TRON



Scientist – Computational Immuno-genomics (m/f/d)

Full time - Mainz

We are looking for a passionate **Computational Scientist (m/f/d) with expertise in computational immunogenomics** to join our **Systems Immunology & Medicine** unit. Our interdisciplinary team of scientists, PhD students, and software engineers is dedicated to advancing the prediction of actionable antigens for cancer immunotherapies. Working closely with other teams at TRON and with external partners, we leverage computational approaches and models to continuously improve the design of cancer immunotherapies towards individual cancer patients.

The successful candidate will advance antigen discovery and personalized cancer immunotherapy by analyzing and interpreting immunogenomic landscapes in cancer across clinical and preclinical omics datasets. This work will involve applying advanced computational methods as well as contributing to the design of validation strategies through molecular and immunological assays.

Your tasks and responsibilities:

- Drive the analysis and identification of immunogenomic biomarkers that influence cancer immunobiology and anti-tumor immunity.
- Evaluate predictive and prognostic biomarkers using appropriate statistical modelling, including survival analysis, regression modelling, and multivariate analysis.
- Contribute to improving the prediction of antigen immunogenicity for personalized cancer therapies.
- Integrate clinical and preclinical outcome and immunogenicity data with multi-omics data, such as genomics, transcriptomics and proteomics data.
- Develop computational pipelines to decode cancer-specific immunogenomic profiles.
- Support the planning of validation efforts to confirm biomarkers and candidate antigens with molecular and immunological experiments.
- Share your findings and ideas through internal discussions, international conferences, R&D reports, and high-impact scientific publications.

What you bring:

- Ph.D. in Computational Biology, or a related data-driven field with at least 2 years of postdoctoral research experience in academia or industry.
- Demonstrated scientific expertise in cancer immunogenomics, cancer immunology and antigen discovery in biomedical research. Experience with copy number analysis and/or tumor evolution modeling is a plus.
- Excellent communication skills and a collaborative approach, with the ability to contribute effectively to multiple projects simultaneously.
- Enthusiasm, interest and curiosity for the diverse activities of our research institute.
- Advanced programming skills for reproducible data analysis in Python or R.

- Strong proficiency in the analysis of next-generation sequencing (NGS) data, particularly WES/WGS and RNA-seq datasets.
- Hands-on experience with version control systems (e.g. git), workflow managers (e.g. Nextflow or Snakemake), and high-performance computing environments.

We offer:

- A dynamic, innovative, and creative research environment with strong expertise in immunotherapies
- An open, collegial, and supportive working atmosphere in a respectful organizational culture
- A highly diverse and inclusive workforce
- Access to our GPU-accelerated HPC cluster and laboratories with cutting-edge sequencing technologies and molecular assays
- Performance-based remuneration and other benefits
- The opportunity for personalised further training
- Job ticket (Deutschlandticket) incl. employer allowance
- Bike leasing (Businessbike)
- Wellhub
- The opportunity for hybrid working

TRON is an internationally recognised institute for application-oriented 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: **43103-26-02-SCI**.

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