

## Research technician position

### Role of fibroblasts in the tissue microenvironment in intestinal inflammation and tumorigenesis

The [Roulis lab](#) studies how fibroblasts, the builders of the tissue microenvironment, regulate homeostasis in the intestinal mucosal barrier. Our goal is to uncover specific cellular and molecular mechanisms through which the resident cell types of the tissue microenvironment control the development of chronic inflammatory disease (Crohn's disease, ulcerative colitis) and the initiation/progression of colon cancer in humans.

We are seeking a graduate of biological/biomedical sciences with basic laboratory experience in cellular and/or molecular biology for a position at the level of "Research Specialist A", starting in the summer/early fall of 2025. This position is for a hybrid role of laboratory technician and independent researcher focusing on a specific project. The lab will provide rigorous training in a wide range of techniques, in research methodology, and in current concepts of interdisciplinary tissue biology, spanning immunobiology, cancer biology, stem cell biology, and cellular/molecular biology. This position is ideal for ambitious young scientists who want to pursue a PhD and want to be rigorously prepared for competitive applications to graduate programs. A commitment of at least two years is expected. Areas of training/scientific development include:

- Advanced mouse genetics, mouse genetic engineering, and mouse colony management.
- Modeling inflammatory diseases and colon cancer in mice, design and implementation of *in vivo* studies, and quantitative phenotyping with clinical, histological, and immunophenotypic readouts.
- Working with primary fibroblasts, organoids, and organotypic co-culture systems of mouse or human origin for *in vitro* studies at the cellular and molecular level.
- Molecular biology techniques to study transcriptional regulation and signaling pathways.
- Imaging approaches to study the architecture of the tissue/tumor microenvironment (immunostaining or fluorescent reporter-based, electron microscopy-based).
- Lipid biochemistry, introductory mass-spectrometry, and lipidomics.
- Computational approaches for the analysis of single-cell and spatial transcriptomics data.
- Lab maintenance, organization, biosafety, and regulatory compliance.

Active participation in the scientific activities of our group (data and journal clubs) is expected. A team-oriented and collaborative mindset, strong organizational skills, attention to the detail, and ability to solve problems in a dynamic work environment are essential.

For more information, please contact:

**Dr Manolis Roulis, PhD**, at [manolis.roulis@penntermicine.upenn.edu](mailto:manolis.roulis@penntermicine.upenn.edu). You can learn more about our research in the Roulis lab [website](#).