

# VACANCY ANNOUNCEMENT

## Job Summary

**Position:** Senior Research Scientist - Geospatial Modelling (2 Posts)  
**Reports To:** Team Lead/Technical Lead – MAP EA  
**Work Station:** Dar es Salaam  
**Apply By:** 15<sup>th</sup> November 2023

## Institute Overview

**Ifakara Health Institute (IHI)** is a leading research organization in Africa with a strong track record in developing, testing and validating innovations for health. Driven by a core strategic mandate for research, training and services, the Institute's work now spans a wide spectrum, covering biomedical and ecological sciences, intervention studies, health-systems research and policy translation.

## Position Summary

Ifakara is seeking a Senior Research Scientist with advanced modelling skills who will join the Malaria Atlas Project (MAP) East Africa (EA) Node team. The SRS will contribute to the project's mission and objectives of developing and employing cutting-edge advanced geospatial analytical architectures to understand the risks and estimate the burden of *Plasmodium falciparum* and *Plasmodium vivax* malaria, assessing the impact of interventions across various levels and settings at global, regional and national to provide the National Malaria Control Programmes (NMCPs) with the quality evidence to guide optimal allocation of resources in malaria-endemic countries.

MAP seeks out candidates with a growth mindset that love to learn, adapt, create, and develop into independent geospatial modellers/researchers – with mentorship and guidance available from senior MAP members and external collaborators. The post-docs should demonstrate and follow best coding and data-management practices, be creative by adapting/developing methodologies that can be utilized by others within the team and/or used in a complex analytical pipeline. Post-docs should also lead the preparation of scientific reports and journal articles for publication of research findings from their work in open access journals but also contribute to the team communication strategies. This role also involves collaboration with a wide range of malaria stakeholders, translating model outputs to NMCPs and communicating the utility to the malaria decision, building and strengthening analytical skills to others through training, mentoring and supervision.

## Duties and Responsibilities

### Geospatial modelling and coding standards

- Provide statistical expertise in development and implementation of spatiotemporal models to respond to a variety of malaria research questions related to risk estimations, estimating of morbidity and mortality, understanding transmission profiles, and optimizing the impact of interventions.
- Contribute and guide others on communication, disseminating, and interpretation of outputs from analysis and relevant conclusions to key stakeholders.

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### Ifakara Branch

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### Dar es Salaam Office

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 Phone: +255222774756

### Bagamoyo Branch

Off Chuguni Road  
 P.o. Box 74 Bagamoyo  
 Phone: +255232440065

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- Manage own academic research and administrative activities, including small-scale project management to coordinate multiple aspects of the work to meet deadlines.
- Work with the data scientist and data engineering team on creating data-pipelines, setting up computation infrastructure and managing NMCP's data and outputs requests.
- Work collaboratively with other scientists within the wider MAP group to produce estimates of malaria, acting as a source of information and advice to other members of the group.
- Apply due diligence by scrutinizing model results for all project deliverables, reviewing and refining theories as appropriate.
- Maintain rigorous data- and code management practices, including thorough documentation and version control, to ensure data replicability and cross-compatibility with past and future MAP products.

### Publications and engagement

- Contribute ideas for new research projects and for generating research income.
- Contribute to and, as appropriate, lead, in the preparation of scientific reports and journal articles for publication of research findings from this work in open access journals.
- Lead collaboration and engagements with NMCPs to translate and communicate MAP's modelling efforts, products, and outputs to foster utilization and uptake.
- Present the research findings at selected regional and international conferences and meetings.
- Travel to collaborators in different MECs, Europe, the United States, Africa, and Asia.

### Workplace safety

- Take reasonable care for your own safety and health and avoid harming the safety and health of others through any act or omission at work.
- Identify and assess workplace hazards and apply hazard controls.
- Report every workplace injury, illness or near miss, no matter how insignificant they seem.
- Abide by institutional policies and procedures.

### Qualification and Experience

#### Essential skills and competences

- PhD in statistics, biostatistics, mathematics, or a similar quantitative discipline with epidemiological and/or ecological background.
- Expertise in Bayesian approaches (e.g. Gaussian processes) and spatio-temporal modelling with demonstrable understanding of the issues arising from scaling these models to a global scale, validation, assessing performance and sensitivity analysis.
- Experience of multi-metric analysis
- Experience in covariate selection in the context of modelling large and complex data with spatial correlations.
- Proficiency in one or more programming languages (e.g., R/Python, Stata, C++), knowledge of other statistical software and data visualization applications.
- Experience of state-of-the-art statistical software libraries such as INLA, TMB, Py-Torch or similar packages.
- Demonstrable commitment to using best practices in writing code, including the use of source control, code documentation/repositories, and coding standards.

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- Experience of working with national disease programmes, managing relationships with senior stakeholders, data-owners, and collaborators.
- Experience in research design, implementation, analyzing malaria surveillance data in LMICs hence understanding of challenges on data utilization and quality in low resource settings.
- Excellent verbal and written communication skills in English, both professional and courteous manner.
- Ability to manage own academic research, mentoring junior staff, define and meet milestones.
- Demonstrable evidence of having worked successfully within a collaborative, team-based research setting.

### Desirable

- An understanding of the malaria epidemiology and public health surveillance.
- Track record of scientific publications in high quality peer-reviewed journals in the areas of epidemiology, modelling or health system research.
- Experience of working with NMCPs, malaria surveillance including using DHIS2.
- Knowledge and experience in working with ministries of health in LMICs, funding agencies and bilateral organizations.
- Experience in developing and delivering training for different audiences;
- Knowledge of other languages including Swahili, French, Spanish, Portuguese.
- Ability to frequently travel locally, regionally and internationally.

### Remuneration

An attractive and competitive remuneration package will be offered to successful candidates as per IHI salary scales.

### Equal Opportunity

IHI is an equal opportunity employer. We prohibit intentional biases or discrimination and harassment of any kind at the workplace and during recruitment. All employment decisions are based solely on job requirements and individual qualifications, and our recruitment process is governed by the labour laws of Tanzania.

### Mode of Application

All candidates who meet the above job requirements should send their application letters together with their detailed curriculum vitae (CVs) showing contact addresses including email, telephone/cell phone numbers and copies of academic and professional certificates to the email address below.

The **deadline** for this application is **17:00 hrs on Wednesday, November 15th 2023**. All email application subject lines should include: **SENIOR RESEARCH SCIENTIST - Geospatial Modelling – MAP EA Node DAR. Only shortlisted applicants will be contacted for an interview.**

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