

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

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<https://sites.google.com/site/vivekvivsharma/home>
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Expires: Preferred deadline August 15, 2021, or until the positions have been filled.

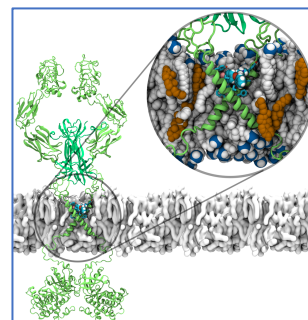
Finland has been named the happiest country in the world by the United Nations Sustainable Development Solutions Network. “Really?”, Finns ask... (See: <https://www.nytimes.com/2021/04/20/world/europe/world-happiness-report-ranking.html>).

Job Description

3-4 positions for postdoctoral scientists and PhD students in **computational biophysics and biochemistry/biological physics/computational drug design and discovery**.

Eligibility. We are looking for outstanding candidates with experience in computer simulations, and who have recently obtained PhD (postdoc positions) or MSc (PhD student positions) degrees in fields of biological physics, biophysics, soft matter and stat mech, (bio)physical chemistry, machine learning, computational drug design and discovery, or related fields. 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 an asset.

Working Environment. The postdocs and PhD students will be part of the computational biophysics team comprised of two groups directed by Ilpo Vattulainen and Vivek Sharma. The team has ~25 members. The team specializes in multi-scale simulations using a wide arsenal of techniques ranging from QM to atomistic and coarse-grained simulations, and to large-scale continuum modeling. Collaborations with experimental and theoretical teams are strong. The working 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, Human Frontier Science Program, EU, Academy of Finland, etc.



Funding for the Positions. The gross salary will be about 3500-4000 EUR/month for postdocs, and about 2400-3200 EUR/month for PhD students (depending on experience).

Projects. The projects will focus on membrane-associated receptors/proteins with an objective to understand how their dynamics and activation are modulated, how impairment of these modulation mechanisms compromises the function, and how it can be rectified. The proteins in question are involved in abundant diseases that include type 2 diabetes, mitochondrial diseases, neurodegenerative disorders, and impairment of the biological barrier function related to lung function impairment (ARDS, Covid-19, etc.). 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 outstanding computing resources that include the national supercomputing center (www.csc.fi, about 14 petaflops) and the pre-exascale computing capacity LUMI (<https://www.lumi-supercomputer.eu/>, about 550 petaflops).

Application Procedure. Applications that include CV, list of publications, and a description of research interests should be sent *as a single PDF file* to Ilpo.Vattulainen@helsinki.fi and Vivek.Sharma@helsinki.fi. Recommendation letters are not crucial at this stage.

Deadline. August 15, 2021. However, 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 Team:

- P. C. Casarotto et al., **Cell** 184, 1299 (2021).
- P. C. T. Souza et al., **Nature Methods** 18, 382 (2021).
- S. Wilmes et al., **Science** 367, 643 (2020).
- Y. E. Galemou et al., **Nature Communications** 11, 6008 (2020).
- T. Gutmann et al., **Journal of Cell Biology** 219, e201907210 (2020).
- K. Parey et al., **Science Advances** 5, eaax9484 (2019).

Science and Life in Helsinki. Finland is one of the safest countries world-wide. We enjoy beautiful nature and the cleanest air in the world. Helsinki is an international city with very good services for families and children, including an excellent health care and kindergarten system. Everyone in our international team has the right to telecommute. Science-wise, Univ Helsinki is in top-100 globally. Any questions? Please contact us!