



# Introduction to practical disease modeling

ISVEE 2022 pre-symposium workshop,  
Halifax, 6<sup>th</sup>-7<sup>th</sup> August 2022



## Course description

Simulation modeling is an approach often used in the veterinary and human medicine for modeling disease spread and control. The course will focus on fundamental concepts in modeling. It will teach the student how to structure a system into a simulation model and the fundamental aspects that must be considered when building a simulation model of disease spread. Participants will learn how to model diseases using SIS, SIR and SEIR infection model structures, and will be introduced to modelling using some of the most often used epidemiological models. The participants will learn how to collect the results either during the simulations or after, and to present them in tables and graphics.

## Course requirements

Basic knowledge and experience of programming using the software R.

## Learning objectives

Students who have met the course objectives will be able to:

- Understand infectious disease principles relevant to disease modelling
- Construct a dynamic simulation model framework in R
- Determine model characteristics and requirements for validation
- Use the model to investigate a research question

## Course materials

Complete notes, R code, relevant scientific papers

## Course information

**Course language:** English

**Target group:** Post-graduate students in veterinary and medical infectious diseases fields

**Location:** Hotel Marriott Harbourfront, Halifax

**Fees:**

Regular participants: \$850

Student participants: \$650

**Teaching form:** On-site lectures, computer exercises and group work.

**Duration:**

2 days pre-symposium course

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