

Monday December 3 rd	Tuesday December 4 th	Wednesday December 5 th	Thursday December 6 th	Friday December 7 th
9:00 to 12:00 am General introduction to mathematical modelling: concepts, objectives and main classes of epidemic models (population vs individual based, deterministic vs stochastic, spatial models) Instructor: E. Vergu (INRA, Jouy-en-Josas)	9:00 to 12:00 am The basic reproduction number (R0): defining the concepts and expression derivation. Exercises. Instructor: E. Vergu (INRA, Jouy-en-Josas)	9:00 to 12:00 am What can we learn from mathematical models? Unnaturally-born outbreaks as an example (1): general concepts and main objectives Instructor: E. Vergu (INRA, Jouy-en-Josas)	9:00 to 12:00 am Analysis of temporal patterns of the spread of an epidemic. Case study on the analysis of drug sales to model an epidemic of scabies Instructor: P. Crépey (EHESP, Rennes)	9:00 to 12:00 am Introduction to the methods and issues surrounding parameter estimation in epidemic models (1): general concepts and main objectives. Instructor: B. Nikolay (Institut Pasteur)
12h: Lunch	12h: Lunch	12h: Lunch	12h: Lunch	12h: Lunch
1:00 to 4:00 pm Building SIR-like epidemic models: various structures for various situations. Instructor: E. Vergu (INRA, Jouy-en-Josas)	1:00 to 4:00 pm Predicting the effect of interventions with the reproduction number Instructor: E. Vergu (INRA, Jouy-en-Josas)	1:00 to 4:00 pm What can we learn from mathematical models? Unnaturally-born outbreaks as an example (2): articles reading and practical aspects Instructor: E. Vergu (INRA, Jouy-en-Josas)	1:00 to 4:00 pm Network modelling: from theory to practice. Lab work on an epidemic simulator able to capture the worldwide spreading of diseases. Instructor: P. Crépey (EHESP, Rennes)	1:00 to 4:00 pm Introduction to the methods and issues surrounding parameter estimation in epidemic models (2): practical aspects. Instructor: : B. Nikolay (Institut Pasteur)