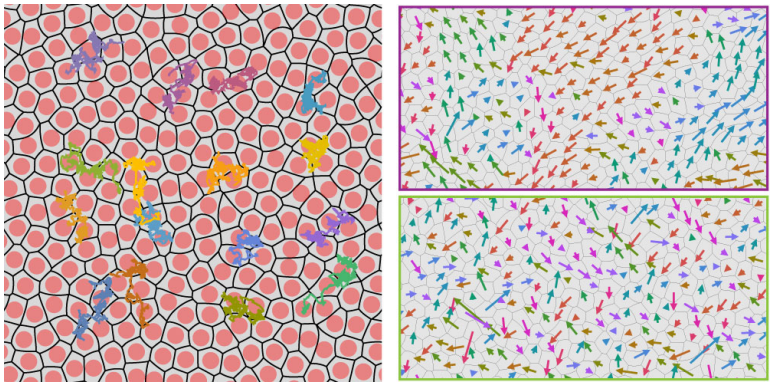
Posted on April 29, 2026

STI – PhD in Mechanics of Soft and Biological Matter Laboratory



We are excited to invite a passionate and motivated PhD student to join our lab on **theoretical and computational modeling of multicellular tissues under complex environments**. Specifically, the project will focus on understanding **emergent structure and dynamics interacting with surrounding environments, aiming to gain fundamental understanding on design principles of in-vitro and in-vivo systems from physical perspective.** We have currently one open position for a PhD student in theory and simulations of biological tissues using the Active Foam model [1-3]. Applications will be reviewed until the position is filled.

We welcome applications from candidates with different backgrounds. Preferred skills and qualifications for successful candidates include:

- Bachelor's and/or Master's degree in Physics, Mechanics, Mechanical Engineering, or Materials Science and Engineering, Bioengineering, Biology, Biophysics.
- Proven research experience in discrete element modeling of living or synthetic systems.
- Strong background in statistical physics, soft condensed matter physics, and continuum mechanics, and numerical methods.
- Prior experience with high-performance computing facility.
- Excellent communication skills in English, both written and spoken.
- Self-driven and open minded with a strong willingness to explore interdisciplinary research.

We offer a highly competitive salary commensurate with previous experience, accompanied by comprehensive social benefits. All students will have access to state-of-the-art computation and experimental facilities, enabling cutting-edge research opportunities, and they will also have the opportunity to participate in collaborations within multidisciplinary projects

Interested candidates are requested to prepare their application as **a single PDF file**, including a cover letter (maximum 1 page), describing research interests and demonstrating how your background and previous experiences align with the direction of our group, and a comprehensive CV, providing detailed information about your academic and professional background and skills, accompanied by contact information for three references. The application should be directly submitted to Professor Sangwoo Kim (sangwoo.kim@epfl.ch) with the subject line, "Name: Application for PhD Position". For additional information regarding the position, please feel free to reach out to Professor Sangwoo Kim.

[1] Kim, S., Pochitaloff, M., Stooke-Vaughan, G. A., and Campàs, O. (2021). Embryonic tissues as active foams. *Nature physics*, 17(7), 859-866.
[2] Kim, S., Amini, R., Yen, S. T., Pospíšil, P., Boutillon, A., Deniz, I. A., and Campàs, O. (2024). A nuclear jamming transition in vertebrate organogenesis. *Nature materials*, 23(11), 1592-1599.
[3] Rizzi, A. and Kim, S., (2026). Universal Persistent Brownian Motions in Confluent Tissues. *Physical Review Letters*, 136(15), 158401.