

Requirements:

1. Doctoral degree obtained within 7 years from start of employment in one of the following disciplines: chemistry, chemical technology or obtaining such degree before the start of employment.
2. Experience in independently conducting research in the field of organic and organometallic synthesis using specialized laboratory techniques. Experience in working with compounds sensitive to moisture and air.
3. Experience in determining the structure of organic compounds using appropriate analytical techniques, including NMR and MS spectroscopy methods.
4. Good spoken and written English.

Desired skills:

1. Basic experience in measuring optical properties, including absorption and emission spectra, photoluminescence quantum yield measurements both in solution and in a solid.

Description of tasks:

The doctoral student will participate in implementation of the NCN SONATA project entitled "HyperNIR: Overcoming the limitations of the heavy atom effect in near infrared luminophores". The project concerns the synthesis and determination of the properties of monomeric Pt(II) complexes featuring thermally activated delayed fluorescence (TADF) as efficient near infrared luminophores involving a novel, innovative mechanism not previously known or studied in this group of emitters. The project is multidisciplinary in scope, joining physics, computational and synthetic chemistry, and addresses current research challenges in the design of luminescent materials.

Detailed tasks:

- Synthesis of luminescent Pt(II) TADF complexes using various techniques in the field of organic and organometallic chemistry (ability to work with air-sensitive compounds required).
- Structural studies using appropriate analytical techniques (good knowledge of NMR spectroscopy required).
- Examination of optical properties (good knowledge of UV-Vis spectroscopy required).
- Analyzing the obtained results and preparing reports/texts of scientific publications based on them

Conditions of employment:

1. Position: research assistant;
2. Employment period: ideally from 1st August 2024 to 31st July 2026 (24 months);
3. Salary PLN 140,000/year of total employer costs (employment period: 24 months).

What we offer:

1. Work in an interdisciplinary project combining organic/organometallic synthesis, materials' chemistry, spectroscopy, quantum chemistry, and crystallography;
2. Possibility to participate in scientific conferences in Poland and abroad.

Please submit applications by e-mail (subject SONATA – post-doc) directly to the project PI, Prof. Sergiusz Luliński.

Required documents:

1. Cover letter.
2. PhD diploma or alternative document confirming the date of attaining the degree.
Candidates who have not yet completed their PhD should submit confirmation of their thesis submission or defense date.
2. CV, with a list of previous scientific achievements, including publications, conference presentations and awards resulting from conducted research.
3. One opinion from a research employee with at least a doctoral degree.
4. Consent to the processing of personal data.

Evaluation of candidates' applications will be carried out by the competition committee in accordance with the rules of the National Science Centre, Poland. The committee reserves the right not to select a candidate and to reopen the call. Selected candidates may be invited to an interview at the Faculty of Chemistry at Warsaw University of Technology, or online via MS Teams, Zoom or other software.

Contact:

Prof. Sergiusz Luliński

Warsaw University of Technology, Faculty of Chemistry, Chemistry Building (Department of Physical Chemistry, room 35), ul. Noakowskiego 3, 00-664 Warsaw, Poland

E-mail: sergiusz.lulinski@pw.edu.pl

Deadline for submitting offers: MAY 23, 2024, 23:59