

EDUCATION

- 09/2016 – 10/2019 **PhD Epidemiology** - Swiss Tropical and Public Health Institute, University of Basel, Switzerland. Dissertation: Modelling of the impact of malaria control intervention scenarios at local level to inform National Malaria Control Programs.
- 08/2014 – 02/2016 **MSc Epidemiology** - Swiss Tropical and Public Health Institute, University of Basel, Switzerland
Thesis: The Use of Public Primary Schools for Malaria Surveillance in Tanzania
- 03/2011 – 02/2014 **BSc Health Sciences** - University of Applied Sciences Hamburg, Germany
Thesis: The influence of the menopausal hormone therapy on the overall mortality – survival analysis of the control group of the MARIE study.

EXPERIENCE

- Since 01/2020 **Postdoctoral Researcher – Northwestern University**
During my postdoctoral position, I am working on the development of a COVID-19 model calibrated to local data in Illinois. The model is used for weekly updates to the Illinois Department of Public Health to provide a realistic forecast that is used to aid in the decision of strengthening versus relaxation of current mitigation and social distancing strategies. In a separate project I am working on estimating the effect of intermittent preventive therapy against malaria in infants in malaria endemic countries, in particular Nigeria.
- 09/2016 – 10/2019 **PhD Student – Swiss Tropical Public Health Institute**
My PhD research focused on the use of modelling for strategic planning by using country data for district-specific impact predictions of malaria control interventions. I participated in stakeholder meetings for the revision of the national malaria control strategy 2015-2020, in Dar es Salaam. I spend two months in Ifakara to learn more about vector bionomics, in particular about vector breeding sites and larviciding deployment. The work included report writing, preparation of meeting and training material and presentation to different audiences.
- 03/2016 – 08/2016 **Scientific Assistant – Swiss Tropical Public Health Institute**
In this position, I worked on the “School Malaria Parasitaemia Survey” in Tanzania, including data cleaning, writing of data management SOP’s, data analysis and paper writing. The work was conducted in collaboration with the NMCP in Tanzania.
- 03/2015 – 08/2015 **Student Intern – Ministry of Health and Social Welfare Tanzania, National Malaria Control Programme**
As an intern, I was working together with the NMCP on the “School Malaria Parasitaemia Survey”, based in Dar es Salaam. My tasks included preparation of survey documents, supervision of fieldwork, data entry, cleaning, and analysis.

MANUELA RUNGE, PhD

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- 03/2014 – 07/2016 **Medical Data Manager – University Medical Center Hamburg-Eppendorf, Department of Medical Biometry and Epidemiology**
In this role, I was supporting the statisticians in their statistical guidance of researcher and doctoral students at the institute.
- 03/2014 – 06/2014 **Assistant Lecturer – University of Applied Sciences Hamburg, Germany**
As an assistant lecturer, I gave lectures, prepared presentations and supervised student group work. This position was related to the student's seminar: "Surveillance and Health Reporting".
- 06/2013 – 09/2013 **Student Intern – University Cancer Center, University Medical Center Hamburg-Eppendorf, Germany**
My main tasks were to do plausibility checks, data cleaning, merging of datasets, and survival analysis.
- 08/2010 – 02/2011 **Volunteer (Nurse Assistant) – Marienhospital Stuttgart, Department of Internal Medicine and Pneumology, Germany**

VOLUNTEERING

- 05/2020 **Correspondent – Malaria Eradication Alliance (MESA) and MalariaWorld.**
The Daily reporting of selected scientific talks at the BioMalPar XVI: Biology and Pathology of the Malaria Parasite conference (virtual) in Heidelberg, Germany
- 04/2018 **Correspondent – Malaria Eradication Alliance (MESA) and MalariaWorld.**
The Daily reporting of selected scientific talks at the Malaria Initiative Meeting (MIM) in Dakar, Senegal.
- 01/2017 – 03/2018 **PhD student representative – Swiss Tropical and Public Health Institute, University of Basel, Switzerland.**

SKILLS

Software skills: R, (advanced)

Python, HPC, Stata, Git, QGIS, (intermediate)
EpiInfo, LaTeX, ArcGIS, Batch scripting, Unix (basics)
Microsoft Office, Word, Excel, PowerPoint

Languages:

English (fluent)
German (native speaker)
Swahili (basics)
French (learning)

