

## Available PhD position in Functional Chiral Organoboron Molecules (Organic Chemistry)

at the Center for Nanosystems Chemistry, Universität Würzburg

We are currently looking for an outstanding and highly motivated candidate for a doctoral position in the research group of

**Dr. Agnieszka Nowak-Król**

Starting Date: November to December 2018

### We offer

- the opportunity to work on an interdisciplinary and innovative research project in an international and intellectually stimulating research environment,
- work in a young research group with a frequent exchange of ideas,
- a contract for 3 years (with a possible extension by one 1 year - 4 years total). Salary and benefits are according to public service positions in Germany (TV-L, 50%).

### Project description

- The goal of the project is the synthesis of  $\pi$ -conjugated chiral organoboron molecules by a novel modular approach. This approach enables the straightforward synthesis of a library of compounds and gives access to highly complex unprecedented fully  $\pi$ -conjugated systems with systematically tuned properties. The molecules will be tested for applications in transistor and photovoltaic devices. We also aim at the development of new generation materials for organic electronics utilizing chiral information encoded in the molecules.
- You will be involved in (1) the design and synthesis of functional chiral organoboron molecules; (2) purification and full characterization of these compounds; (3) investigation of their self-assembly in solution and packing arrangement in the solid state; (4) DFT and TDFT calculations to get insight into the structural and optical properties of the new molecules.

### Position Requirements

- A master's degree in chemistry (MSc or equivalent) completed or going to be finished soon.
- A strong background in organic synthesis; a background in boron chemistry would be an asset.
- Experience in purification and analytical techniques such as HPLC, GPC, NMR, absorption and emission spectroscopy, CD, MS, CV, OR (or the high motivation to learn these techniques).
- Knowledge of software, e.g. ChemDraw, Origin, Endnote, TopSpin, Mercury, Gaussian is welcome.
- **An excellent knowledge of the German language is required.**
- The candidate should have good writing and speaking skills in English, critical thinking skills and a good team spirit.

**Tasks:** The PhD student will be involved in teaching (a practical course).

### For Application

Applications should be sent by e-mail to Dr. Agnieszka Nowak-Król and should include: a cover letter, CV including at least two references, and a description of research experiences. Disabled applicants will be preferentially considered in case of equivalent qualification.

### Contact

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<http://www.nanosystems-chemistry.uni-wuerzburg.de/staff-contact/research-group-leaders/>