



UNIWERSYTET
WARSZAWSKI

Wydział Chemii



WCH.1210-5/2022-1

1st April 2022, Warsaw (Poland)

An announcement for adjunct position

Position of **adjunct (group of research workers)** in the project entitled "**Quantum Crystallographic Quest for New Polymorphic Forms of Ice**" financed by **National Science Centre (NCN)** is open for application.

(see: <https://crystal.chem.uw.edu.pl/>)

Project leader: **Prof. dr hab. Krzysztof Woźniak**

Grant Decision: **DEC-2021/41/B/ST4/03010**

Available positions: 1 post-doc operating in the field of exact and natural sciences.

We are looking for a highly motivated candidate: adjunct 1 (advanced crystallographer) who will be responsible for experimental advances in studies of different polymorphic forms of ice and hydrates. As the overall program of our grant application is very broad, we need an experienced postdoc who will be able to take care of all measurements including data collection for ice under pressure, process X-ray data and refine them.

We expect a person:

- with PhD degree (or equivalent degree) in crystallography, mineralogy, chemistry or physics, informatics, or related fields obtained within last up to 6-7 years (and not later than in a first day of work),
- who demonstrated expertise in high pressure data collection for crystals
- with knowledge of crystallography,
- with experience in initiating, conducting, evaluating and reporting of research in routine X-ray structural analysis and experimental charge density studies
- with excellent knowledge of written and spoken English, written and spoken presentation skills
- with ability to work independently and within a team
- with excellent analytical and problem-solving skills
- with practical knowledge of writing scientific texts

Additional skills which are advantage :

- Pre/post-doctoral practical experience in high pressure studies of crystals at synchrotron beam lines,
- Knowledge of quantum crystallography
- practical knowledge of software related to the above topics and achievements confirmed by scientific publications,
- Experience in ab-initio computational chemistry methods including those for periodic systems,
- Practical experience in programming related to crystallographic or computational crystallographic problems.

The candidate must meet the requirements of art. 113 of the Act - Law on Higher Education and Science dated July 20, 2018 (Journal of Laws of 2021, item 478 as amended).

We offer:

a temporary contract with the University of Warsaw (full time position/employment contract) from **1.07.2022 to 30.03.2024 (with possibility of extension)**

Required documents:

- Motivation letter
- Curriculum Vitae (CV),
- Information on the processing of personal data and declaration of the acceptance of the competition rules at the University of Warsaw (the templates available at: <http://www.chem.uw.edu.pl/oferty-pracy/>),
- List of publication highlighting the three most important works
- short description of the 3 most important achievements
- 1 confidential opinion of the promoter (or a researcher) who supervised your research work sent directly to the e-mail address: mincryst@chem.uw.edu.pl

Please submit the documents **no later than 1.05.2022** to: mincryst@chem.uw.edu.pl (PDF is the preferred format). E-mail entitled: **"Ice Adjunct 1 2022"**

Selected candidates will be informed about the date of the interview by e-mail until the **15.05.2022**. The results of the competition will be given by e-mail till **25.05.2022**. The interview will take place *via* internet. Only those who submit complete documentation will be considered in the recruitment procedure. Up to the best 5 candidates will be invited for interviews.

The competition is the first stage of the employment procedure as an academic teacher, and its positive outcome is the basis for further proceedings.

Brief abstract of the project: " Quantum Crystallographic Quest for New Polymorphic Forms of Ice".

Water is the main constituent of Earth's hydrosphere and the fluids of most living organisms. It is crucial for all known forms of life. It forms 18 solid crystalline ices and two amorphous solid forms. It covers the most of the Earth's surface. Water molecules interact with the most important biological substances: proteins, DNA and polysaccharides influencing protein folding, DNA base pairing, and other phenomena crucial to life. Water molecules form hydrogen bonds - one of the most important interactions in modern biology, medicine and pharmacology. Water forms different hydrates and plays a key role in Earth's mantle processes (hydrography, hydrology, hydrogeology, glaciology, oceanography, etc). Water is also present in outer space. It is produced as a by-product of stellar nuclear fusion, was detected in interstellar clouds within the Milky Way, and exists in abundance in other galaxies. The main goals of this project are: (1) to discover new forms of ice, deuterated ice and hydrates hosting small organic molecules, (2) to improve the known forms of ice by establishing better averaged and local structures and to elucidate the hydrogen atom thermal motion.