

**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. Good background in inorganic/bioinorganic chemistry;
3. Experience with kinetic and mechanistic studies;
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. Application of ionic liquids for the modification of the surface of nanoparticles.
4. Synthesis of Fe(III) and Co(III) porphyrin complexes as nanoscale coordination compounds by use of anti-solvent techniques.
5. Activation of small molecules such as O₂, HO₂, H₂O₂, H₂S and NO.
6. Detailed studies on inner- and outer-sphere electron transfer reactions of the synthesized nanoscale coordination compounds.
7. Selection of suitable reaction partners to test the efficiency of multiphase reaction systems.

NCN call for proposals type: OPUS 19 – ST4

Deadline for the submission: February 7, 2021

Date of the contest settlement: February 15, 2021

Form of submission: e-mail

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

Scholarship: PLN 3,000 (gross) per month for 3 years

Commencement: March 1, 2021

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)