



The Swiss Tropical and Public Health Institute (Swiss TPH) is a world-leading institute in global health with a particular focus on low- and middle-income countries. Associated with the University of Basel, Swiss TPH combines research, services, and education and training at the local, national and international level. About 850 people from more than 80 nations work at Swiss TPH focusing on infectious and non-communicable diseases, environment, society and health as well as health systems and interventions.

Malaria is one of the world's most important causes of mortality and morbidity, mainly affecting countries in low endemic areas. Over the past decade, substantial progress has been made globally in reducing malaria burden through increased coverage with vector control interventions and improved access to diagnosis and treatment. However, the funding has recently plateaued, pushing the need to optimize deployment of interventions under careful consideration of countries' local malaria transmission and burden to the forefront of the policy agenda. In recent years, the availability and quality of malaria-relevant data have increased, encouraging countries to use evidence to make decisions, as promoted by the High Burden to High Impact initiative launched by the World Health Organization (WHO). Swiss TPH develops and applies epidemiological, statistical and mathematical methods to evaluate and predict malaria transmission and the impact of interventions. The ultimate goal is to provide support to National Malaria Control Programs (NMCPs) and their partners in their process of evidence-based decision-making.

Our Department of Epidemiology and Public Health (EPH) is seeking a highly motivated

Bioinformatician / R developer

with strong technical and analytical skills to work within the Infectious Disease Modelling Unit. In this role, you will help design evidence-based strategic plans by developing and maintaining programs which provide analytical evidence on how countries can reduce their malaria burden.

Our modelling team mainly uses the simulation platform OpenMalaria, which has been developed by Swiss TPH and is maintained by another team. In your role, you will have a key position between modelers and the simulation platform. You will improve, standardize and maintain workflows of how modelers should use the core platform. You will design, implement and teach code development methods, and provide technical support to the team. Your initiative and creativity shape the way we work and will be a valuable component to boost team productivity and enhance production readiness. A strong technical aptitude is essential.

Responsibilities:

Technical:

- Design and implement R functions to improve, standardize and maintain the workflow, which our modelers depend on to simulate the transmission and burden of malaria in various endemic countries
- Collaborate with modelers to define functional needs and implement new features for the analysis workflow
- Integrate and maintain these functions in R packages according to best coding practices (CI/CD, testing etc.) to standardize analyses and workflows
- Train and support team members and partners on the workflow and developed packages
- Develop and maintain strong working relationships with developers of the main simulation platform

Analytical:

- Calibrate mathematical malaria transmission models and conduct simulations of the impact of malaria transmission and burden for national and sub-national analyses in multiple high-burden countries



- Provide support to infectious disease modelers and epidemiologists for their research, analyses and other needs towards project deliverables
- Any other tasks as required

Skills and qualifications:

- Master's degree in a relevant technical discipline, such as Bioinformatics, Computer Science, Statistics, Informatics or 3+ years of experience in a relevant role
- Proficiency in R with demonstrated experience of writing R packages
- Strong interest in applying computational approaches to support epidemiological questions
- Hands-on experience with conducting and analysing computer simulations
- Great numerical and analytical skills
- Demonstrated experience in management of computational resources, high performance computing, high volume datasets, algorithms, statistical processes
- Previous experience with Geospatial modelling and Machine Learning would be beneficial
- Detail-oriented with excellent organizational and problem-solving skills
- Ability to work in teams, adapt to new challenges and operate as part of a multi-cultural team
- Experience working in fast-paced, output-oriented environments
- Excellent written and oral communication skills in English

Knowledge of the following software is required:

- Unix, Git

Knowledge of the following software / packages would be beneficial:

- C++, testthat / runit, devtools, Gitlab CICD / Travis CI, roxygen2, renv / packrat, Python, Windows 10

Please submit your application online via the link provided below:

If you are interested, please submit your application with

- CV
- Motivation letter
- Relevant diploma and certificates
- Names and contact information (email or phone) of 3 references

Please note that we can only accept applications via our online recruiting tool:

<https://recruitingapp-2698.umantis.com/Jobs/All>

Applications via e-mail or external recruiter will not be considered.

The position will be open for a limited amount of time and will be closed as soon as the right candidate is found. Therefore, we encourage applicants to submit their application as soon as possible. As long as the position is published on the website of Swiss TPH it is still open.

Contact: For additional information about the position contact Emilie Pothin (<https://www.swisstph.ch/en/staff/profile/people/emilie-pothin/>)

Job Profile:

Start Date: Upon agreement

Location: Basel, Switzerland

Duration: Initial two years with opportunity for extensions

Employment: 100%

Travel required? A limited number of short-term travels to Africa and USA