

PhD scholarship – Department of Organic Chemistry at NCU in Toruń

The scholarship for a PhD student is offered. Please refer to the information below on regulations, offer and how to apply.

Position

PhD student at Uniwersytet Mikołaja Kopernika w Toruniu, Wydział Chemii (Faculty of Chemistry, Nicolaus Copernicus University, Toruń, Poland)

WWW

<https://www.chem.umk.pl>

Required:

- 1) English language, level: good, communicative spoken and written,
- 2) MSc degree in chemistry,
- 3) Enrolment into a PhD programme of the Academia Copernicana at NCU (Nicolaus Copernicus University). For more information, please, see: <https://www.ac.umk.pl>
- 4) a candidate should have an experience (at least partly confirmed by publications) in all of the following areas:
 - Vibrational structure theory of polyatomic molecules
 - Theory of intermolecular interactions
 - Theory of nonlinear optical effects
 - Computational quantum-chemistry
- 5) ability to work in a team,
- 6) problem-solving skills,

Tasks

The goal for the project is to analyse and describe the photophysical properties of fluorescent molecules carrying the boron atom with the use of quantum-chemical calculations. The research will deliver information on the electronic structure of investigated compounds in the light of properties that are available by experimental methods. The main motivation is to understand the excitation energy dissipation and the influence of the structural changes on properties including nonlinear optical effects. Also, the intermolecular interactions of fluorophores will be studied together with the influence of molecular vibrations on the shape of the absorption and/or emission spectra. Selected molecules will be studied in detail experimentally and with the use of computational methods (classical and quantum mechanics-based) and their potential for two-photon excited microscopy purposes will be judged and then optimized. A candidate will be involved in all research activity mentioned above.

The date of application

2020.08.15 by e-mail to the address given below

Perspective: We offer to work (4 years) in research at the edge of chemistry and physics in the field of fluorescent dyes. The team is motivated and open for discussion thus we are looking for a candidate who fits that. The PhD candidate will be part of multi-disciplinary and international team within the Academia Copernicana PhD school.

Scholarship: PhD student stipend is available from October 1st, 2020.

The scholarship (4.500 PLN, gross) will be awarded in accordance with NCN regulations: https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2019/uchwala25_2019-zal1_ang.pdf.

A candidate will be responsible for quantum-chemical calculations related to the project tasks, preparation of the data for analysis and publication of results, manage the data from calculations.

Additional information

By submitting the application, a candidate agrees to the processing of her/his personal data in the recruitment process. We reserve the right to contact and reply only to selected candidates. Incomplete applications will not be considered.

The Commission will take into account the following criteria:

- a) competences of a candidate in the light of tasks in a research project,
- b) previous educational/scientific achievements of the candidate,
- c) awards and distinctions.

More information about research can be found at

<https://sites.google.com/view/bosmialowski/>

Please, send the application to: borys.osmialowski@umk.pl

IMPORTANT: e-mail title „Opus 2020, recruitment”

A candidate should submit:

- a) CV (including i) information on publications, projects, presentation at conferences, ii) research-related achievements, scholarships, awards and research experience, iii) competence to carry out specific tasks in the research project)
- b) motivation letter
- c) copy of Master Diploma or equivalent (with supplement)
- d) opinion about candidate from master thesis supervisor