

Institute of Fundamental Technological Research  
Polish Academy of Sciences in Warsaw, Poland  
opens applications for  
**A POST-DOC POSITION**  
in the NCN OPUS project „Dynamics of Microparticles in Fluids”

**Position:** post-doc, full-time job for 10 months, 10000 PLN per month (minus taxes)

**Information about the project „Dynamics of Microparticles in Fluids”:**

<https://www.ncn.gov.pl/sites/default/files/listy-rankingowe/2018-09-14/streszczenia/433227-en.pdf>  
Principal Investigator: Professor Maria Ekiel-Jezewska

**Deadline for applications:** September 15, 2020

**Key words:** soft matter, complex fluids, micro and nano particles in fluid flows, statistical physics of dispersions

**Job description:** The goal is to study in experiments dynamics of millimeter-sized elastic particles settling under gravity in a very viscous fluid, to model geometrically similar micrometer-sized objects settling in water or in a centrifuge. Such micro-objects perform complex motions and deformations of shapes, and repel or attract each other while sedimenting, depending on ratio of bending and gravitational forces. The studies are important in the context of biological and medical applications.

**Scientific objectives:**

- ⑩ Adjustment and redesign of experimental setup to trace and photograph millimeter-sized particles settling in a very viscous fluid (glycerin, silicon oil)
- ⑩ Preparation of needed software, including the image processing to extract particle trajectories
- ⑩ Design and conduction of experiments
- ⑩ Analysis of the results, collection of data, preparation of videos and figures
- ⑩ Creation of archives of the data collected in experiments
- ⑩ Comparison with numerical simulations and theoretical models

**Requirements:**

- ⑩ PhD in science
- ⑩ experience in scientific research, documented by publications
- ⑩ image processing and programming skills (image processing software, Fortran/C, Python, Matlab), experience in graphical analysis of video frames and performing experiments
- ⑩ proficiency in designing experimental setups and methods typical for video recording
- ⑩ documented experience in hydrodynamics of many-particle systems
- ⑩ motivation, commitment, independent thinking and innovation in research
- ⑩ team work skills
- ⑩ fluency in English
- ⑩ fulfillment of the requirements adopted at the IPPT PAN when employed in scientific positions [https://www.ippt.pan.pl/attachments/rada-naukowa/2019-02-28suchwala\\_zatrudnianie\\_zasady.pdf](https://www.ippt.pan.pl/attachments/rada-naukowa/2019-02-28suchwala_zatrudnianie_zasady.pdf)

**Job benefits:**

- ⑩ research in a creative environment of the Division of Complex Fluids
- ⑩ modern subject
- ⑩ scientific collaboration with world-wide experts from leading laboratories in Poland and

abroad

- ⑩ opportunity to compare experimental results with unique and precise theoretical and numerical models

**Documents to be sent:**

- ⑩ formal application letter to the Director of the Institute
- ⑩ scientific CV with the publication list, citation number and H index, list of conference presentations, prizes and outstanding achievements, experimental and numerical skills
- ⑩ copy of PhD diploma
- ⑩ motivation letter
- ⑩ two recommendation letters
- ⑩ signed statement: "I agree to the processing of personal data contained in my job offer for the needs necessary to carry out the recruitment process conducted by IPPT PAN , with headquarters in Warsaw, ul. A. Pawińskiego 5B, according to art. 13 secs. 1 and 2 of Regulation (EU) 2016/679 of the Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and the free movement of such data and the repeal of Directive 95/46 / EC (RODO).

**Applications** should be sent till September 15 to HR Office [kadry@ippt.pan.pl](mailto:kadry@ippt.pan.pl), and to the Head of the Division of Complex Fluids, Professor Maria Ekiel-Jezewska, [mekiel@ippt.pan.pl](mailto:mekiel@ippt.pan.pl), who also provides additional information on request.