



**MMI**

Maud Menten Institute  
Mathematics for the Life Sciences



**University  
of Victoria**



***Maud Menten Institute /  
Mathematical and Statistical Biology Seminar***

**Monday, October 7, 2024**

**12 pm PST (in person)**

**David Strong Building (DSB) C-130**

Join Zoom Meeting

<https://uvic.zoom.us/j/89270000801>

Meeting ID: 892 7000 0801

**Caroline Colijn**

Department of Mathematics  
Simon Fraser University

**A theory, not just a theory, or not even a theory? Strengths and pitfalls of  
quantitative modelling**

In this talk, I'll take a birds-eye view of mathematical modelling. What is it? Is a model "a theory"? Is it "just a theory"? What can it accomplish, and how can it fail? I will outline an array of roles of (mechanistic) modelling in science, and outline some less-well-known uses of modelling. I will also describe some weaknesses of modelling, as I see them. I will argue that modelling can fail to be good science, and that modelling can even do harm in some contexts. I will propose that the onus is at least partly on modellers to prevent this, and I will make some comments and initiate discussion about how this might be approached. There will be cartoons.

