

## **Joceline Lega**

**Title:** Transportation network approaches for forecasting the spread of mosquito-borne diseases

**Abstract:** When diseases move to new areas - think of Zika, or of the 2014-15 chikungunya outbreak in the Americas - public health officials need to know how to assess risk and how to respond. Mathematical models can help, for instance by (i) describing risk based on predictions for the presence and abundance of the mosquitoes carrying such diseases, and (ii) identifying how fast a specific disease is likely to spread in a given geographic area. I will review some of the results we recently obtained for topic (i) and focus on a promising method to address (ii). This work is done as part of a transdisciplinary collaboration with colleagues in the College of Public Health and the School of Geography and Development.