

The research group *Smart Pharmaceutical Materials and Systems*, scientifically guided by Dr. Mariia Nesterkina at the Helmholtz Institute for Pharmaceutical Research Saarland (HIPS) in Saarbrücken, is seeking a

## Master Student

The Helmholtz Institute for Pharmaceutical Research Saarland (HIPS) was founded in 2009 as a site of the Helmholtz Centre for Infection Research (HZI) in collaboration with Saarland University and is the first publicly funded non-university research institution in Germany explicitly dedicated to pharmaceutical research. HIPS' focus is on the discovery and development of novel active ingredients against infectious diseases.

Researchers at HIPS collaborate closely with Saarland University and the local pharmaceutical industry as well as national and international research institutions and companies. Since 2009, HIPS has constantly grown to over 250 employees in 2024 and is currently undergoing further spatial and thematic expansion.

### Responsibilities:

In the research group *Smart Pharmaceutical Materials and Systems*, we design and develop novel thermotropic liquid crystals (LCs) as carriers for the targeted delivery of anti-infective drugs. These materials are engineered to undergo phase transitions within the physiological skin temperature range, enabling their use for skin drug delivery. Your project, entitled "Design and synthesis of thermotropic liquid crystals for skin application", involves a multidisciplinary set of tasks, including:

- organic synthesis of LC-forming molecules
- purification and isolation of synthesized compounds using chromatographic methods (e.g., flash chromatography, preparative HPLC)
- analytical characterization using techniques such as LC-MS, NMR spectroscopy
- characterization of liquid crystalline behavior, including differential scanning calorimetry (DSC) and polarizing optical microscopy (POM)

Through this work, you will make a direct contribution to the development of novel drug delivery materials. Additionally, you will be responsible for preparing presentations to facilitate discussion in project meetings.

### Requirements:

The candidate studies pharmacy, chemistry or a related discipline and is highly motivated and interested in questions related to pharmaceutical research. The ability to work in an international team, solid communication skills in English and the desire to write scientific texts are required for this position. The confident handling of standard computer software such as MS Office is a matter of course for you.

**Starting date:** As soon as possible

Please send your complete application by e-mail to Dr. Mariia Nesterkina ([mariia.nesterkina@helmholtz-hips.de](mailto:mariia.nesterkina@helmholtz-hips.de)).