24-months Post-doc positions + 36 months PhD positions in synthetic electrochemistry

“Organic Electrode Materials for Ultrafast Electrochemical Energy Storage”

Organic materials are both environmentally and economically attractive as potential electrode candidates. We have recently reported on a new class of stable and electrically conductive organic electrodes based on metal porphyrins with functional groups that are capable of electrochemical polymerization, rendering the materials promising for electrochemical applications. Their structural flexibility and the unique highly conjugated macrocyclic structure allows the produced organic electrodes to act as both cathode and anode materials giving access to fast charging as well as high cycling stability. Together with industrial partners, we now further adapt our molecular systems for the application in post-Lithium electrochemical energy storage systems.

Publications
5. Lv et al., ChemSusChem, 2020, 13, 2286, https://doi.org/10.1002/cssc.202000425

Requested competences
- Practical skills in (in)organic synthesis and electrochemistry
- Experience in electrosynthesis will be an advantage
- Practical experience in analytical methods (NMR, MS, Raman, IR, UV-VIS)
- Good level of English proficiency (understood, spoken and written)
- Good skills in scientific writing
- Team spirit and collaborative predisposition

Suitable candidates must possess PhD&Master diploma in Chemistry, respectively.

Presumable starting date: 01.10.2020

Applications (CV, research summary + list of publication) should be sent to:

mario.ruben@kit.edu

Karlsruhe, July 31, 2020