

Job details

Place of work Institute of Physical Chemistry Polish Academy of Sciences, Warsaw, Poland TEAM 10: Soft Condensed Matter Group

Funding institution Łukasiewicz Research Network - PORT Polish Center for Technology Development

Project description

Project title, type and project number

Horizon for Excellence in messenger RNA applications in immunoOncology, Virtual Research Institute (WIB), no. WIB-1/2020-O11, 32/2024

Project leader

Prof. Andrzej Dziembowski – Leader of WIB_HERO project, Prof. Robert Hołyst – Team Leader of IChF Group in WIB_HERO project

Description

Most current experimental methods for real-time measurements in single cells provide only qualitative and semiquantitative insights into the molecular mechanisms of interest. More detailed data can be obtained in high-throughput assays (biochemical assays with cell extracts) or from studies on fixed cells (various labelling procedures). This technological gap prevents the understanding of the kinetics of subcellular processes in particular. This gap can be filled by a technique that uses Fluorescence Correlation Spectroscopy (FCS), which allows a determination of the number and the diffusion time of single molecules in a sample. This well-known technique has found limited application in living cells due to the difficulties in interpreting, in particular, data regarding "diffusion time". For over 10 years, Robert Hołyst's group has conducted research to develop an empirical model linking the size of molecules and the hydrodynamic resistance they encounter in complex fluids, including the cytoplasm of cells and the interior of the cell nucleus. This model and the resulting equation allow for direct calculation of diffusing molecules inside the cell. This allows us to determine the number of moving molecules and their average size and number.

The goal of the project will be the application of advanced fluorescence techniques to answer fundamental questions about interactions of exogenous mRNA in the cellular interior. To this end, the original, proprietary method for real-time measurements of molecular interaction parameters in living cells will be used. This method is based on fluorescence correlation spectroscopy (FCS), supported by quantitative fluorescence microscopy and fluorescence lifetime imaging (FLIM). We are looking for an experimentalist with solid theoretical background in chemistry to cope with the physicochemical problems in physical chemistry. We guarantee access to top-notch instrumentation and well-equipped laboratories.

Job description

Number of vacancies

2

Key responsibilities include

- Responsibilities
1. Sample preparation
 2. Measurements
 3. Data analysis
 4. Reporting

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Role in the project:
Position 2 - Quantification of mRNA efficiency in target protein expression.

Offer

Position in the project

PhD student position

Job type

Part-time employment contract (64,3%)

Salary

We offer a monthly salary up to PLN 6 000 x 64,3% (108 h/month) gross gross (depending on experience and qualifications). This amount shall be subject to obligatory deductions for health and social insurance, advance income tax payments, and other public

Position starts on

1.10.2024

Maximum planned period of contract/stipend agreement

28 months

We offer

1. An individual private medical healthcare package and membership in the MultiSport programme at reduced rates.
2. Full technical, administrative and organizational support from professional English-speaking personnel.
3. Participation in courses, scientific training, support from peers, and academic mentoring.

Career development prospects at IPC PAS

Career development prospects at IChF:

1. The successful candidate will be part of the Soft Condensed Matter Group in the IChF.
2. Opportunity to advance scientific knowledge and gain hands-on experience at the border between biological sciences and physical chemistry in a prestigious application-oriented project.
3. Opportunity to work in a dynamic, multidisciplinary team of experienced chemists, engineers and biologists.
4. Participation in international conferences and Erasmus+ programme.

Link to Euraxess website

[see website](#)

Requirements

Scientific discipline

Chemistry, Physical Chemistry

Scientific profile of a candidate

First Stage Researcher (R1)

Requirements

1. Education: Master degree of Chemistry or related discipline.
2. Good knowledge of English.
3. Strong motivation and commitment.
4. Knowledge of the FCS technique (Fluorescence Correlation Spectroscopy) and the basics of cell biology will be an advantage.
5. Complying with the non-competition policy following the WIB Programme guidelines.

Candidate must meet any of the following criteria:

1. The Candidate is a participant in a doctoral programme;
2. The Candidate is a doctoral candidate at a doctoral school.

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Candidates can simultaneously apply for "Warsaw PhD School in IChF" in order to meet this criterion.

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Key assessment criteria

The commission evaluates applications on a point scale (max 100 points) according to the following criteria:

1. competencies of candidates to perform specific tasks in a research project (max 30 points);
2. previous scientific achievements of candidates, including publications in renowned publishers/scientific journals, grants, awards and opinions of the candidate, issued by an independent researcher (max 20 points);
3. soft skills – command of English language, communication skills, teamwork, compatibility of plans for individual development with the goals of the group (max 10 points);
4. creativity measured by the quality and number of scientific publications in which the candidate is the first author, corresponding author or significant author and patent applications/patents and/or implementation (max 10 points);
5. mobility in the candidate's career (research internships, change in scientific profile, internships and work in industry) (max 10 points);
6. the number of citations of the candidate's work, especially those papers in which the candidate is the first author, corresponding author or significant author (max 10 points);
7. creativity is measured by the quality and number of research projects the candidate has led and publications resulting from implementing those projects (max 10 points).

Top candidates will be invited for an online or in-person interview. A good command of English is required. We reserve the right to contact and only reply to selected candidates.

