Dear candidate,

Thank you for giving us the opportunity to get to know you today. As discussed during the interview, please find attached below two datasets.

- CROSS (cross sectional dataset)

- LONG (longitudinal dataset)

Related to these datasets are the following tasks:

CROSS:

This is about the disease loiasis. A disease transmitted by a fly which lives in the tropical rain forest. The case definition of loiasis is to either have microfilariae in the blood (variable “mf”) or have a worm migrate through the eye (variable “eyeworm”). Is there an association between individuals positive for the above-mentioned loiasis case definition and different levels of exposure to the tropical rain forest (variable “exposureforest”). Conduct an analysis that you deem appropriate for this task and present tables/graphs as deemed necessary to support your results and analysis strategies. Does the presence of “itch”, “age”, or “sex” influence this potential relationship (confounders? effect modifiers?). Please present your results/tables/graphs in a short word document.

LONG:

This is about relapses of vivax malaria. Conduct a Kaplan-Meier analysis to visualise the time-to-event situation. A positive event is coded as ‘1’, a negative event as ‘0’. Are there differences in the time-to-event analysis related to sex, or age? Present tables/graphs as deemed necessary/apprpriate to support your results and analysis strategies. Also, perform a cox-proportional hazard model (or Poisson model) to test whether males have a higher hazard (or risk for Poisson) for the event than females. Does age confound/modify the effect of sex on the event hazard (or risk for Poisson). Please present your results/tables/graphs in a short word document.