

## FMfI2023 Poster Session

Name	Himal Shrestha
Affiliation	Department of Environment and Genetics, La Trobe University, Melbourne, Australia
Poster title	<b>Understanding persistent transmission of river blindness in northwestern Ethiopia using spatially structured mathematical models.</b>
Abstract	<p>River blindness/onchocerciasis, caused by a filarial parasite transmitted by blackflies, is targeted for elimination with mass drug administration of ivermectin (MDAi). Despite progress, transmission persists in some areas, including Metema and Metekel in northwestern Ethiopia. Transmission is continuing in Metekel, and nearing elimination in Metema, where the MDAi has stopped except for few positive communities. Using spatially structured mathematical models, we show that blackfly migration from Metekel to Metema is likely driving some onchocerciasis transmission in Metema, with the potential for its resurgence if MDAi is stopped. These models can inform decisions on stopping MDAi and aid global efforts towards sustainable onchocerciasis elimination.</p>
Short Bio	<p>Himal recently submitted his PhD in Bioinformatics and currently working as a researcher in the vector and nematode genomics lab at La Trobe University, Melbourne, Australia. His project is focused in developing spatially explicit models of transmission of a parasitic disease called onchocerciasis (river blindness), a vector-borne neglected tropical disease common in sub-Saharan Africa. He uses genetic, epidemiological, and environmental data to understand onchocerciasis transmission in Africa. His research interests include modelling of infectious diseases, genomic epidemiology, geospatial modelling, impact of climate change, and spatial genetics.</p>