

Postdoc & PhD student positions in Computational Biophysics (Helsinki, Finland)

Employer: Biological Physics group, University of Helsinki, Finland
Contact: Prof. Ilpo Vattulainen (Ilpo.Vattulainen@helsinki.fi)
Website: <https://www.helsinki.fi/en/researchgroups/biophysics>
Posted: October 14, 2020
Expires: Preferred deadline November 06, 2020, or until the positions have been filled.

Job Description

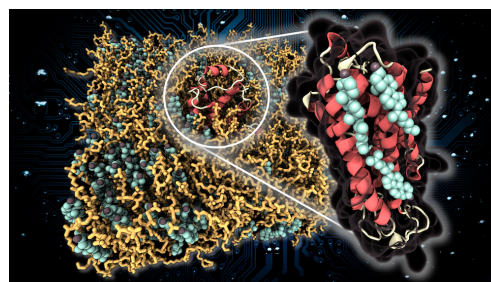
Two positions in computational biophysics / biological physics. The positions are for postdoctoral scientists and/or PhD students.

Eligibility. Outstanding candidates with experience in computer simulations, and who have obtained PhD (postdoc positions) or MSc (PhD student positions) degrees in fields of biological (soft matter) physics, biophysics, (bio)physical chemistry, computational sciences, machine learning, and related fields including stat mech in stat physics are invited to apply. Experience with molecular dynamics simulations (with GROMACS, NAMD, etc.) and other simulation techniques (DFT, QM/MM, DPD, SRD, LB, etc.) on atomistic and coarse-grained levels is considered as an asset.

Working Environment. The postdocs and PhD students will be part of the Biological Physics group directed by Ilpo Vattulainen. The group has ~20 members. The group specializes in multi-scale simulations using a wide arsenal of techniques ranging from QM to atomistic and coarse-grained simulations. Collaborations with experimental and theoretical teams are strong. The work environment is relaxed and the successful candidate will have an opportunity to influence the project content. The group has been granted funding by, e.g., ERC, Academy of Finland Center of Excellence scheme, Human Frontier Science Program, EU, etc.

Funding for the Positions. The gross salary will be about 3500-4000 EUR/month for postdocs, and about 2300-3000 EUR/month for PhD students depending on experience.

Project. The projects will focus on membrane-associated receptors / proteins with an objective to understand how their dynamics and activation are modulated, and how impairment of these modulation mechanisms compromises the function. The proteins in question are involved in abundant diseases. The research is strongly coupled to collaborations with several first-class experimental teams. Detailed project description will be given during the interviews.



Computing Resources. The successful candidates will have access to quite outstanding computing resources in the national supercomputing center (www.csc.fi, about 7 petaflops) and in the pre-exascale computing center LUMI (<https://www.lumi-supercomputer.eu/>, 200 petaflops).

Contact. Further information can be obtained from Ilpo Vattulainen (Ilpo.Vattulainen@helsinki.fi).

Application Procedure. Applications must be sent in the PDF format, and must include CV, list of publications, description of research interests, and names of 3 people willing to provide a letter of recommendation. Application including all this material should be sent to Vattulainen **as a single PDF file**. Recommendation letters are not crucial at this stage but may of course be sent separately.

Deadline. Applications are considered until the positions have been filled. Applicants who are short-listed for the positions will be contacted personally.

Examples of Recent Papers Published by our Group:

- S. Wilmes et al., **Science** 367, 643 (2020).
- T. Gutmann et al., **Journal of Cell Biology** 219, e201907210 (2020).
- R. Paananen et al., **The Journal of Physical Chemistry Letters** 10, 3893 (2019).
- S. Li et al., **Nature Methods** 16, 866 (2019).
- G. Enkavi et al., **Chemical Reviews** 119, 5607 (2019).
- T. Pantsar et al., **PLoS Computational Biology** 14, e1006458 (2018).
- M. Manna et al., **eLife** 5, e18432 (2016).
- K. Kaszuba et al., **PNAS** 112, 4334 (2015).

COVID-19. In these difficult times, it is justified to emphasize that Finland is one of the safest countries in the world. Finland is also generally a very safe country to live in, with an excellent health care system. We enjoy Finland's beautiful nature and the cleanest air in the world. Helsinki is an international city with very good services for families and children. Everyone in our group has the right to telecommute.