

A Ph.D. position is open in the field of single molecule fluorescence spectroscopy and microscopy.

J. Heyrovský Institute of Physical Chemistry offers a Ph.D. position under the project: Oxidative stress as an essential modulator of Bax apoptotic activity: molecular insights by single-molecule fluorescence

Job description:

Turnover of cells in living organisms is tightly regulated by an evolutionary conserved cell death program called apoptosis. As a result of this program, about one million of cells commit suicide each second and are replaced by new ones. The apoptosis may be initiated in response to oxidative stress, which generates oxidized phospholipids as a result of irreversible oxidation. To avoid undesired cell death, many regulators of this process exist. One of such modulators is the protein Bax, which aggregates at the mitochondrial membrane where it forms membrane pores.

This project focuses on molecular explanation of how oxidative stress influences pro-apoptotic activity of the protein Bax. A long-term aim is to find a possible link between oligomerization of Bax at mitochondrial-like membranes and formation of membrane pores which trigger the onset of apoptosis. The applicant will use various single molecule fluorescence techniques such as FCS (fluorescence correlation spectroscopy), SPT (single particle tracking), FRET (Förster resonance energy transfer) and advanced fluorescence imaging techniques. The candidate will be involved in all stages of research including experimental work, analysis and interpretation of data, design of new experiments and publication of achieved results. We are searching highly motivated candidates who would like to work in a young biophysically oriented research team.

General requirements:

- Master degree in physics, chemistry or related fields.
- Good communication skills in written and spoken English.
- Previous experience with biophysical or biochemical methods is of considerable benefit.
- Good programming skills in MATLAB or a related software are welcome.

Start of the position: 1st of October, 2019

Job location: J. Heyrovský Institute of Physical Chemistry, Prague, Czech Republic

Documents required from the candidate:

A motivation letter with a CV, a copy of diploma, brief summary of previous research activities, names plus e-mail addresses of 1 - 2 references

The application with the required documents must be sent via e-mail to: Radek Šachl, radek.sachl@jh-inst.cas.cz

Application deadline: 15th of March 2019

Further details concerning the job position can be obtained from Dr. Radek Šachl (e-mail: radek.sachl@jh-inst.cas.cz).

By submitting the application you confirm that all personal data you have sent to us are true.