

Postdoctoral Researcher (f/m/d): Data-intensive research on characterization of SARS-CoV-2 testing strategies and infection risk

The [Center for Advanced Systems Understanding \(CASUS\)](#) is a German-Polish research center for data-intensive digital systems research. We combine innovative methods from mathematics, theoretical systems research, simulations, data science, and computer science to provide solutions for a range of disciplines – materials science under ambient and extreme conditions, earth system research, systems biology, and autonomous vehicles.

CASUS was jointly founded in August 2019 by the [Helmholtz-Zentrum Dresden-Rossendorf](#), the [Helmholtz Centre for Environmental Research](#), the [Max Planck Institute of Molecular Cell Biology and Genetics](#), the [Technical University of Dresden](#) and the [University of Wrocław](#). CASUS is located in the heart of Görlitz at the border between Germany and Poland. The CASUS start-up phase is hosted by the Helmholtz-Zentrum Dresden-Rossendorf and is financed by the [Federal Ministry of Education and Research](#) and the [Saxon State Ministry of Science and Art](#).

The Earth System Science department is looking for a postdoctoral researcher interested in developing a data intensive approach to studying: 1) the factors that govern individual variation in infection risk for the novel coronavirus SARS-CoV-2, and 2) variation in testing rates and strategies during the COVID-19 pandemic

Location of work is Görlitz, the working hours will amount to 39 h per week.

The position will be available from now. The employment contract is limited until 31.12.2022.

The Scope of Your Job

The successful candidate will be part of a team studying how to optimally deploy limited testing capacity in an emerging epidemic. This position will focus on developing an extensive database of factors correlated with individual risk of infection, such as age, occupation, spatial location, and contact networks. In parallel, the candidate will also build a database quantifying variation in testing rates and strategies, including locations of hospitals, clinics, and other SARS-CoV-2 testing sites in relation to demographic data such as population density and population age structure. These databases will first focus on Saxony, but can subsequently be expanded to the rest of Germany and other countries. Using the latest data science techniques, the successful candidate will analyse these databases to develop efficient proxies for characterizing individual infection risk, and will relate these to variation in testing rates and strategies.

Your Tasks

- Develop a database on individual risk factors, public health resources, and basic demographic information, and variation in testing rates/strategies;
- Analyze this dataset to identify efficient risk proxies to prioritize testing;
- Work with our team to facilitate a coordinated approach to optimizing testing locations and strategies;
- Publish results in academic, peer-reviewed journals;
- Present results at scientific meeting.

Your Qualifications

- Ph.D. in statistics, data science, data engineering, epidemiology, or a related field;
- A solid background in mathematics, statistics, and data science;
- Excellent programming skills in data science languages such as R and Python;
- Strong motivation to work in a collaborative environment;

- Excellent communication skills in English and in a professional context (presentation of research results at scientific meetings, colloquial discussions, writing of manuscripts).
- Fluency in German to facilitate interaction with public health authorities and other data holders in Saxony and elsewhere in Germany;
- Evidence of the ability to publish results in top peer reviewed journals;
- Experience in epidemiology is advantageous but is not required.

What We Offer

- A vibrant research community in an open, diverse, and international work environment
- Scientific excellence and extensive professional networking opportunities
- The employment contract is limited to three years with the possibility of longer-term prospects
- Salary and social benefits in conformity with the provisions of the Collective Agreement TvöD-Bund
- 30 vacation days per year
- Company pension scheme (VBL)
- A good work/life balance for which we offer assistance in the form of:
 - Possibility to work part-time
 - Flexible working hours
 - In-house health management

Application

Please submit your application (including a one-page cover letter, CV, academic degrees, transcripts, etc.) online on the HZDR application portal:

<https://www.hzdr.de/db/Cms?pNid=490&pOid=61398&pContLang=en>

Deadline:

Review of applications will begin on 24 August 2020, but the position will remain open until filled.

For details please contact:

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