Institute of Physics of the Polish Academy of Sciences
Scholarship for a PhD Student

Job ID: #JOB 34/2020

Job Description

Job Title: PhD student

Job Summary: Novel developments in experimental nanopatterning have enabled the design of substrates that can *steer* the motion of liquids, which is crucial for many applications, such as microfluidics, coatings, self-cleaning, self-healing, etc. The planned research tasks in the frame of an OPUS NCN project will involve molecular dynamics (MD) simulation to investigate the autonomous motion of liquids (droplets) on nanopatterned substrates as a function of liquid and substrate properties.

Job Description:

The PhD student will be involved in the research tasks of the above topic, working closely with dr Theodorakis, dr hab. Deuar and other collaborators. The PhD student will also be able to exploit further opportunities to interact with the European consortium ThermaSMART (https://thermasmart.eng.ed.ac.uk) and to take advantage of associated training opportunities. In addition to performing MD simulations, the student will also have an opportunity to learn the basics of mean-field theoretical methods through an international collaboration already established with the University of Virginia, with a possibility of brief visits to the USA, where this training will be performed.

The applicant is obliged to apply to the Warsaw PhD School in Natural and BioMedical Sciences (Warsaw-4-PhD) at the Institute of Physics of the Polish Academy of Sciences in 2020. For more information, please, refer to the IP-PAS international PhD studies web pages at: http://www.ifpan.edu.pl/t_en_szkola.html and http://warsaw4phd.eu.

Requirements:

- Master's degree in Natural Sciences or Engineering
- Good knowledge of a programming language (e.g. Python, C, C++)
- Good analytical skills
- Experience in simulation or numerical work. Experience with molecular dynamics simulation is a plus.
- Ability to work as a team and effectively communicate
- To be employed, the candidate must be accepted into the PhD school in which the Institute of Physics participates. Applications for the position are through recruitment to the School, online at **http://warsaw4phd.eu**

Main research field: Physics

Sub Research Field: Fluid Dynamics

Career Stage: Early stage researcher or 0-4 yrs (Post-graduate)

Research Profile (details)**:** First Stage Researcher (R1)

Type of Contract: Fixed term (48 months)

Status: full-time

Salary: grant funding of 5000 PLN per month before subtracting obligatory employer and employee social security contributions.

Contact

More information can be obtained from
Dr Panagiotis Theodorakis (e-mail: panos@ifpan.edu.pl)

Application details

Application deadline: 18.8.2020 Later applications will not be considered.

Required materials:

- Scientific CV
- Cover letter
- Scan of MSc diploma or equivalent (or an explanation of when one is expected)
- Academic record (for finalized semesters)
- Recommended: A recommendation letter by an academic, or their contact email.

All materials should be submitted in electronic form by application to the PhD school http://warsaw4phd.eu, choosing the project: *"Multiscale simulation of spontaneous liquid motion on nanopatterned substrates"*. (The application system will be active from 5 August 2020).
Results regarding the position will be made available by 18 September 2020.