TRON

Computational Biologist (m/f/d)

Full time - Mainz

We are seeking an experienced computational biologist or bioinformatician to support the development of next-generation RNA-based precision therapies. The work is part of a core project within curATime (*Cluster for Atherothrombosis and Individualized Medicine*; https://curatime.org/) a Clusters4Future initiative funded by the German Federal Ministry of Research, Technology and Space (BMFTR), integrating RNA technologies, artificial intelligence, and cardiovascular medicine. The position is based at TRON in the Department for Cardiovascular Therapeutics.

Your tasks and responsibilities:

You will develop and optimize programmable RNA switches (eToeholds) for cell type-specific translation in cardiovascular target cells focussing on rational design, structural modeling, and data-driven optimization. Key responsibilities include analysis of trigger RNA expression from bulk and single-cell RNAseq data, in silico design of novel RNA architectures, and iterative improvement using RNA design and molecular dynamics (MD) simulation tools and AI-driven approaches. The role also builds a systematic design platform that integrates reporter and preclinical data in close collaboration with experimental teams.

What you bring:

You hold a PhD in bioinformatics, computational biology, or a related field with demonstrated expertise in RNAseq analysis (bulk and single-cell), RNA structure modeling (using tools like ViennaRNA and NUPACK) and MD simulations (e.g., with GROMACS). Strong skills in statistical data analysis and machine learning in Python and R are expected, along with experience working in Unix-based cluster environments and developing reproducible workflows. This role includes close collaboration with experimental biologists for the functional testing of RNA structures in therapeutic contexts. A solid background in molecular and cellular biology is essential for effective communication, joint interpretation of results, and team-based iterative optimization of RNA designs. Excellent written and verbal communication skills are required.

We offer:

- A dynamic, innovative and collaborative research environment
- A diverse and international team
- Performance-related remuneration and additional benefits
- Opportunities for personalised training and development
- A subsidized public transport ticket (Deutschlandticket)
- Bike leasing (Businessbike)
- Hybrid working options

TRON is an internationally recognised institute for translational research. We combine the strengths of academic research with the requirements of quality-controlled industrial developments. At TRON, we share a common mission to develop innovative solutions for the immunotherapeutic treatment of cancer, infectious diseases and other serious diseases with high medicinal need for development.

TRON was founded in Mainz in 2010 and works in close cooperation with universities and hospitals as well as with regional, national and international research institutions and pharmaceutical companies.

As part of our team, you will have the opportunity to work at the cutting edge of translational science.

If all this appeals to you, we look forward to getting to know you.

Please send us your complete and informative application documents (cover letter, CV, references) in a single document of max. 5 MB by e-mail to Human Resources at **jobs (at) tron-mainz.de**, Job-ID: 43601-01-26-WAPRO.

For more information, visit our homepage at www.tron-mainz.de