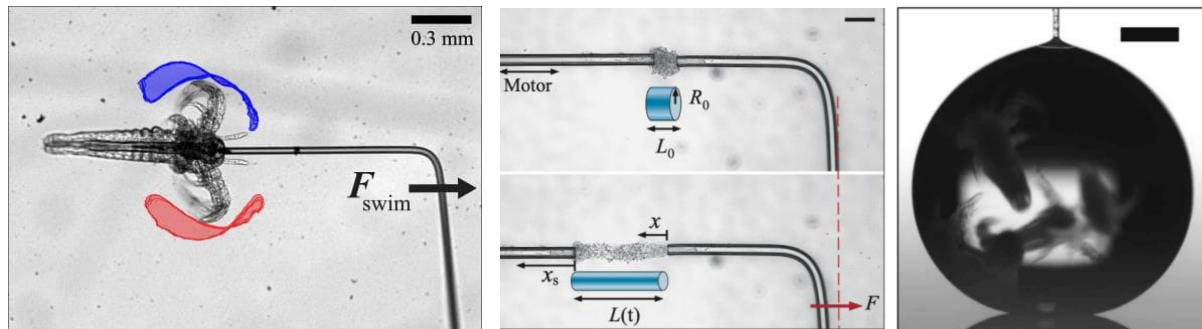


PHYS summer researcher positions in the Living, Fluid, & Soft Matter team

The Living, Fluid, & Soft Matter group (aalto.fi/living-matter) conducts curiosity-driven physics research on the mechanics, dynamics, and flow of tiny living or soft systems, such as cells, small organisms, organs, and droplets. We are looking for motivated students to work on experimental research projects in soft matter physics or at the interface between physics and biology.



Our main current research directions are:

- Swimming dynamics of micro- to mesoscale organisms
 - Link to our recent work: <https://doi.org/10.48550/arXiv.2503.21396>
- Soft matter mechanics of living materials, such as tiny plant roots and immune cells
 - Link to our recent work: <https://doi.org/10.1098/rsif.2025.023>
- Droplets and capillary phenomena
 - Links to recent work: <https://doi.org/10.48550/arXiv.2509.08331> and <https://doi.org/10.48550/arXiv.2509.20005>
- Further development of the micropipette force sensor (Backholm *et al.* Nature Protocols 2019; <https://www.nature.com/articles/s41596-018-0110-x>) combined with high-speed imaging.

The topic of your summer research project will be decided on and tuned based on your skills, experience, and interests but will align with these current ongoing research themes. During the summer, you will be trained to independently perform hands-on experiments, analyse your data in MATLAB, and present your results during our group meetings. You will be directly supervised by Prof. Matilda Backholm and advised by a senior researcher in our group. We welcome motivated students with a genuine interest in working in a living matter physics lab. Experience with MATLAB is beneficial but not required. This project should ideally constitute a BSc thesis, special assignment, or parts of a MSc thesis.

Please contact Matilda (matilda.backholm@aalto.fi, in Finnish/English/Swedish) if you have any questions!