

Postdoc and PhD positions in Bioengineering, Vascular Biology and Aging

Research Environment

The Regenerative Medicine Technologies (RMT) Lab is part of the Laboratories for Translational Research of Ente Ospedaliero Cantonale located in Bellinzona (Switzerland).

Strategic research areas of the RMT Lab are: in vitro disease modeling through biofabrication (e.g. age-related diseases, cancer metastases, musculo-skeletal diseases); design of novel technologies for drug screening; personalized medicine applications using human tissue biopsies. To promote the advancement of these research areas, the RMT Lab combines microfluidics and microphysiological systems, 3D (bio)printing and computational simulations.

The lab has recently granted funding from the Swiss State Secretariat for Education, Research and Innovation which supported an awarded ERC StG transferred to Switzerland. The 5 years project will deal with the identification of the biological mechanisms driving vascular aging through a combination of microphysiological systems, omic analyses and machine learning-based methods. More into detail, the project involves the biofabrication of 3D microvascular networks, their integration with high-throughput culture systems and their analysis through sequencing techniques and high-content screening. The lab has access to cutting-edge facilities (e.g. bulk and single-cell RNAseq; mass spectrometry; confocal, multi-photon and electron microscopy) which are shared with the Institute for Research in Biomedicine and the Institute of Oncology Research within a dynamic, multidisciplinary and collaborative environment.

Qualifications of the candidates and how to apply

We are looking for **one Post Doc** and **one PhD student** to join our interdisciplinary research team.

What we would like from you (both candidates):

- **Self-motivation and exceptional commitment to experimental goals and deadlines**
- Strong organizational skills and ability to work independently as well as in a team
- Critical data analysis and troubleshooting
- Effectively communicate experimental data, maintain records and write manuscripts
- Creative thinking

Specific requirements for the Post Doc position

- Background in molecular and cell biology, priority given to **vascular biology**
- Experience with: cell culture (preferred if 3D cultures with hydrogels), omic analyses (RNAseq, mass spec), imaging (confocal microscope and high-content screening systems, preferably with 3D cultures), cloning, standard biological techniques (qPCR, western blot, elisa, immunofluorescence)
- Candidates are encouraged to send CV, publication list, cover letter including research interests and career goals, 3 references

Specific requirements for the PhD position

- Background in bioengineering or any life sciences with a strong interest in bioengineering
- Experience with (or strong commitment to learn): computer aided design, 3D printing and design of microphysiological systems, cell culture (preferred if 3D cultures with hydrogels and endothelial cells) and standard biological techniques (e.g. immunofluorescence, qPCR)
- Candidates are encouraged to send their CV, a cover letter including research interests and career goals, list of exam marks, expected graduation date (max April 30, 2023) and 2 references

Contact

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