**Postdoc position offer**

**Postdoctoral fellow position**

We offer a one-year (plus one year) **postdoctoral fellow position** in the Nanostructures Group at [Faculty of Physics](https://www.fizyka.pw.edu.pl/en), Warsaw University of Technology, starting on **1st April 2024**, in the research project **Develpmment of two-dimensional (2D) materials via MOCVD technology** financed by Excellence Initiative – Research University Programme POSTDOC IV.

**Position scope:**

The successful candidate is expected to work toward developing the production technology of graphene and high-quality multi-layer structures made of various 2D materials, the so-called van der Waals structures (2DvdW), by chemical vapor deposition (CVD) using the new epitaxial reactor. The aim of the project is to develop a technology in this professional CVD production reactor used in the electronics industry and specially designed for the specificity of 2D materials. The reactor will enable research on the production of, among others, graphene, molybdenum disulfide, tungsten disulfide, hexagonal boron nitride and multilayer structures composed of these materials. The reactor, constructed by Aixtron, is unique and one of the most modern devices of this type in the world, which creates enormous research and technological opportunities, as well as the possibility of cooperation with leading centers dealing with electronic applications of new 2D materials. Work on the growth of 2D compounds will focus on examining kinetic and thermodynamic processes in the dimension of single atomic layers, optimizing the technology in terms of continuity and homogeneity of structures in the area of samples and plates up to 4 inches in diameter, and advanced characterization of physical and chemical properties. Prof. Wlodek Strupinski will supervise the postdoc.

**What we require:**

* ability to start the post as soon as possible (preferably no later than on **1st May 2024),**
* **Ph.D. in physics**, materials science or related discipline,
* at least **3 scientific articles** published or accepted in journal from the first quartile (Q1) of JCR (Journal Citation Report) list in the area of 2D materials fabrication and characterization,
* Experience in 2D materials synthesis via CVD method
* Experimental experience in the area of **2D materials, especially in studying structural, optical and electronical properties of 2D materials and van der Waals heterostructures**,
* Experience in clean-room and laboratory work,
* Knowledge of research methods: Raman, AFM, SEM, PL, electrical measurements,
* Knowledge of topics related to the fabrication of nanodevices based on 2D materials,
* **fluency in English** that enables efficient communication, presentations during international conferences and writing scientific articles,
* Additionally, documented experience: in 2D heterostructure production, leading of a research project, collaboration with international institution will be a plus,

**What we offer:**

* 12-month full time employment at the best technical university in Poland with strong possibility to extend it by the next 12 months after a positive evaluation,
* ca. 8000-9000 PLN net monthly enumeration (ca. 1800-2000 EUR) [see information below about average costs of living in Warsaw]
* public health insurance for the successful candidate and their family,
* no obligatory teaching duties,
* a desktop PC or laptop,
* access to state-of-the-art equipment and fabrication facilities adapted to study production technology of 2D materials such as AFM (Bruker Icon), Raman spectrometer (Renishaw Qontor), e-beam lithography with SEM (Raith e-line plus), glove-box, plasma equipment, high-temperature vacuum furnace etc.
* possibility to present research results at international conferences (funds for two international conferences per year),
* a possibility for a tenure-track position at the Faculty of Physics after the completion of the postdoc post

**To apply, please send an email to wlodek.strupinski(at)pw.edu.pl, no later than 1 March 2024. The application should include:**

* a scanned copy of the candidate’s Ph.D. diploma,
* a cover letter, explaining reasons for applying for this position,
* a CV,
* a list of publications and presentations at international conferences – please indicate your contribution in each of the papers,
* names of at least two experts that could provide reference letters for the candidate

Selected candidates will be **invited for an online interview**. The successful candidate will be informed about the evaluation outcome by 1**5 March 2024**.

**Additional information about the costs of living in Warsaw:**

Warsaw is the capital of Poland, so in principle, it is one of the country's most expensive cities, but living in Warsaw is still much cheaper than in most European cities. In general, a single person in Warsaw can cover all necessary expenses (flat, media, transport, food) with ca. 5000-5500 PLN per month. The typical cost of renting a 2-room flat (30-40 square meters) varies between 2000-3000 PLN, depending on the part of the city. Electricity and media (TV, Internet) are usually not included in the rent and must be paid separately. The cost of lunch in the vicinity of the main campus of WUT is ca. 25-40 PLN, while a monthly ticket for public transport is 110 or 180 PLN depending on the area of validity. Public health insurance is included in the post (this includes also admission to hospitals); however, the medicines are paid separately.