Only candidates with a minimum of 70 points would be considered for the position. A position will be offered to the person who obtains the highest number of points. The Recruitment Committee may not recommend any candidate for the position if no candidate gets at least 70 points.

Required documents

- ✓ Professional curriculum vitae, including:
 - list of publications with the indication of a maximum of five most important works carried out in the last 5 years (after deduction of breaks in research work), patent applications, patents, implementations, research projects;
 - correspondence address and/or e-mail address and telephone number of the candidate,
- ✓ at least one opinion about the candidate, issued by an independent researcher
- ✓ a cover letter not exceeding 3,500 characters (1 A4 page) containing concise information on scientific/professional interests, achievements to date, possible participation in research projects and own research interests,
- ✓ scans of MSc Diploma of Chemistry or related discipline or a declaration of planned MSc defence.
- ✓ the candidate's declaration that they have become acquainted with the General Rules Governing Competitions for Research Posts at IChF in Warsaw

https://ichf.edu.pl/files/intranet/o%C5%9Bwiadczenie_statement.docx

Recruitment procedure

Candidates will be selected in an open competition, complying with the principles underlying the "European Charter for Researchers" and the "Code of Conduct for the Recruitment of Researchers" as a part of IChF's "HR Excellence in Research" strategy.

The position will also be awarded also in accordance with the granting agency regulations:

[Standardy rekrutacji do Zespołów Badawczych w ramach Wirtualnego Instytutu Badawczego oraz przeprowadzanie ewaluacji ich stosowania](#), the [IChF employment policy](#) and [the General Rules Governing Competitions for Research Posts at the IPC PAS in Warsaw](#).

How to Apply: Send application directly to:

rekrutacja@ichf.edu.pl.

IMPORTANT! Include an email subject: "Recruitment no. 32/2024"

The Selection Committee evaluates applications and interviews candidates. The position will be awarded to the person who obtains the highest number of points.

If the top candidate resigns, we reserve the right to choose the next candidate.

The results of the competition are made public.

The competition may be extended until a suitable candidate who :

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Additional information

The announcement will be published on the following websites:

<https://wib.port.org.pl/en/homepage/>

<https://www.iimcb.gov.pl/en/>

<https://www.uw.edu.pl>

<https://www.wum.edu.pl/>

<https://euraxess.ec.europa.eu/>

Candidate have the right to file a complaint about any action in the recruitment process. The appeal shall be lodged with the Director of the Institute within 7 days from the date of receipt of the appropriate information. The decision of the Director of the Institute is final.

More information about the WIB Programme: <https://wib.port.org.pl/en/homepage/>

More information about the Team: <https://softmatter.ichf.edu.pl/>

For additional job details please contact: rholyst@ichf.edu.pl or kkwapiszewska@ichf.edu.pl

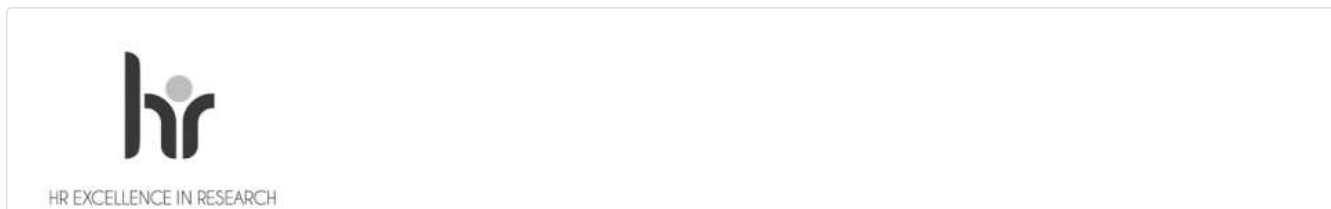
Deadline for the settlement of the competition:

The competition will be settled before the 30th of September 2024 or later (subject to possible extension)

Deadlines

Application deadline

9.08.2024 23:00



Send the application via the "Apply to the position" button, or to rekrutacja@ichf.edu.pl with the title 32/2024.

Apply to the position

By submitting the application, you consent to the processing of your personal data in the recruitment process. The controller of your personal data is the Institute of Physical Chemistry of the Polish Academy of Sciences with its registered office in Warsaw, NIP: 5250008755 (the "Institute"). The Institute will process your data for the purpose of carrying out scientific and research activities, providing services and contact with the Institute, on the basis of a contract (in connection with the performance of the contract or in order to take action on your request before the contract is concluded – Article 6, paragraph 1, letter b) of GDPR), the legitimate interest of the Institute (Article 6, paragraph 1, letter f) of the GDPR) and legal provisions (Article 6, paragraph 1, letter c) of the GDPR) - depending on the circumstances

You have the right to: request access to your data, receive a copy of it; rectify (correct) it; delete it; limit its processing; transfer it; lodge a complaint to the supervisory body; withdraw your consent for processing at any time (withdrawal of consent does not affect the lawfulness of the processing carried out prior to its withdrawal) or to lodge an objection to data processing. More information is available on [the Institute's website](#)

Date of announcement: 12.07.2024

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Institute of Physical Chemistry

Kasprzaka 44/52

01-224 Warsaw

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