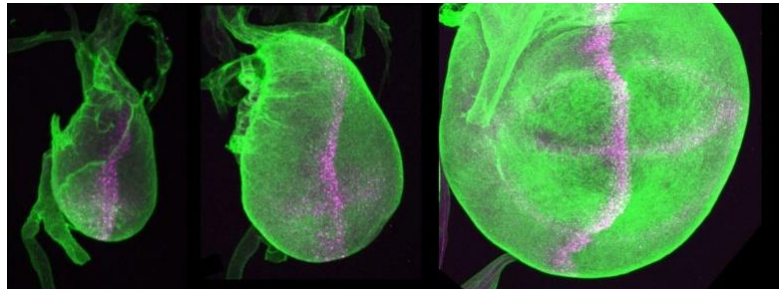




## Interdisciplinary Postdoctoral Researcher - Cellular Regulation of Basement Membrane Growth

**Your Role:** Join our newly established research group at the Living Systems Institute (LSI) as an interdisciplinary postdoctoral research fellow at the interface of **Developmental Biology, Biophysics** and **Theoretical Modelling**. In an



interdisciplinary collaboration, you will contribute to an exciting **Wellcome-funded** project, aimed at unravelling the intricate cellular regulation of Basement Membrane (BM) growth and organisation using the fruit fly ***Drosophila melanogaster***. This position offers a unique opportunity to work at the interface of biology and physics, mastering a wide set of cutting-edge techniques and create unprecedented insight into the **growth regulation of BMs**.

### Key Responsibilities:

#### 1. Regulator Screen (*Drosophila* Genetics)

- Utilize the power of *Drosophila* genetics to identify molecular regulators of BM growth.
- Establish *ex vivo* imaging of tissue explants using light sheet microscopy to probe the dynamic integration of new components into the existing BM network.

#### 2. Correlative light-electron microscopy (CLEM)

- Establish a workflow for CLEM in *Drosophila* tissues to uncover the molecular logic of BM growth in collaboration with Paul Verkade (Bristol).

#### 3. Collaborative Research

- Collaborate closely with theorists (modelling of BM growth, LSI) and physicists (biophysical characterization, Physics and Astronomy Exeter).
- Perform cutting-edge CLEM microscopy with our collaborators at the Wolfson Bioimaging Facility in Bristol.

#### 4. Communication

- Share your results through regular presentations, reports and publications.
- Engage with the scientific and public community to share project progress and impact.

### Qualifications:

- A PhD in biology, physics, mechanics or related fields.
- Previous experience with *Drosophila* or molecular biology techniques is not required but an advantage.
- Patience and a steady hand, essential to isolate *Drosophila* tissues
- Excellent communication skills, both written and verbal, for effective collaboration and dissemination of results.
- Openness to work in a highly collaborative and interdisciplinary environment.
- Scientific rigor, an innovative mindset and flexibility to adapt to new challenges.

**The Offer:**

- 4-year fully funded position (by the Wellcome Trust)
- Starting date February 2024 (with some flexibility)
- The salary will be based on the University of Exeter's salary scale, depending on the candidate's experience

**Benefits:**

- Engage in cutting-edge research at the interface of Developmental Biology and Biophysics using a diverse set of techniques.
- Interdisciplinary collaborations with leading labs in Exeter and Bristol.
- Contribute to our regulatory understanding of complex biological systems.
- Budget for conference attendance and personal development.

**Application Process:**

Deadline for application: **until filled**

Interested candidates are invited to contact Stefan Harmansa ([s.harmansa@exeter.ac.uk](mailto:s.harmansa@exeter.ac.uk)) for informal discussions or questions related the position (please include a **CV** and a **cover letter** outlining your research interest and relevant experience). Short-listed candidates will be invited to visit LSI to give a seminar, meet the scientific community and for in depth discussion of the project.

**Relevant Publications:** Growth anisotropy of the extracellular matrix shapes a developing organ. Harmansa S.\*, Erlich A.\*, Eloy C., Zurlo G., Lecuit T., Nat Commun 14, 1220 (2023). DOI: [10.1038/s41467-023-36739-y](https://doi.org/10.1038/s41467-023-36739-y).

**About the team**

Are you excited by the emergence of biological shapes and want to work in an interdisciplinary team and institute? Join us and become a part of the newly established morphomechanics group at LSI in Exeter (UK) starting from February 2024. The group will bring together passionate scientists from diverse backgrounds that share the excitement to unravel the physical concepts shaping growing tissues during morphogenesis. For more information please visit our website [morphomech.wordpress.com](https://morphomech.wordpress.com) or directly contact Stefan via mail ([s.harmansa@exeter.ac.uk](mailto:s.harmansa@exeter.ac.uk)).

**The Institute**

The [Living Systems Institute](#) (LSI) is a major initiative by the University of Exeter (UK), designed to promote interdisciplinary research that transcends the boundaries of biology, medicine, physics, engineering and mathematics. Its mission is to analyse living cells and organisms as integrated systems, with the aim of unravelling how diseases disrupt biological processes at the molecular, cellular and organismal level. Our vision is to work together across disciplines to identify new ways to diagnose, treat and cure disease in plants and animals, especially humans.