Institute of Physics of the Polish Academy of Sciences
Postdoc position

Job ID: #JOB 11/2021

Job Description

Job Title: Postdoc, ultracold atom theory

Job Summary: A postdoc theory position for up to 2½ years in the Quantum Noise group led by Piotr Deuar working in the NCN funded project "Quantum droplets from first principles". Our research focuses on the quantum dynamics of many-body systems far from equilibrium, addressing the physics of ultracold atomic gases, quantum droplets, dissipative systems, and development of phase space and c-field methods for the simulation of quantum dynamics.

Job Description:

The primary aim of the project work are studies of quantum droplets on a new level of accuracy using and extending methods that are under development in the group to include thermal and quantum fluctuation effects. Such as:

- Simulation of quantum droplets at zero and nonzero temperature, and gaining a better understanding of their behaviour.
- Accurate explanation of the experimental observations (size, phase diagram,..).
- Study of droplet properties that were previously inaccessible (critical velocity, thermal fluctuations and seeding, life cycle, evaporation, surface and hydrodynamic properties...).
- Exploitation of analogies with classical liquids and droplet dynamics (collaboration with sister group at the institute).

In the above we will collaborate with experimental groups in Spain and/or Italy and theoreticians from IFPAN, Newcastle, and New Zealand.

The Postdoc will be encouraged to join other endeavours of the group, currently involved in studies of quantum dynamics in ultracold atoms and dissipative systems in collaboration with theoretical and experimental groups in the UK, Australia, France, and Poland, as well as the ongoing development of methods for the simulation of quantum dynamics in ultracold atoms and dissipative quantum systems (positive-P phase space methods, c-field descriptions of T>0 condensates, extensions to stochastic GPEs). Group website: www.ifpan.edu.pl/~deuar/

The group is part of the wider Theory division (www.theory.ifpan.edu.pl), and the region is home to a significant critical mass of other researchers in the field at the University of Warsaw, Warsaw Polytechnic, University of Bialystok, Centre for Theoretical Physics (on campus), with whom we have regular contact.

Requirements:

- PhD degree (or PhD thesis submitted), obtained no earlier than 7 years before the beginning of the contract (this period does not include child caring or periods of inability to work as per NCN rules, contact me if details are necessary).

- Theoretical background in this or a related field demonstrated by publications, e.g. in ultracold atoms, quantum optics or polariton condensates.

- Experience in numerical modelling and writing own code. Familiarity with non-equilibrium, finite temperature or stochastic modelling, or developing numerical methods is desirable.

- Ability to work in a team as well as independently.

- Fluent spoken and written English.

Main research field: Physics

Sub Research Field: Ultracold atoms

Career Stage: PhD holder or equivalent

Research Profile (**details**)**:** Second Stage Researcher (R2)

Type of Contract: Fixed term (initially for 12 months with extension for another 18 months if both parties agree)

Status: full-time

Salary: 10 000 PLN per month grant funding (8376 PLN/month gross, before tax and social security contributions, usually amounting to about ~21%)

Contact

More information can be obtained from
dr hab. Piotr Deuar (e-mail: deuar@ifpan.edu.pl)

Application details

Application deadline: 15.03.2021

Required materials:

- Curriculum Vitae (including list of publications).
- Motivation letter with a short statement of research interests and achievements.
- Contact information to at least two scientists who can provide opinions on the candidate.
- Consent to process your personal data.

All materials should be submitted in electronic form to the address: jobs@ifpan.edu.pl with Job ID in the subject.
The starting date is negotiable.

DATA PROCESSING UNDER CONSENT FOR THE PURPOSES OF RECRUITMENT

Under Art. 13 sections 1 and 2 of the Regulation of the European Parliament and of the Council (EU) 2016/679 of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Resolution), EU OJ L 119 of 04.05.2016, page 1, as amended, hereinafter referred to as "GDPR", we hereby inform as follows:

- The Data Controller of the provided personal data is the Institute of Physics of the Polish Academy of Sciences, Al. Lotników 32/46, 02-668 Warsaw, phone (22) 116-2111, e-mail director@ifpan.edu.pl.
- Contact details to the Data Protection Officer are as follows: e-mail iodo@ifpan.edu.pl
- Your personal data shall be processed for the purpose of carrying out the recruitment process for the position of Post-doc.
- Processing of your personal data in scope of: full name, date of birth, correspondence address, information about education and course of past employment shall take place under Art. 22^1 § 1 of the Act of 26 June 1974 - Labour Code. In the scope in which you sent to us more personal data than indicated above, we process your data under the consent granted by you.
- Your personal data shall be stored for 1 month from completion of the recruitment process. If you grant consent for processing of personal data for future recruitments, we shall process your data until withdrawal of the consent by you, however, no longer than for the period of 6 months from the day of submittal of the application by you.
- Provision of the abovementioned data in the scope indicated above is a statutory requirement resulting from Art. 22^1 § 1 of the Act of 26 June 1974 - Labour Code, in the remaining scope it is voluntary. Failure to provide the data referred to in Art. 22^1 § 1 of the Act of 26 June 1974 - Labour Code precludes consideration of your candidacy for the offered position.
- You have the right to access your personal data, to rectify them, erase them, restrict their processing.
- You may submit a complaint to the Inspector General for the Protection of Personal Data.
- You have the right to withdraw the consent to process your personal data in the scope in which they were provided at any time. Withdrawing the consent does not affect the lawfulness of processing carried out on the basis of consent before its withdrawal.

Consent content:

☐ *I grant my consent to the Institute of Physics of the Polish Academy of Sciences to process my personal data contained in the sent recruitment documents for the purpose of carrying out the recruitment process for the position of post-doc .*

If you want us to consider your candidacy also in the future recruitment processes, please grant the additional consent:

☐ *I grant my consent to the Institute of Physics of the Polish Academy of Sciences to process my personal data contained in the sent recruitment documents in future recruitment processes taking place during 6 months from the day of appearance of this job advertisement.*