

**Post-doc position available within NCN OPUS grant**

***Structure and photophysical properties of selected pyrene derivatives  
in high pressure conditions***

**Institution:** University of Warsaw, Faculty of Chemistry

**Maximal contract duration:** 1 month

**Salary:** 3200 - 3700 PLN

**Deadline for application:** March 15-th, 2019

The aim of the project is to investigate the relationships between the photophysical properties (UV-VIS spectra, lifetimes of the electronic excited states) and increased external pressure for selected pyrene derivatives, characterized by the presence of face-to-face  $\pi$ -stacking in the solid state and displaying enhanced fluorescence in the solid state and piezochromism.

The particular goal is to describe a mechanism of the excimer formation in the investigated compounds.

**The candidate's tasks will include:**

- sample preparation for x-ray structure determination in high-pressure conditions
- x-ray structure determination under ambient and high-pressure conditions
- photophysical studies under high pressure conditions (Raman spectroscopy, UV-VIS spectra acquisition, time-resolved fluorescence spectroscopy)
- electronic structure calculations, primarily DFT in periodic conditions

**Successful candidates should possess:**

- PhD in chemistry or physics (preferentially in the field of crystallography)
- experience in:
  - single crystal high-pressure X-ray diffraction experiments on organic compounds, in particular in sample re-crystallization directly in the high-pressure cell,
  - Raman spectroscopy experiments at high pressure conditions,
  - quantum-chemical computations in periodic conditions, in particular in CRYSTAL09 / CRYSTAL14 or CASTEP
- track record of scientific experience (papers, posters or presentations at scientific conferences)
- high motivation for scientific work, interest in learning new techniques, creativity, responsibility, good organization,
- good knowledge of English language

**Required documents:**

- CV (with a list of publications)
- Copy of PhD Diploma
- Motivation letter
- Suggestion of a person who could provide recommendation

**Address for sending applications:** amakal@chem.uw.edu.pl

**Please, include subsequent clause in the application documents:**

„Hereby, I agree to process my personal data included in this application for the present recruitment procedure, according to the Protection of Personal Data Law of 29 August 1997, of Republic of Poland, Journal of Laws number 133 position 883.”

***We reserve the right to contact selected Candidates only.***