Genrich Tolstonog
Head & Neck Cancer Research Laboratory
Department of Otolaryngology - Head and Neck Surgery, CHUV
Centre de recherche AGORA
Rue du Bugnon 25A, CH-1011 Lausanne
Contact: genrich.tolstonog@chuv.ch

Position: PhD-student exploring clonal mechanisms of therapy failures in head and neck cancer

Location: Centre de recherche AGORA

Field: head and neck cancer, cancer genetics, evolutionary dynamics of cancer

Project synopsis: Head and neck squamous cell carcinoma (HNSCC) is a deadly cancer that originates from the epithelium of the upper aero-digestive tract. Treatment failure associated with local progression of cancer is one of the main causes of patient death. We assume that failures to control cancer at local sites in patients who underwent resection of primary tumor could be caused by distinct cancer cell lineages locally persisting through active dissemination via stromal and lymphatic invasion at the tumor borders and developing into recurrent tumors after adjuvant therapy. To explore clonal mechanisms underlying development of local recurrences and establish more efficient therapies, we take advantage of preclinical models of human HNSCC, which clonal dynamics we study under application of the standard-of-care and experimental therapies using leading-edge tools such as cellular barcoding and CRISPR-Cas9 screening. The ultimate goal is to discover targetable vulnerabilities in treatment-related clonal evolution of HNSCC, thus contributing to improved cure rates in patients with HNSCC.

The Tolstonog research group: The cancer research laboratory at the Department of Otorhinolaryngology and Head and Neck Surgery (Chief: Prof. Christian Simon) is a part of the Personalised Cancer Prevention Research Unit (Director: Prof. Gian-Paolo Dotto). The laboratory conducts basic and preclinical research of head and neck cancer at national and international levels and supports clinical research with the dedicated technologies and research infrastructure. Dr. Genrich Tolstonog's team investigates clonal mechanisms of postsurgical local recurrences in head and neck cancer using cutting-edge technologies (Cell Rep., 2018) and orthotopic models (Int. J. Cancer, 2018, Clin. Cancer Res., 2021).

Your profile:

- Master degree in biomedical sciences or a related biology discipline
- Strong background in cell biology, molecular biology, and genetics
- Willingness to work with murine models and human samples
- Practical knowledge of programming skills using R is an advantage
- Highly motivated, creative, and well-organized team player with good English communication and writing skills

We offer:
The successful candidate will join a highly dynamic interdisciplinary research environment, get access to institutional core facilities and cutting-edge technologies, and benefit from seminar programs, opportunities for conference attendance and collaborations with academic and clinical researchers.