.

DWI invites applications for a position as

**Ph.D. student (d/f/m)**

We are looking for an enthusiastic and talented Ph.D. candidate with a keen interest in synthesizing and testing drug-like molecules in cell-mimicking materials. You should have excellent communication skills and be able to operate in a dynamic international research team.

**Your tasks:**

The cell contains a very high concentration of molecules, making it a highly thermodynamically nonideal environment. This nonideal environment prevents understanding biochemical organization in cells from first principles. Hence, we cannot predict what a molecule will do in a cell.

Your tasks will be:

- Design and synthesis of small molecules to interfere with the biochemical organization.
- Determine the effect of the environment on the drug molecules' function and determine their activity against pathogenic proteins.
- Apply a sizeable commercial library of small molecules.
- Modify the environment through physical means and protein engineering.

Successful completion allows new clinically relevant small molecules and a basic understanding of the cell's biochemical organization. The research is funded as part of a European Research Council (ERC) Consolidator grant and will be executed in the Boersma group at the DWI-Leibniz Institute for Interactive Materials in Aachen. The lab has been successful in, for example, FRET sensor development with the first sensors for macromolecular crowding (Nature Methods 2015) and ionic strength (ACS Chem Biol 2017), and protein organization (BioRxiv 2021). We operate currently on the interface of biophysics, synthetic biochemistry, and organic chemistry.

**Your profile:**

- You completed an MSc in chemical biology, organic chemistry, medicinal chemistry, or a related field.
- You have an affinity with synthesis and proteins.
- Experience in protein engineering, and molecular biology, and microfluidics is beneficial but not a requirement.
- You are open to multidisciplinary research and learning new skills
- You enjoy working in a team.

**DWI offers:**

- Exciting and challenging tasks as well as development opportunities in a modern scientific organization
- An open and team-oriented working atmosphere in an international environment
• The support of an experienced team

The position is available immediately. Employment, remuneration, and benefits are based on the collective agreement for the federal states’ public service (TV-L).

DWI supports you to gain further qualifications. We offer our employees a broad spectrum of career opportunities in an attractive working climate [https://www.dwi.rwth-aachen.de/seite/institutskultur](https://www.dwi.rwth-aachen.de/seite/institutskultur). DWI supports equal opportunities; an overview on the measures can be found here: [https://www.dwi.rwth-aachen.de/en/page/equal-opportunity-and-diversity](https://www.dwi.rwth-aachen.de/en/page/equal-opportunity-and-diversity).

We at the DWI - Leibniz Institute value diversity and therefore welcome all applications - regardless of gender, disability, nationality, ethnicity, and social background.

**How to apply:**

Interested? This vacancy is open until 5 April 2021. Please send your application, including CV, contact details of two references, and motivation letter to:

Dr. Arnold J. Boersma

boersma@dwi.rwth-aachen.de