PhD Internship - Cross-species conservation of gene regulation in 3D glutamatergic neuronal models - RiSE program (m/f/d) for 9 months - Basel

PhD Internship / RiSE – (AAV Gene Therapy in Neurotechnologies) (9 months)

The RiSE program (Roche Internships for Scientific Exchange) is a highly competitive student research program at Roche. It offers the most talented postgraduate PhD and medical degree students the opportunity to be fully integrated into our interdisciplinary and international industry R&D environment. As a RiSE student you will enhance your competencies, gain valuable work experience with us, and eventually become part of a world-wide network of RiSE Alumni.

The Neuroscience and Rare Diseases Discovery and Translational Area (NRD DTA) is developing medicines for a range of serious neurological diseases, including multiple sclerosis, Alzheimer's disease, Parkinson's disease, autism, spinal muscular atrophy, and Huntington's disease. As a RiSE student in the NRD DTA you will join our Gene therapy group in the Neurotechnologies section at the Roche Innovation Center Basel, Switzerland.

We are a multidisciplinary team with expertise in vectorised genomic medicine for the human nervous systems, NGS and multiomics, genetic engineering, recombinant AAV (rAAV) virus, and 3D neuronal models. As a RiSE student you will apply integrative lab work with pooled AAV libraries in 3D neuronal culture to investigate levels of conservation and expression strength of novel genetic regulatory elements (GREs) across species. You will determine, through experimental data mining, positive GREs to drive transgene expression constrained to glutamatergic specific neurons derived from human, non-human primate, and rodent. You will be hosted and mentored by a Roche scientist and associate who will guide you through your research and provide you with the needed work infrastructure and collaborative network.

During the internship your tasks will include:

- Culture and Maintenance of cross-species 3D neuronal models
- Viral transductions of large pooled rAAV libraries with barcoded GREs
- 3D imaging
- Data mining positive GRE hits using FACS and single-cell multiomic sequencing, Data Analysis

Who You Are

You're someone who wants to influence your own development. You're looking for a company where you have the opportunity to pursue your interests across functions and geographies. Where a job title is not considered the final definition of who you are, but the starting point.

Moreover you are/have:

- Enrolled in a PhD or medical degree program at a university and are looking to expand your experience with an industry internship.
- You have a background in neuroscience, life science, developmental and/or cell biology.
- You have extensive experience in single-cell sequencing methods/multiomics and/or culturing complex cell models (preferably neuronal 3D).
- You have an interest to expand your skills and methods by using AAV based barcoding technologies to identify novel gene regulatory elements.

Information about application documents and start date: The preferred date of the internship is March 2023 or upon availability - please clearly indicate your preferred starting date of internship on your motivation letter.
Applications need to include a CV and a cover letter, as well as a letter from your academic supervisor supporting your application to the RiSE Program.

Please note that due to regulations non-EU/EFTA citizens have to provide a certificate from the university stating that an industry internship is mandatory as part of the university training.

Apply now!