

Department of Inorganic and Coordination Chemistry
(Faculty of Chemistry, Nicolaus Copernicus University in Torun)

Position: Scholarship grantee/PhD student

Project title: Mechanistic clarification of the interaction of nanoparticles and nanoscale coordination compounds at the interface of multiphase chemical and medicinal related processes

Requirements:

1. Master degree in Chemistry;
2. Membership of the PhD school;
3. Good background in inorganic chemistry;
4. High motivation to perform independent research work;
5. Ability to work in a scientific team;
6. Fluent in spoken and written English.

Tasks:

1. Mechanistic studies on the application of nanoparticles and nanoscale coordination compounds in substitution and redox controlled processes.
2. Application of X-ray, SEM, TEM, EDX, ESI-MS and DLS techniques to follow changes in the structural pattern of nanoscale coordination compounds.
3. Synthesis of nanoparticles of the type MO, M₂O₃ and M₃O₄ for M = Fe, Mn and Cu.
4. Modification of metal oxide nanoparticles via ligand exchange reactions on the surface of selected nanoparticles.
5. Systematic studies on the influence of different stabilizers, ultrasound and temperature on the size of the synthesized coordination compounds, their crystal structure, shape and dispersity.

NCN call for proposals type: OPUS 19 – ST4

Deadline for the submission: August 31, 2023

Date of the contest settlement: September 15, 2023

Form of submission: e-mail

Contact person: Prof. Dr. Dr. h. c. mult. Rudi van Eldik, e-mail: rudi.vaneldik@fau.de

Scholarship: PLN 3,000 (gross) per month for 12 months with the possibility of an extension

Commencement: October 1, 2023

Required documents:

- Letter of motivation (optional)
- CV
- Copy of the master's diploma with supplement
- Opinion of the academic supervisor
- Documentation of scientific achievements
- Declaration of consent to the processing of personal data contained in the application for the needs of the recruitment process, in accordance with Regulation (EU)2016/679 of the European Parliament and of the Council (Journal of Laws UE L 119/1)