

Workshop title: **Spatial Infectious Network Modeling using R and NetLogo**

INSTRUCTORS:

1. Asst.Prof.Dr. Anuwat Wiratsudakul, DVM, MVPH, PhD
Faculty of Veterinary Science, Mahidol University, Thailand
2. Dr. Peerawat Chintrakulchai, DVM
Faculty of Medicine and Public Health, Chulabhorn Royal Academy, Thailand

WORKSHOP INFORMATION:

Duration of the workshop: 2 days (Post-workshop: October 11-12, 2019)

Venue: UC Davis Conference Center or the Gladys Valley Hall

Learning outcomes of the workshop:

After completing the course, participants will be able to:

1. Apply the concepts of spatial infectious network modeling in a research topic of interest
2. Construct a spatial infectious network model using both R and NetLogo programs

Required background and skills:

Participants should have background on veterinary or other medical-related fields and are familiar with coding language programs such as R, MathLab or Python.

Cost / participant:

- General participant: 159 USD* (for 2 days)
- Student: 129 USD* (for 2 days)

* The rates include workshop charges for coffee breaks and meals at 30 USD/day



Expected number of participants: 15 - 20

The history of the workshop:

Dr. Wiratsudakul has an experience in offering a similar workshop entitled "Network analysis with program R" at Department of Ethology, Wildlife and Laboratory Animals, School of Veterinary Medicine and Animal Science (FMVZ), National Autonomous University of Mexico (UNAM), Mexico City, Mexico. It was a 4-day workshop (March 21-24, 2017). There were around 20 attendees. However, we will focus more on spatial entities in our workshop. Moreover, NetLogo will be also introduced, in addition to R, in order to provide an alternative approach to participants.



WORKSHOP CONTENTS AND SCHEDULE:

Date	Time	Topic	Presenter	Format
October 11, 2019	8.30-10.30	Basic concepts of spatial infectious network modeling	AW*	Interactive lecture
	10.30-11.00	Coffee break		
	 11.00-12.00	Spatial infectious network modeling with R (demonstration)	AW & PC**	Interactive lecture and computer lab
	12.00-1.00	Lunch		
	1.00-3.00	Hands-on exercise: spatial infectious network modeling with program R	AW & PC	Computer lab
	3.00-3.30	Coffee break		
	3.30-4.30	Hands-on exercise: spatial infectious network modeling with program R (cont.)	AW & PC	Computer lab
	4.30-5.00	Wrap-up and feedback	AW & PC	Panel-like discussion
October 12, 2019	8.30-10.30	Formulation of research questions with spatial infectious network modeling	AW	Interactive lecture
	10.30-11.00	Coffee break		
	 11.00-12.00	Spatial infectious network modeling with NetLogo (demonstration)	AW & PC	Interactive lecture and computer lab
	12.00-1.00	Lunch		
	1.00-3.00	Hands-on exercise: spatial infectious network modeling with NetLogo	AW & PC	Computer lab
	3.00-3.30	Coffee break		
	3.30-4.30	Hands-on exercise: spatial infectious network modeling with NetLogo (cont.)	AW & PC	Computer lab
	4.30-5.00	Wrap-up and feedback	AW & PC	Panel-like discussion

*AW = Asst.Prof.Dr. Anuwat Wiratsudakul

**PC = Dr. Peerawat Chintrakulchai



SHORT BIOGRAPHIES OF INSTRUCTORS:

Dr. Anuwat Wiratsudakul is an assistant professor in epidemiology at Department of Clinical Sciences and Public Health, Faculty of Veterinary Science, Mahidol University, Thailand. He graduated his DVM from the same university in 2008. He then continued his study for a Master of Veterinary Public Health (MVPH) degree at Freie Universität Berlin, Germany and Chiang Mai University, Thailand. In 2014, he got a PhD on Ecology (emphasizing on Epidemiology) from Université Blaise Pascal, Clermont-Ferrand II, France. His research themes are on mathematical modeling for infectious diseases, social network analysis and spatial epidemiology.

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Dr. Peerawat Chintrakulchai is an instructor at Faculty of Medicine and Public Health, Chulabhorn Royal Academy, Thailand. He got his DVM from Faculty of Veterinary Science, Mahidol University, Thailand in 2018. He is a formal student of Dr. Wiratsudakul. His research of interest is also on infectious disease epidemiology. He will be a teaching assistant in the workshop.

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