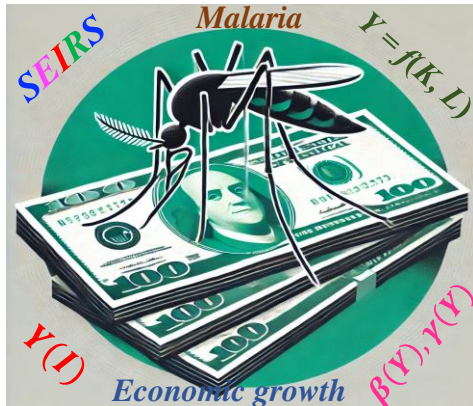




Hands-on Undergraduate Workshop: Exploring the Interplay Between Malaria and Economic Growth



University of Florida, Gainesville | Spring 2025 (March 26-30, 2025)



Malaria is a life-threatening vector-borne disease caused by *Plasmodium* parasites and transmitted from one human to another by female *Anopheles* mosquitoes. It affects tropical regions of the world disproportionately. With hundreds of millions of cases and over half a million deaths annually, malaria strains healthcare systems and perpetuates poverty through illness-related productivity losses and high healthcare costs. Malaria's economic burden not only hinders individual livelihoods but also slows national economic growth.

Delve into the transformative power of mathematics in addressing one of the world's most urgent health and economic challenges. This engaging, hands-on workshop brings together undergraduate and high school students to explore the complex intersection of malaria dynamics and economic growth through mathematical modeling. Co-organized by Professors Calistus Ngonghala (University of Florida), Olivia Prosper (University of Tennessee), and Ruijun Zhao (Minnesota State University, Mankato), this immersive experience will introduce participants to empirical knowledge on malaria and techniques for modeling malaria dynamics, quantifying its health and economic impacts, and examining its feedback effects on economic development. Additionally, the workshop will feature engaging panel discussions on topics such as the research project life cycle, overcoming challenges in undergraduate research, exploring opportunities in mathematical biology, and achieving work-life balance as a mathematical biologist, as well as one-on-one mentoring sessions to provide personalized guidance. Refer to the tentative schedule [here](#).

The workshop welcomes undergraduate and high school students interested in mathematics, public health, biology, or economics, with no prior experience in mathematical modeling required.

With some funding from the National Science Foundation, the Department of Mathematics, the College of Liberal Arts and Sciences, and the University of Florida Research Office, we will be able to offer partial or full financial support for travel, shared accommodation, and dinner up to a maximum of \$900 to a limited number of participants traveling over 150 miles to Gainesville, Florida. Breakfast, lunch, and refreshments during tea/coffee breaks will be provided to all participants. To be fully considered, submit your application by January 31, 2025, via [this form](#) and ensure a recommendation letter is sent directly to calistusnn@ufl.edu.

Discover how math shapes solutions to global health and economic challenges—join us for this immersive, funded workshop and make an impact!

