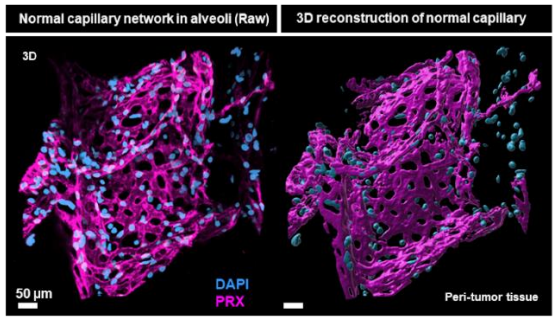
Research Units for Precision Regenerative Medicine

HELMHOLTZ MUNICH

What is the project about:

Millions worldwide suffer from respiratory conditions such as idiopathic pulmonary fibrosis (IPF), which severely impact quality of life. IPF, characterized by progressive lung scarring and altered cell states, highlights the challenges of fibrogenesis after tissue injury - a leading cause of mortality. Researchers at Helmholtz Munich are deeply committed to uncovering the mechanisms driving disease onset, progression, and exacerbation.



Human lung capillary at a glance (PRX)

Requirements:

Background and Interest: A motivated student with a background in biology or a related field and an interest in human biology and disease, advanced imaging, and bioinformatic analysis.

Working Style: Comfortable working independently while maintaining regular communication with supervisors.

M.Sc. Position

Are you ready to join a research team at the forefront of **precision regenerative medicine using state-of-the-art technologies like omics and imaging**? Let's tackle unmet medical needs together!

What you'll be working on:

Analysis of cellular dynamics in human lung disease

- **Pioneering 3D Imaging for Spatial Biology:**
  Develop/implement advanced protocols for 3D imaging of spatial cell-cell interaction in human lungs.
- **Multiplexed Imaging in Lung Models:**
  Apply multiplexed imaging to human-derived *ex vivo* models to dissect cellular dynamics during lung fibrogenesis.
- **Bioinformatic Analysis**:
  Apply advanced bioinformatic tools to analyze single cell RNA sequencing data and perform computational analysis using AI.

https://www.helmholtz-munich.de/

More details in our recent publications. Niklas et al., 2023 https://www.science.org/doi/10.1126/scitranslmed.adh0908 and Yang et al., 2024 https://doi.org/10.1038/s41467-024-54267-1

Why this position stands out:

Cutting-Edge Research Environment: Work within a leading experimental systems biology group, utilizing advanced technologies and methodologies.

Skill Development: Gain expertise in research and problem-solving, including method development, data analysis, and biological interpretation.

Interdisciplinary Exposure: Collaborate at the intersection of single cell biology, imaging, and data science in a highly dynamic research setting.

Explore the complexities of human diseases, tackle unmet medical needs, and help advance patient care. Be part of our journey to **uncover cellular dynamics during disease progression**—apply today!

Contact:

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