

Date

10:00-12:00, 14:00-16:00  
July 24 and July 27, 2026

Venue

Lecture Room B, 4<sup>th</sup> Floor,  
The 3<sup>rd</sup> General Building, NTHU

2026 NCTS

# Summer Course on Mathematical Biology

## Course Background & Purposes

Mathematical modeling can play an important role in the understanding of mechanisms in biological systems. Motivated by this, we intend to introduce mathematical models of Infectious Disease Transmission. Theory of monotone systems has been successfully used to investigate the global dynamics of Infectious Disease models.

Thus, we will provide a brief introduction to monotone systems in this course. We will also discuss how the fitting of the developed models into experimental data of Infectious Disease can be used to validate the models and estimate model parameters. Besides, the interesting topic about Machine Learning Approaches into Models for Disease Control will also be introduced in this summer course.

## Course Outline & Descriptions

### Lecture-1

*Mathematical Models of Infectious Disease Transmission*

Speaker: **Naveen K. Vaidya** San Diego State University

### Lecture-2

*Theoretical Model Analysis and Disease Spread Criterion*

Speaker: **Feng-Bin Wang** ChangGung University

### Lecture-3

*Data-Informed Phenomena into Disease Models*

Speaker: **Naveen K. Vaidya** San Diego State University

### Lecture-4

*Machine Learning Approaches in to Models for Disease Control*

Speaker: **Naveen K. Vaidya** San Diego State University

## Speakers

**Naveen K. Vaidya**

San Diego State University

**Feng-Bin Wang**

Chang Gung University

## Organizers

**Feng-Bin Wang**

Chang Gung University

**Chang-Hong Wu**

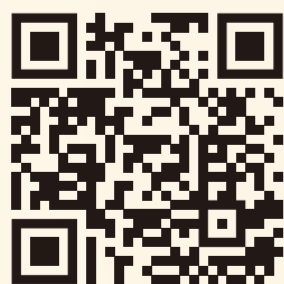
National Yang Ming Chiao Tung University

**Chang-Yuan Cheng**

National Kaohsiung Normal University



Information



Registration

## Contact

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