



Colloquium

November 8, 4:05 p.m. (9th Period)
(in the Atrium)

Speaker: Celeste Vallejo

Title: “All models are wrong but some are useful”

Abstract

A mathematical model of a biological process is an approximation of the system. Simplifying assumptions of the biological system are necessary in order for an analysis to be performed. Compartmental models, such as the classic Susceptible-Infected-Recovered (S-I-R) model, are one of the simplest forms that a model can take. In this talk, I will describe how to develop a compartmental model in the context of disease transmission. Further, I will present the pros and cons of this type of modeling. As a solution to some of the drawbacks of a typical S-I-R model, I will introduce an alternative method of modeling that uses Little’s Law to develop a system in which all rates of movement between compartments can be measured.