PUBLICATIONS

- Runge, M.**, Mapua, S., Nambunga, I., Smith, T.A., Chitnis, N., Okumu, F., Pothin, E., 2021a. Evaluation of different deployment strategies for larviciding to control malaria: a simulation study. *Malaria Journal* 20, 324.
- Runge, M.**, Richardson, R.A.K., Clay, P., Eagan, A., Holden, T.M., Singam, M., Tsuboyama, N., Arevalo, P., Fornoff, J., Patrick, S., Ezike, N.O., Gerardin, J., 2021b. Modeling robust COVID-19 intensive care unit occupancy thresholds for imposing mitigation to prevent exceeding capacities. *medRxiv* 2021.06.27.21259530.
- Ozodiegwu, I.D., Ambrose, M., Battle, K.E., Bever, C., Diallo, O., Galatas, B., **Runge, M.**, Gerardin, J., 2021. Beyond national indicators: adapting the Demographic and Health Surveys' sampling strategies and questions to better inform subnational malaria intervention policy. *Malaria Journal* 20, 122.
- Holden, T.M., Richardson, R.A.K., Arevalo, P., Duffus, W.A., **Runge, M.**, Whitney, E., Wise, L., Ezike, N.O., Patrick, S., Cobey, S., Gerardin, J., 2021. Geographic and demographic heterogeneity of SARS-CoV-2 diagnostic testing in Illinois, USA, March to December 2020. *BMC Public Health* 21, 1105.
- Armstrong, E., **Runge, M.**, Gerardin, J., 2021. Identifying the measurements required to estimate rates of COVID-19 transmission, infection, and detection, using variational data assimilation. *Infectious Disease Modelling* 6, 133–147.
- Runge, M.**, Molteni, F., Mandike, R., Snow, R.W., Lengeler, C., Mohamed, A., Pothin, E., 2020a. Applied mathematical modelling to inform national malaria policies, strategies and operations in Tanzania. *Malaria Journal* 19, 101.
- Runge, M.**, Snow, R.W., Molteni, F., Thawer, S., Mohamed, A., Mandike, R., Giorgi, E., Macharia, P.M., Smith, T.A., Lengeler, C., Pothin, E., 2020b. Simulating the council-specific impact of anti-malaria interventions: A tool to support malaria strategic planning in Tanzania. *PLoS ONE* 15, e0228469.
- Thawer, S.G., Chacky, F., **Runge, M.**, Reaves, E., Mandike, R., Lazaro, S., Mkude, S., Rumisha, S.F., Kumalija, C., Lengeler, C., Mohamed, A., Pothin, E., Snow, R.W., Molteni, F., 2020. Sub-national stratification of malaria risk in mainland Tanzania: a simplified assembly of survey and routine data. *Malaria Journal* 19, 177.
- Brunner, N.C., Chacky, F., Mandike, R., Mohamed, A., **Runge, M.**, Thawer, S.G., Ross, A., Vounatsou, P., Lengeler, C., Molteni, F., Hetzel, M., 2019. Evaluating the potential of pregnant women as a sentinel population for malaria surveillance.
- Chacky, F., **Runge, M.**, Rumisha, S.F., Machafuko, P., Chaki, P., Massaga, J.J., Mohamed, A., Pothin, E., Molteni, F., Snow, R.W., Lengeler, C., Mandike, R., 2018. Nationwide school malaria

parasitaemia survey in public primary schools, the United Republic of Tanzania. *Malaria Journal* 17, 452.

CONFERENCE PRESENTATIONS

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| 2020 | “Estimating the potential effectiveness of wide-scale implementation of intermittent preventive therapy in infants in Southern Nigeria”. American Society of Tropical Medicine 69 th annual meeting (poster presentation) |
| 2019 | “Modelling the role of <i>An. funestus</i> in a setting where insecticide-treated nets are already widely used but malaria transmission persists”. American Society of Tropical Medicine 68 th annual meeting (poster presentation) |
| 2018 | “Modelling the impact of different larviciding deployment regimens to inform strategic planning”. American Society of Tropical Medicine 67 th annual meeting (poster presentation) |
| 2017 | “Varying impact of malaria interventions at district level – implications of a mathematical model for strategic planning”. American Society of Tropical Medicine 66 th annual meeting (oral presentation) |
| 2017 | “A nationwide school malaria parasitaemia survey (SMPS) in Tanzania”. European Conference for Tropical Medicine and Health (poster presentation). |