M U N I

The Director of Central European Institute of Technology
(CEITEC MU) opens a **POSTDOC** position

ROLE OF SPECIFIC PROTEIN-PROTEIN INTERACTIONS IN THE FORMATION OF PROTEIN LIQUID DROPLETS

Description of project

Cells employ protein liquid droplets to form dynamic clusters, which function as nanoreactors or storages with the increased local concentration of specific protein components. These membrane-less organelles self-assemble based on weak protein-protein interactions of intrinsically disordered domains. However, the role of specific sequences remains elusive and the mixing between different protein droplets unexplored. This project is focused on the droplets involved in genome transcription, where posttranslational modifications control the droplet composition and regulate the transcription. Expected findings are not only important for the general knowledge but could also be useful in the design of new treatments because translocation malfunction is involved in numerous diseases including cancer. The research is strongly coupled to collaborations with excellent experimental teams and will be more closely discussed during the interview. The employed tools will contain multi-scale simulations using a wide range of advanced sampling techniques and development of protein parametrization.

Institute

CEITEC is a scientific centre in the fields of life sciences, advanced materials and technologies whose aim is to establish itself as a recognized centre for basic as well as applied research. CEITEC offers a state-of-the-art infrastructure and great conditions to employ excellent researchers. Our institute values diversity and promotes an inclusive working environment with the aim to support the best scientists. CEITEC MU is a proud holder of the HR Excellence in Research Award by the European Commission. (http://muni.ceitec.cz/en/hr-strategy-hrs4r/)

A postdoc position is available in the Robert Vácha lab (vacha.ceitec.cz; CEITEC, Masaryk University, Brno, Czech Republic) to participate in research focused on computer simulations of intrinsically disordered proteins and their liquid-liquid phase separation. We are seeking a person with expertise in computer simulations of proteins or polymers and experience with coarse-grained models. Research will be conducted at CEITEC located in the life science campus of Masaryk University (Brno, Bohunice, https://www.ceitec.eu/).

Requirements:

- PhD in computational physics/biophysics/chemistry and related fields received within the last 7 years.
- Work at least two whole years in the last three outside the territory of the Czech Republic in the field of research with a working time of at least 0.5 full-time equivalent, or who has been PhD student (or equivalent) abroad.
- Theoretical knowledge of Monte Carlo and Molecular Dynamics
- Some years of work experience in simulations with proteins/polymers, in particular disordered ones and their analysis

- Publishing record – in the last three years at least two publication outputs registered in the Thomson Reuters Web of Science, Scopus or ERIH PLUS databases and at the same time publications such as “articles”, “books”, “book chapters”, “letters” and “reviews”. The applicant must be the principal author of at least one publication demonstrating creativity and scientific quality.
- Good English language – spoken and written
- Motivated person with collaborative mind set

We offer:

- Interesting position in a dynamically expanding research institute
- An attractive salary and benefits package
- Background of a recognized and successful institution with supportive and international working environment
- Environment promoting interdisciplinarity and intersect orality of research
- In house core facilities
- Support of administrative departments (including grant office service)
- Support with the relocation process (welcome office service)
- 6 weeks of paid holiday

Anticipated start date: Negotiable

The application should include:

- a CV including a summary of education and research experience, publication activity, involvement in research grants, etc.
- a scanned copy of the PhD diploma or an official letter certifying submission of a doctoral thesis for thesis defence and the planned defence date
- a motivation letter
- at least two reference letters

Applications should be sent by e-mail to recruitment@ceitec.muni.cz.

Please quote the “Postdoc - liquid droplets” in the subject.

Electronic application deadline is: 29th February 2020

Information about Brno, Czech Republic

- The capital of South Moravian Region and the second largest city in the Czech Republic with a population of almost 400,000 people
- Modern, dynamic and fast growing centre of industry, trade, science, research and innovation with business incubators and centres of excellence in science
- A city of universities with more than 86,000 students

- More than 10,000 researchers; 2,200 IF publications/year;
  600+ PhD graduates/year,
- 500 mil. EUR of R&D investment per year,
  more than 350 companies with in-house R&D,
- City of Gregor Mendel, the founder of genetics; the prestigious Mendel Lectures series takes place in Brno since 2003 (lectures of the world´s top scientists, including Nobel Prize winners),
- Quality of life index in 2016

For further information about:

- CEITEC, please visit www.ceitec.eu
- CEITEC Welcome Office, please visit https://www.ceitec.eu/welcome-office/t9794
- Masaryk University, please visit www.muni.cz
- Brno, please visit http://www2.brno.cz/index.php?lan=en&nav01=20608&nav02=20617