

**CORNELL SUMMER PROGRAM
2010**

**“TOOLS FOR INFECTIOUS-DISEASE EPIDEMIOLOGY:
DIAGNOSIS, MODELING AND RISK”**

Module I: August 2, 9 am –August 4, noon
Module II: August 4, 1pm – August 6, 4pm

**College of Veterinary Medicine
Cornell University
Ithaca, NY**

Introduction

Cornell is again interested in giving our summer course “Tools for Infectious-Disease Epidemiology.” The course contents are distributed among two modules: 1) risk assessment (2 and a half day) and 2) infectious-disease models (2 and a half day). This year we have modified the workshop to make each module independent so it can be taken either separately or both modules jointly.

This course is designed for veterinarians, other animal-health professionals, and graduate students who need proficiency in infectious-disease epidemiology. Participants are expected to come to the course with a basic understanding of infectious-disease biology and diagnostic-test terminology.

Faculty

Yrjö T. Gröhn, Cornell University
Hussni O. Mohammed, Cornell University
Daryl V. Nisbet, Cornell University
Ynte H. Schukken/Cristina Lanzas, Cornell University

Schedule – includes lunch, a.m. & p.m. breaks

Module I: Risk Analysis (August 2, 9 am –August 4, noon)

Day 1:

Morning: **Concepts in Risk Analysis.** Microbial, Animal Health, Ecological risk, and Zoonotic assessment

Afternoon: **Laboratory session**—Risk-assessment tools: Scenario pathways; qualitative and quantitative methods in risk assessment. Development of qualitative models (case-study *Cryptosporidium* in man and animals). Deterministic approaches.

Day 2:

Morning: **Exposure assessment and Dose-response models:** Methods, challenges and application using stochastic approaches and simulations. Application of the concepts using @Risk.

Afternoon: **Laboratory session—Uncertainty and variability** Integration of exposure assessment and dose response into simulation models for the case-study. Account for uncertainty and variability.

Day 3:

Morning: **Risk characterization and Mitigation** Sensitivity analysis. Application and interpretation in the case-study using risk based metrics.

Module II: Infectious Disease Modeling (August 4, 1pm – August 6, 4pm)

Day 1:

Afternoon: **Introduction to Infectious disease modeling:** SIR models, Reproduction ratio, Herd Immunity.
Practical: BHV1 infection in a dairy herd, Simple spreadsheet model.

Day 2:

Morning: **Practical:** Setting up and interpreting simple models in ModelMaker
Modeling Dynamics of Salmonella infection in a dairy herd.
Afternoon: **Impact of vaccination on the dynamics of infectious diseases**
Modeling the impact of vaccines in a dairy herd: Salmonella example.

Day 3:

Morning: **Stochastic models** – small sample size, fade out.
Case study: The risk and control of Salmonella outbreaks in calf-raising operations.
Practical: ModelMaker practical related to Salmonella
Afternoon: **Mathematical modeling beyond SIR models for foodborne pathogens**
Metapopulation models and within host models
Example: antimicrobial resistance dissemination

Practical: Metapopulation models and within host models
Example: antimicrobial resistance dissemination

Participants may enroll in Module I (\$500) or Module II (\$500) separately or combined (\$900). Students fee \$350 per part and \$600 combined. Accommodations not included.

Further Information and Registration

Please direct inquiries to: Amanda Mott, Cornell College of Veterinary Medicine, S2 169 VEC, Cornell University, Ithaca, NY, 14853-6401, Telephone: 607-253-3200, Fax: 607-253-3198, Email: amm36@cornell.edu

Registration – Register online at www.vet.cornell.edu/education/ConEd.htm

Please register me for the 2010 Summer Program, “**Tools for Infectious-Disease Epidemiology: Diagnosis, Modeling and Risk,**” being held at Cornell’s College of Veterinary Medicine.

Registration includes 3 lunches, 5 breaks, 1 copy of proceedings, a certificate of completion, and a parking permit if requested for each registered 2.5 day session.

Name _____

Employer Name _____

Address _____

City, State, Zip _____

Daytime telephone _____ Email address _____

___ \$500 for Module I (August 2-4)

___ \$500 for Module II (August 4-6)

___ \$900 for Module I and II (August 2-6) if paid before July 1, registrations received after July 1 please pay

___ \$1000 for Parts I and II

Student registration:

___ \$350 for Module I (August 2-4)

___ \$350 for Module II (August 4-6)

___ \$600 for Modules I and II (August 2-6) if paid before July 1, registrations received after July 1 please pay

___ \$700 for Modules I and II

___ I am driving and will need a parking permit.

___ I will require vegetarian meals.

Please make checks payable to Cornell University (US bank checks only).

Bill my credit card ___ Visa ___ Mastercard ___ Discover ___ AmEx

Card Number: _____

Expiration date: _____ CVV: _____

Please mail or fax registration to: Amanda Mott, Cornell College of Veterinary Medicine, S2 169 VEC, Ithaca, NY, 14853-6401, Telephone: 607-253-3200, Fax: 607-253-3198, Email: amm36@cornell.edu

Cancellation Policy: Your fee, less a \$100 processing charge, will be refunded for cancellations on or before July 1. No refund will be granted for failure to attend without notification.

Housing

Participants are responsible for making hotel reservations. Hotel rooms have been blocked at the **Ithaca Ramada Inn**, 2310 N. Triphammer Road, Ithaca, NY, 607-257-3100. Please refer to the Epidemiology Program to receive the \$99.95/night rate. Room blocks are being held until July 1. The hotel provides shuttle service to and from Cornell University starting at 7:00 am upon request.