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We are two groups joining forces to build up a team on infectious disease questions in gastrointestinal tumors as part of the Cancer Cluster Salzburg (CCS) - Smart Specialization Center for Translational Cancer Research and Immuno-Oncology. Here, we offer an open position for a

PhD student

3 years (annual gross salary 2024: € 37,577.40)

on

Intercellular communication in healthy or diseased epithelium in the gastrointestinal tract between primary epithelial cells and carcinogenic pathogens needs better model systems and molecular understanding. We try to gain new insights into malignant processes using organoid research and innovative infection models to investigate the molecular mechanisms in gastric, colorectal (CRC) or pancreatic ductal adenocarcinoma (PDAC) tumor development (core cancer pathway signaling, immune checkpoint consequences, targeted therapeutic interference strategies to block vulnerable nodes, etc.).

Job description:

- Culture of 3D organoids from normal and tumor gastrointestinal patient-derived biopsies
- Establishment of an Air-Liquid Interface (ALI) with pathogens and various other tissue culture components in a primary organoid setting from stomach, pancreas or colon tissues and their carcinomas
- Establishment of co-culture systems with stroma and/or immune cells
- Understand signaling networks in carcinogenesis and explore consequences of *F. nucleatum* and *H. pylori* in CRC, PDAC, or GAC cancer biology.
- Additional techniques: confocal laser scanning and super resolution microscopy (STED), NSG, ATAC-seq, genetics, bioinformatics, molecular biology, metabolism biochemistry etc.

The project is an interdisciplinary cooperation project with members of the Cancer Cluster Salzburg (CCS) with groups from SALK, PMU and PLUS (<https://de.cancercluster-salzburg.at/>).

Candidates:

- should have background in cancer biology, immunology, organoid culture, infection biology
- are expected to be scientific-orientated and self-motivated
- have excellent communication and interpersonal skills
- collaborate with our partners and support other group members in team spirit
- Employ cutting-edge technologies and molecular biology for translational cancer research

We hold state-of-the art laboratories at the Paris-Lodron University of Salzburg in Austria, a beautiful place at the northern boundary of the Alps. The Department provides broad possibilities for interaction and support. The PhD student will be integrated into the doctoral school "Biomolecules in Health and Disease". Our groups are member of the priority program Center for Tumor Biology and Immunology (CTBI).

Please send your **CV, certificates, publication list** and **letter of interest** to **Silja Wessler** (silja.wessler@plus.ac.at). **Closing date:** until the position is filled, but not later than November 1, 2024. Only applications with complete documents will be considered.