

**Saturday March 10 – Decision Theater Conference Room**

<u>Session 4: Theoretical disease transmission dynamics</u>		
8:00-8:20	Lin Wang	“Modeling Diseases with Latency and Relapse”
8:25-8:45	Baojun Song	“Basic Re-infection Number and Backward Bifurcation”
8:50-9:10	Thanate Dhirasakdanon	“A sharp threshold for disease persistence and extinction in patchy host populations”
9:15-9:35	Shigui Ruan	“Modeling Incubation Periods in Vector-Host Interactions for Malaria Transmission”
9:40-10:00	<i>Coffee Break</i>	
<u>Session 5: Pandemics and Public Health Surveillance</u>		
10:00-10:20	Gerardo Chowell-Puente	“Quantifying the Transmissibility of Seasonal and Pandemic Influenza”
10:30-10:50	Julien Arino	“Diseases in metapopulations – some numerical experiments about SARS”
10:55-11:15	Sara Del Valle	“Can Temporal Behavioral Changes Generate Waves during a Pandemic?”
11:20-11:40	Dena Schanzer	“Statistical Estimates of Annual Influenza illustrating Transmission Dynamics and Spatial Spread”
12:00-1:00	<i>Lunch (on your own)</i>	
1:00-4:00	<i>Desert Outing (Sergei Suslov) – meet at DT</i>	
1:00-4:00	<i>Business Meeting – Southwest Consortium for Mathematical and Life Sciences – DT conference room</i>	
	<i>Conference ends</i>	

**The Mathematics of Global Public Health  
Arizona State University, March 7-10, 2007  
Program**

**Wednesday March 7 - CP COM 120**

<u>Session 1: Vaccines and Immunity</u>		
8:00-8:20	Eunha Shim	“Mathematical models of rotavirus transmission in the presence of maternal antibodies and vaccination”
8:25-8:45	Luis Gordillo	“Bimodal Epidemic Size Distributions for Near-Critical SIR with Vaccination”
8:50-9:10	Nicolas Lanchier	“Individual versus cluster recoveries on social networks”
9:15-9:35	Beni Sahai	"Understanding the puzzle of immunity to influenza"
9:40-10:00	<i>Coffee Break</i>	
<u>Plenary session 1</u>		
10:00-10:45	James Watmough	“The final size of an epidemic”
10:55-11:40	Ping Yan	"Size equivalent outbreaks, invariant quantities and Operations Research in public health"
11:50-1:30	<i>Lunch (on your own)</i>	
<u>Session 2: Vector-Borne Diseases</u>		
1:30-1:50	Sarah Hews	“2002 Dengue Outbreak in Colima, Mexico: A Clinical Analysis and Reproduction Number Estimate”
2:00-2:20	Ananias Escalante	“The ecology of human malaria from a molecular perspective”
2:30-2:50	Huai Ping Zhu	“Transmission dynamics of West Nile virus”
4:00-5:30	<i>Opening Ceremony – Carson Ballroom, Old Main</i> Tim Lant, Jianhong Wu, Carlos Castillo-Chavez, Cheri Shakiban, Janet Best	

Organizing Committee: Carlos Castillo-Chavez,  
Christopher Kribs-Zaleta, Yang Kuang, Tim Lant, Jianhong Wu

## Thursday March 8 - CPCOM 120

### Session 3: Dynamics of Bacterial Infections

- 8:00-8:20 Pauline Van den Driessche “Spread of Gonorrhoea among the Ariaal”
- 8:25-8:45 Christopher Kribs Zaleta “A susceptible-infected-pathogen model for cholera transmission”
- 8:50-9:10 Hongbin Guo “Global Analysis of a Mathematical Model of TB”
- 9:15-9:35 Lih-Ing Roeger “The Impact of HIV Infection on Tuberculosis  $R$ ”

10:00-10:30 *Coffee Break*

### Plenary session 2

- 10:30-11:10 Horst Thieme “Apparent paradoxes in disease models with horizontal and vertical transmission.”
- 11:20-12:00 Zhilan Feng “Balancing biological realism and mathematical tractability in infectious disease modeling”

12:10-1:00 *Lunch – Decision Theater (Brickyard Orchid House) Executive Conference Room*

1:00-2:30 *Tour of DT and student poster session*  
Decision Theater & Decision Center for a Desert City

2:45-3:15 *Refreshments – PSA 206*

3:15-4:30 *ASU Distinguished Lecture – PSH 152*  
Simon Levin “Individual choices, cooperation and the Global Commons: Mathematical Challenges in Uniting Ecology and Socioeconomics for a Sustainable Environment”

6:00 *Banquet – Karsten Trophy Room, ASU Golf Course*

## Friday March 9 – Carson Ballroom, Old Main

### Plenary session 3

- 8:00-8:40 Avner Friedman “Multiscale models of tumors”
- 8:50-9:30 Luis Bettencourt “Detecting the onset of human transmission in avian influenza outbreaks”

9:40-10:00 *Coffee Break*

### Plenary session 4

- 10:00-10:50 Fred Brauer “A look at mathematical epidemiology 2001-2010”
- 10:55-11:45 Karl Hadeler “The effect of quiescent phases on dynamical systems and biological models”

12:00-2:00 *Luncheon – Carson Ballroom*

- 2:00-2:25 Yuan Lou “Profiles of steady states for diffusive SIS epidemic models”

### Plenary session 5

- 2:30-3:20 Gabriel Leung “Translating mathematics into health protection: Hong Kong’s experience”
- 3:20-3:40 *Coffee break*
- 3:40-4:30 Nancy Kopell “Multiple Rhythms and Switches in the Nervous System”

7:00 *Party at the home of Carlos Castillo-Chavez*

### WORKSHOP SPONSORS:



Public Health  
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Session Chairs:

Session 1 (Wed 8:00) Tim Lant

Session 2 (Wed 1:30) Janet Best

Session 3 (Thu 8:00) Luis Bettencourt

Session  $\pi$  (Fri 2:00) Alicia Urdapilleta

Session 4 (Sat 8:00) Jianhong Wu

Session 5 (Sat 10:30) Omayra Ortega

Plenary Session Chairs:

Plenary 1 (Wed 10:00) Yang Kuang

Plenary 2 (Thu 10:30) Paul Waltman

Plenary 3 (Fri 8:00) David Murillo

Plenary 4 (Fri 10:00) Christopher Kribs Zaleta

Plenary 5 (Fri 2:30) Erika Camacho