The Institute of Social and Preventive Medicine (ISPM) of Bern performs research in a range of disciplines relevant to public health (www.ispm.unibe.ch). Groups cut across divisions, facilitating an interdisciplinary approach to research in the fields of clinical epidemiology, social and behavioral health, biostatistics, and international and environmental health. The ISPM is highly reputed for its expertise in health effects of environmental exposures, the spread of infectious disease, and the health of vulnerable groups including children and the elderly.

**Postdoc in infectious disease modeling and machine learning for monitoring the SARS-CoV-2 epidemic in near real-time (80-100%)**

Institute of Social and Preventive Medicine (ISPM)

The Interfaculty Platform for Data and Computational Science (INPUT) at ISPM, led by Dr. Christian Althaus, is looking for a highly motivated postdoc to work on a research project funded by the Multidisciplinary Center for Infectious Diseases (MCID, www.mcid.unibe.ch) at the University of Bern. The overall aim of the project is to develop and validate an innovative framework for monitoring epidemic trends of SARS-CoV-2 in near real-time by integrating indirect data sources, such as hospital patient records and social contact data.

**Duties and responsibilities:**
- Contribute to developing a transmission model that integrates multiple data sources in a Bayesian framework
- Apply machine learning methods to determine indicators and early warning signals in hospital patient records that can predict the epidemic dynamics of SARS-CoV-2
- Collaborate with Data Scientists and Data Engineers at the ARTORG Center for Biomedical Engineering Research (www.artorg.unibe.ch) and the Bern University Hospital
- Lead on writing publications and presenting results at international conferences

**Qualifications and skills:**
- Strong quantitative skills with a PhD degree in a relevant discipline (computational biology, epidemiology, biostatistics, mathematics, physics, data science, or a similar field)
- Excellent programming skills in R are required, experience with Stan, Git, Markdown, TeX, and high-performance computing is desirable
- Established scientific track record in infectious disease modeling, Bayesian inference, and/or machine learning (e.g., NLP)
- Ability to work independently as part of a highly collaborative and interdisciplinary team

The position is available immediately and funded for 2 years with the possibility to extend for one more year. The salary is according to the postdoc scale of the Swiss National Science Foundation. The ISPM at the University of Bern offers an international, multidisciplinary, and highly stimulating environment. It encourages independence and flexible working models. For further information about the project, please contact Dr. Christian Althaus (christian.althaus@ispm.unibe.ch) or Dr. Julien Riou (julien.riou@ispm.unibe.ch).

To apply for this position, send a letter explaining your current skills, skills that you would like to develop for this project, why you are suited to the position, and your future career plans, together with your CV in one PDF file to christian.althaus@ispm.unibe.ch and julien.riou@ispm.unibe.ch by 31 March 2022.