

2018 NCTS Workshop on Mathematical Biology

Date: May 28 – June 1, 2018

Venue: Lecture Room A, 4th Floor, The 3rd General Bldg., NTHU

Date: May. 28, 2018

9:30–10:00	Registraion	
10:00–10:30	<i>Opening and group photo</i>	
	<i>Director of NCTS</i>	Jung-Kai Chen
	<i>Deputy Director of NCTS</i>	Ming-Chih Lai
Chair:	Chiun-Chuan Chen	
10:30–11:10	<i>Spreading Waves in a Farmer and Hunter-gatherer Model in the Neolithic Transition in Europe</i>	Masayasu Mimura
11:10–11:30	Tea Break	
11:30–12:10	<i>Dynamics of a Consumer-resource Reaction-diffusion Model: Homogeneous vs. Heterogenous Environments</i>	Wei-Ming Ni
12:10–14:00	Lunch Break	
Chair:	Michael Y. Li	
14:00–14:30	<i>Some Interesting Results on Evolution of Bifurcation Curves for a One-dimensional Dirichlet-Neumann Problem with Cubic Nonlinearity</i>	Shin-Hwa Wang
14:30–15:00	<i>Dispersion Relations of Periodic Quantum Graphs Associated with Archimedean Tiling</i>	Chun-Kong Law
15:00–15:30	Tea Break	
Chair:	Chang-Yuan Cheng	
15:30–16:00	<i>A Periodic Disease Transmission Model with Asymptomatic Carriage and Latency Periods</i>	Yuan Yuan
16:00–16:30	<i>Invariant Cone Families in Infinite-dimensional Dynamical Systems</i>	Yi Wang
16:30–17:00	<i>Modeling the Population Dynamics for Stage-structured Species</i>	Yijun Lou
18:00–20:30	Reception	

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Chair: Shigui Ruan

10:00–10:30 *Mathematical Modeling of Infectious Diseases: Life is a Circle* Ying-Hen Hsieh

10:30–11:00 *Oscillatory Dynamics of an Intravenous Glucose Tolerance Test Model with Delay Interval* Yang Kuang

11:00–11:30 Tea Break

11:30–12:00 *From Mathematical Biology, Dynamical System to Mathematical Analysis* Ting-Kung Luo

12:00–14:00 Lunch Break

Chair: Yihong Du

14:00–14:30 *Spatial Dynamics of a Nonlocal Dispersal Population Model in a Shifting Environment* Xiaoqiang Zhao

14:30–15:00 *Uniform Persistence and Global Stability of a Well-Mixed Multiplex Epidemic Model with Distributed Time Delay* Jonq Juang

15:00–15:30 Tea Break

Chair: Yuan Yuan

15:30–16:00 *Spreading Speeds of Nonlocal KPP Equations via Generalized Principal Eigenvalues and Homogenization* Xing Liang

16:00–16:30 *Accelerating Propagation in a Nonlocal Population Model with Time Delay* Jian Fang

Chair: Ching-An Wang

16:30–17:00 *Weakly Interaction between Traveling Waves in the Three-species Competition-diffusion Systems* Chueh-Hsin Chang

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Date: May. 30, 2018

Chair: **Xiaoqiang Zhao**

10:00–10:30	<i>Some Dynamical Behaviors for a Singular Predator-prey Model</i>	Jong-Sheng Guo
10:30–11:00	<i>Logarithmic Shifting in Spreading Governed by the Fisher-KPP Porous Medium Equation</i>	Yihong Du
11:00–11:30	Tea Break	
11:30–12:00	<i>Assessment on Early Regeneration Process in Tropical Rain Forests</i>	Yu-Yun Chen
12:00–14:00	Lunch Break	

Chair: **Xing Liang**

14:00–14:30	<i>Asymptotic Behavior of Equilibrium States of Reaction-diffusion Systems with Mass Conservation</i>	Jann-Long Chern
14:30–15:00	<i>Modeling Animal Movement with Memory with Partial Differential Equations with Time-delay</i>	Junping Shi
15:00–15:30	Tea Break	

Chair: **Tsung-Fang Wu**

15:30–16:00	<i>Global Qualitative Analysis for Mathematical Population Models</i>	Chuang-Hsiung Chiu
16:00–16:30	<i>Text Mining: Application in Readers Clustering</i>	Hui-Chun Tien
16:30–17:00	<i>TBA</i>	Tzy-Wei Hwang
18:00–20:30	Banquet	

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Chair: Xingfu Zou

10:00–10:30	<i>Modeling the Transmission Dynamics of Avian Influenza H7N9 Virus in China</i>	Shigui Ruan
10:30–11:00	<i>Singular Perturbations in Structured Population Dynamics</i>	Pierre Magal
11:00–11:30	Tea Break	
11:30–12:00	<i>Spatial Heterogeneity and Time Periodicity in Lotka-Volterra Competition-Diffusion Systems</i>	Xiaoqing He
12:00–14:00	Lunch Break	

Chair: Junping Shi

14:00–14:30	<i>Estimations for the Action Functional for the N-body Problem</i>	Kuo-Chang Chen
14:30–15:00	<i>An Introduction to the Overdetermined Problem of Singularly Perturbed Model</i>	Chiun-Chang Lee
15:00–15:30	Tea Break	

Chair: Yuan Lou

15:30–16:00	<i>Even vs Concentrative Allocation of Time between Patches for Predators</i>	Xingfu Zou
16:00–16:30	<i>Global Dynamics of an In-host HIV Model with Non-local State Structures</i>	Michael Y. Li
16:30–17:00	<i>Population Persistence in a Benthic-drift River Environment</i>	Yu Jin

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Chair: Yang Kuang

10:00–10:30 *Asymptotic Behavior of Principal Eigenvalue for 2nd Order Elliptic Operators* Yuan Lou

10:30–11:00 *Global Weak Solution to the Euler-Poisson Equations with Self-gravitational Force in Spherically Symmetric Space-times* Meng Kai Hong

11:00–11:30 Tea Break

Chair: Te-Sheng Lin

11:30–12:00 *Traveling Wave Solution of a Class of Delay Predator-Prey Models* Ting-Hui Yang

12:00–12:30 *Synchronization in Coupled Systems* Jui-Pin Tseng

12:30–14:30 Lunch Break