PhD positions in Robert Vacha's group (Brno, Czech Republic)

Starting: Optional - after Jan 2019
Duration: PhD 4 years
Expires: Applications are considered until the position is filled
Supervisor: Robert Vacha (robert.vacha@mail.muni.cz), http://vacha.ceitec.cz
Employer: CEITEC Masaryk University, Czech Rep.

Project: The projects are focused on the regulation of protein interactions, which have been associated with numerous diseases including cancer. The regulations involve posttranslational modifications, changes of salt and protein concentrations, or pH. Revealing and understanding these regulatory mechanisms is not only important general knowledge, but it could also be useful in the design of new treatments. The research will be strongly coupled to collaborations with excellent experimental teams and more closely discussed during the interview. The student will master the tools of multi-scale simulations using a wide range of techniques ranging from atomistic to coarse-grained simulations. Moreover, he/she will learn the advantages and disadvantages of various protein parameterizations, and advanced sampling techniques.

Eligibility: Outstanding candidates with experience in computer simulations and with an MSc degree in the fields of biophysics, soft matter physics, physical chemistry, computational chemistry, statistical mechanics, or related fields. Experience with molecular dynamics simulations (with GROMACS, CHARMM, NAMD, AMBER, LAMMPS, etc.) or other simulation techniques (Monte Carlo, DPD, etc.) at the atomistic or coarse-grained level would be an advantage.

Computing Resources: Successful candidates will have access to local computing clusters with 1500 cores. Access to Metacentrum NGI – National Grid Infrastructure for computing (with ~15,000 cores) will be also available. Additional resources include the possibility of applying for IT4Inovations, where the group is active.

Competitive salary supported by grant projects.

Application Procedure: Applications must include a CV, list of publications, personal statement (description of research interests, past, and plans), and the names of 2 people willing to provide a letter of recommendation. Applications with all this material (preferably in a single pdf) should be sent to Robert Vacha (robert.vacha@mail.muni.cz).