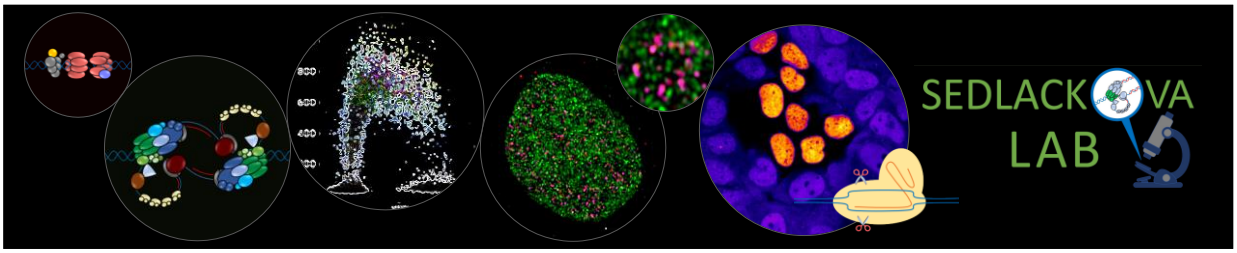

PhD position in DNA replication, genome stability & cancer development

The Department of Cell Biology & Epigenetics invites applications from young talented candidates, who are interested in joining our department as a PhD fellow. PhD fellow will be affiliated with the laboratory of Dr. Hana Polasek-Sedlackova at the Department of Cell Biology and Epigenetics, Institute of Biophysics, Czech Academy of Sciences and PhD program Molecular and Cell Biology and Genetics, Faculty of Science, Masaryk University.

The position is available from 1st October 2022 or as soon as possible thereafter.

Application deadline: 15th April 2022

The **Institute of Biophysics** (IBP) is part of the Czech Academy of Sciences, the largest research institution in the Czech Republic. IBP covers a broad areas of nucleic acids research ranging from structural and mechanistic insights into DNA/RNA molecules, their cellular functions and genome maintenance with direct implications for cancer research and drug development. IBP constitutes an international, ambitious, dynamic, and well-equipped working environment with the state-of-the-art facilities for flow cytometry, high-resolution microscopy, high-content imaging, and transgenic mouse work. IBP has strong focus on the balance between professional life with family-friendly working environment under the auspices of the HR Excellence in Research Award.
The research program of **Polasek-Sedlackova group** bridges basic DNA replication research with cancer research and developmental biology field. Our goal is to understand how DNA replication is regulated in mammalian cells to achieve high fidelity of copying genomes, critical to alleviate genome instability associated with severe diseases, including cancer. By combining physiologically relevant cellular models with state-of-the-art quantitative cell biology, genomics, and proteomics approaches, we explore the regulation of genome duplication during normal mammalian development and malignant transformation.
Selected publications:

- *Sedlackova H, Rask MB, Gupta R, Choudhary C, Somyajit K, Lukas J. (2020) Equilibrium between nascent and parental MCM proteins protects replicating genomes.* ***Nature*** *587: 297-302*
- *Somyajit K, Gupta R, Sedlackova H, Neelsen KJ, Ochs F, Rask MB, Choudhary C, Lukas J. (2017) Redox-sensitive alteration of replisome architecture safeguards genome integrity.* ***Science*** *358: 797-802*

Your role:
As a PhD fellow, you will be engaged in ambitious and interdisciplinary research project. You will explore the molecular mechanisms ensuring precise and timely regulated initiation of DNA replication—a very early steps laying the foundation for error-free genome duplication. You will learn and fully master the state-of-the-art approaches of quantitative cell biology including CRISPR-Cas9 mediated genome editing, high-resolution microscopy and high-content imaging. You will also have an opportunity to develop your own ideas within our research program.

We offer:

- A four-year PhD position in a stimulating and supportive international research environment.

- Access to state-of-the-art facilities and infrastructure.
- Opportunity to interact with our network of national and international collaborators.
- A competitive salary with health insurance and social security and additional benefits (five weeks of paid vacation, sick days, free childcare directly at the institute, meal allowance, sport and recreation contribution etc.).
- For international candidates, we offer assistance and support with practical and legal aspects (housing, visa, tax etc.).

We are looking for a highly motivated and ambitious PhD candidate with:

- A Master's degree in Life Science e.g. Biochemistry, Biomedicine, Molecular Biology, Protein Science or similar.
- Basic knowledge and lab experience with molecular and cell biology techniques.
- Strong communication and collaborative skills and an interest to work in international and interdisciplinary environment.
- Proficiency in spoken and written English.

Application must include following documents:

- A letter stating your specific scientific interest, motivation, and qualifications for the project (max. two pages).
- Detailed CV, including personal contact information, education, work/research experience, laboratory skills, publications, or manuscripts (max. two pages).
- Copies of diplomas, Bachelor as well as Master's degree including transcript of grades. If you are waiting for a Master's diploma, provide a written statement from the supervisor.
- At least one signed reference letter (with referee contact details and relationship).

Complete applications must be sent as one pdf file to **ulrich@ibp.cz** and **polasek-sedlackova@ibp.cz** by the 15th April. Selected candidates will be invited for online interview in the third week of April.

For more information, please contact Dr. Hana Polasek-Sedlackova (**polasek-sedlackova@ibp.cz**).

Further information about PhD program can be found **here**.