

Our **Research Group on Pancreatic Neuropathy and Pain** is actively seeking **passionate Master's and Bachelor's students**, as well as **interns**, specializing in biological and chemical sciences. Our work blends molecular biology with comprehensive analyses of human pancreatic tissue, advanced 3D culture models, live cell imaging, genetically engineered mouse models (GEMMs) of pancreatic cancer, and murine models of acute and chronic pancreatitis. We operate within the Collaborative Research Centre 1321 (Modelling and Targeting of Pancreatic Cancer), the DKTK (German Cancer Consortium) Munich site, and the Pancreatic Cancer Alliance Munich (PCAM).

Crucially, our research is driven by insights gleaned directly from human tissue and diseases, aiming to develop in vitro and in vivo models that faithfully replicate human conditions. Comprising an international team of biologists and clinicians, our mission is to unravel key disease mechanisms in pancreatic disorders, with the ultimate aim of devising innovative therapeutic strategies.

Here are our current projects:

1. Exploring the role of exosomes in cancer cell progression and metastasis.
2. Investigating the involvement of mast cells in pain perception during acute and chronic pancreatitis.
3. Examining the immunological effects of chemotherapy in pancreatic cancer.
4. Establishing multi-cellular 3D ex-vivo systems, including organoids and ECM scaffolds.

Our methodologies encompass a wide range of molecular biology techniques such as gDNA isolation, genotyping PCR, RNA and protein isolation, qPCR, Western blotting, cloning, bacterial transformation, and plasmid isolation. We also employ cell sorting using FACS, gene editing in cells, multiplex immunohistochemistry, cell culture techniques, and ECM scaffold preparation.

In addition to gaining practical experience with state-of-the-art research techniques, successful candidates will have the chance to contribute to groundbreaking projects at the forefront of cancer biology and translational medicine. Join our dynamic team and help pioneer discoveries aimed at enhancing patient outcomes in pancreatic diseases.

For any inquiries, please don't hesitate to contact Dr. Rouzanna Istvanffy via email at [rouzanna.istvanffy@tum.de](mailto:rouzanna.istvanffy@tum.de).