

Bioinformatician single-cell and multi-omics in infection and vaccine immunology (English)

Functieomschrijving

Are you active in the field of immunology of infectious diseases and eager to contribute to better pandemic preparedness? As a bioinformatician at RIVM, you will analyze large-scale immunological and multi-omic datasets to untangle how the immune system defends against potential pandemic viruses. This role gives you the opportunity to deepen your technical expertise alongside experienced data scientists using state-of-the-art sequencing and analytical tools. You will see your data analyses inform public health decisions and future vaccine strategies.

Your responsibilities

As bioinformatician at RIVM you will be involved in multiple projects aimed at understanding immune responses to vaccination and infection, in particular projects investigating broadly reactive immunity to viruses with pandemic potential. You will be part of the broad-immunity team, which consists of three postdoctoral researchers, four technicians and a group leader, and you will be responsible for the analysis of multi-omic and high-dimensional immunological datasets from preclinical and clinical studies. These datasets include bulk RNA sequencing, single-cell RNA sequencing (scRNA-seq), multimodal single-cell datasets incorporating cell hashing and oligonucleotide-tagged antibodies for surface protein detection (e.g. CITE-seq), single-cell T-cell receptor sequencing (scTCR-seq), and high-dimensional flow cytometry. You will be responsible for the analysis, processing and storage of large datasets in accordance with best practices for ensuring analytical reproducibility.

For this purpose, you will use available computational workflows or design and implement new pipelines to address specific questions related to immune responses following infection or vaccination. Examples include the characterization of immune cell populations and their activation states, integration of transcriptomic, surface-protein and TCR repertoire information, and identification of potential biomarkers associated with immune protection or disease progression. Robust statistical analyses will form an integral part of this process. Finally, you contribute to academic research publications in collaboration with other team members, by visualizing and communicating the results, using state-of-the-art figures and data visualizations.

You will join the centre's data team, consisting of several data scientists, data managers and bioinformaticians, to exchange expertise and develop and implement best practices for data analysis.

The department

The center for Immunology of Infectious Diseases and Vaccines (IIV) at RIVM is the knowledge center of the government in the field of immunology of infectious diseases and vaccines. The core mission of this center is to provide information and advice about effectiveness of vaccines, vaccination strategies and immune responses against infectious diseases to parties within the government and to the general public. The center collaborates intensively with other RIVM knowledge centers and national and international collaborators.

Within IIV, the department of Immune Mechanisms - Immunological Models (IIM) specifically employs immunological models to understand immune responses to infection and vaccination. We are an international, dynamic, highly motivated department of 20+ scientists at different stages of our careers with a strong drive to push immunological research for the benefit of Public Health. We combine expertise in virology, immunology, molecular biology and bioinformatics and strongly believe in collaboration and teamwork. We highly value a psychologically safe working environment in which we learn from one another, mistakes are considered part of the learning process, and feedback is given in a constructive way in an informal, relaxed atmosphere. Monday is our fixed office day where we start over coffee, followed by our weekly department work discussion. Depending on the role, there is flexibility to work from home for up to 50% of the working week.

Apply now

You can address your application to IIM manager Jørgen de Jonge, PhD. Do you have any questions before applying? Please contact Jørgen at +316 311 423 89, he will be happy to answer your questions. We look forward to hearing from you.

In the event of substantial interest in this vacancy, we may invite a larger group of candidates for a short 15-minute online interview, including a brief pitch and two or three predefined questions.

Funcctie-eisen

Job requirements

- A PhD in Bioinformatics, Systems Biology, Computational Biology, or a related field, combined with a publication record in immunology or infectious diseases.
- Advanced proficiency in R or Python, enabling you to build reliable pipelines, efficiently manage large bulk and single-cell transcriptomic datasets, and create clear figures for scientific publications. Experience in high-dimensional flow cytometry is a welcome addition.
- Responsibility for the organization, processing and analysis of large omics datasets according to best practices for data quality and FAIR data management, including appropriate sharing of data, workflows and code.
- An analytical mindset that connects statistically robust omics results with other (pre)clinical data, that provides constructive and critical insights into analytical approaches and helps multidisciplinary project leaders draw sound conclusions
- A structured and adaptable working style, enabling you to manage input from multiple project leaders, set and communicate clear priorities, and align expectations across projects. You are able to discuss competing priorities constructively and know when further alignment or decision-making is needed.
- A willingness to contribute to an open, stimulating and pleasant working environment and actively participate in scientific discussions.

Bij het RIVM hebben we één van de beste cao's van Nederland, namelijk die van de Rijksoverheid. Naast een goed salaris hebben we aantrekkelijke arbeidsvoorwaarden zoals een Individueel Keuzebudget van 16.5 % van je bruto jaarsalaris waarover je zelf de regie hebt. Je kunt iedere maand een deel laten uitbetalen of extra vrije dagen kopen of verkopen. Daarnaast bieden we fiscale voordelen om bijvoorbeeld je studieschuld af te lossen. Ook zijn we een mantelzorgvriendelijke organisatie. Meer weten? Lees er meer over onder de kop 'overige arbeidsvoorwaarden'.

Bijzonderheden

Vragen we in de vacaturetekst om een motivatiebrief en kun je wat hulp gebruiken om deze te schrijven? Lees dan deze 4 tips voor een goede motivatiebrief.

Informatie over solliciteren bij het RIVM:

- Wij begrijpen dat AI een handig hulpmiddel is voor jouw motivatiebrief en cv. We willen je adviseren om het enkel als hulpmiddel te gebruiken en vooral ook jouw unieke ik terug te laten komen in deze documenten.
- Bij je indiensttreding vragen we altijd om een Verklaring Omtrent Gedrag (VOG).
- Als je solliciteert als 'van-werk-naar-werkkandidaat' of als 'herplaatsingskandidaat', stuur dan een kopie van je aanwijzingsbrief mee.
- Werk je nu via een uitzend- detacheringsbureau bij de Rijksoverheid, vermeld dit dan in je brief.
- Het RIVM zet zich in om medewerkers in dienst te nemen die onder de doelgroep van de Wet Banenafpraak vallen. Meer informatie hierover vind je op de website van de Rijksoverheid.
- Bij het RIVM ben je welkom zoals je bent. Wij zijn ervan overtuigd dat diversiteit in een team de samenwerking en de uitkomst sterker maakt. Daarnaast wordt betrokkenheid van medewerkers bij medezeggenschap gewaardeerd.
- Wij volgen de Recruiter Code en gaan zorgvuldig met je persoonsgegevens om.
- Voor een volledig beeld van de zakelijke achtergrond van sollicitanten raadplegen we soms LinkedIn.
- Deze vacature gaat offline na de sluitingsdatum, vergeet dus niet om de tekst te downloaden en op te slaan. Het kan zijn dat na deze datum deze vacature nog (onbedoeld) vindbaar is op diverse jobboards. De sluitingsdatum op werkenvoornederland.nl is leidend.
- Het kan voorkomen dat de sollicitatiepagina niet werkt, het kan aan de browser liggen. Probeer in dat geval de sollicitatiepagina in een andere browser te openen.
- Wij maken geen gebruik van bureaus voor deze vacature. Mochten wij uiteindelijk hulp inschakelen, dan nemen wij hiervoor zelf contact op met bureaus.