

BI-CO MATHEMATICS COLLOQUIUM

Nsoki Mavinga
Swarthmore College

“Fućik Spectrum and Solvability of Nonlinear Differential Equations”

Monday, April 3, 2023
Talk at 4:00 – Hilles 109
Tea 3:30 – Foyer outside of H109

Abstract:

In this talk, we will first give an overview of the Fućik spectrum of a differential operator. This spectrum corresponds to oscillations of an asymmetric system where different reaction forces act in the positive and the negative directions. A simplified model of a suspension bridge serves as an example of an application related to the Fućik spectrum. Then we will discuss the solvability of nonlinear differential equations when the nonlinearity interacts with the spectrum.