

**The 3rd Taiwan-Japan Joint Workshop for Young Scholars in Applied  
Mathematics**

**Time: February 27-28, 2012**

**Venue: Room 202, Astro-Math. Building, National Taiwan University**

**Program**

**February 27 (Monday)**

- 09:00 Registration
- 09:20 Opening
- 09:30 -- 09:45 Yamaguchi, Masahiro 山口将大 (Meiji University, D)  
*Mathematical model of bone remodeling based on antagonistic adaptability*
- 09:45 -- 10:00 Poh, Ai Ling 傅愛玲 (Meiji University, D)  
*What are the Most Important Aspects of Information Security Systems for the Smart Grid?*
- 10:00 -- 10:15 Sugiura, Kyouichi 杉浦亮一 (Shizuoka University, D)  
*Mathematical analysis of the slave-maker Ants*
- 10:15 -- 10:30 Iwamoto, Mayuko 岩本真裕子 (Meiji University, D)  
*Crawling Locomotion: The Advantage of Mucus*
- 10:30 -- 10:45 Break
- 10:45 -- 11:00 Lin, Chui-Ju 林秋如 (Tsing Hua University, D)  
*N-species competition model with photo-inhibition.*
- 11:00 -- 11:15 Lin, Ying-Chih 林穎志 (National Taiwan Normal University, D)  
*The sign of the wave speed for the Lotka-Volterra competition-diffusion system*
- 11:15 -- 11:30 Ling, Chia-Tung 凌家東 (National Taiwan Normal University, D)  
*Dynamics for a complex-valued heat equation with an inverse nonlinearity.*
- 11:30 -- 11:45 Wu, Yen-Lin 吳彥霖 (National Central University, D)  
*On the Classification of Solutions for Semilinear Elliptic Equation on the Hyperbolic Space*
- 11:45 -- 11:55 Break
- 11:55 -- 12:10 Niiya, Hirofumi 新屋啓文 (Hiroshima University, D)  
*Pattern formation of granular avalanches simulated by particle method with hydrodynamics interaction*
- 12:10 -- 12:25 Monobe Harunori 物部治徳 (Tokyo Institute of Technology, PoD)  
*Behavior of spherically symmetric solutions for a free boundary problem*
- 12:25 -- 13:30 Photo & Lunch
- 13:30 -- 13:45 Shibuya, Koki 澁谷幸樹 (Meiji University, M)  
*Reaction-diffusion approximation of chemotaxis*
- 13:45 -- 14:00 Tanaka, Yoshitaro 田中吉太郎 (Meiji University, M)

- Reaction-diffusion model for inflorescence of sunflower*
- 14:00 -- 14:15 Masui, Tsubasa 増井翼 (Meiji University, M)
- Arch-shaped equilibrium solutions in social force model*
- 14:15 -- 14:30 Sago, Hiroaki 佐合洋彰 (Meiji University, M)
- Mathematical study of a "phantom jam" in traffic flow*
- 14:30 -- 14:40 Break
- 14:40 -- 14:55 Hung, Kuo-Chih 洪國智 (Tsing Hua University, PoD)
- S-shaped bifurcation curve for the perturbed Gelfand problem*
- 14:55 -- 15:10 Cheng, Yan-Hsiou 鄭彥修 (Tsing Hua University, PoD)
- Inverse nodal problems for the  $p$ -Laplacian eigenvalue problem*
- 15:10 -- 15:25 Tang, Yong-Li 唐永立 (Tsing Hua University, PoD)
- On a Model Arising from Single Species Consuming Two Complementary Nutrients in a Water Column*
- 15:25 -- 15:40 Wu, Chang-Hong 吳昌鴻 (Tamkang University, PoD)
- On a free boundary problem for a two-species weak competition system*
- 15:40 -- 16:00 Break
- 16:00 --16:15 Kikugawa, Harue 菊川晴絵 (Meiji University, M)
- Time series analysis of exchange rate of Yuan to KM2O-Langevin equation*
- 16:15-- 16:30 Aida, Chihiro 相田千尋 (Meiji University, M)
- Bifurcation from infinity of a reaction diffusion system*
- 16:30 -- 16:45 Kaihara, Mai 海原麻衣 (Meiji University, M)
- Obstacle-induced spirals in an excited medium*
- 16:45 -- 17:00 Tateno, Kurina 館野紅理奈 (Meiji University, M)
- System for supporting fortuitous encounter with books*
- 17:00-17:10 Break
- 17:10 --17:25 Yang, Sze-Guang 楊世光 (National Central University, PoD)
- Evaluation of Solutions in a Cosmic String Model*
- 17:25-- 17:40 Yang, Chi-Ru 楊其儒 (NCTS, PoD.)
- Existence of Traveling Wave Solutions for Diffusive Predator-Prey Type Systems*
- 17:40 -- 17:55 Lee, Chiun-Chang 李俊璋 (National Taiwan University, PoD)
- Asymptotic formulas for the boundary layers of Poisson-Boltzmann equations*
- 17:55 -- 18:10 Hung, Li-Chang 洪立昌 (National Taiwan University, PoD)
- Traveling Wave Solutions of Diffusive Lotka-Volterra Systems of Three Species*
- 18:50 Banquet

## February 28 (Tuesday)

- 09:00 -- 9:15 Sunada, Yasushi 砂田 靖志 (Hiroshima University, M)  
*A preliminary study for the snake vision simulator*
- 09:15 -- 09:30 Shinjo, Naoyuki 新城 直幸 (Ryukoku University, M)  
*Mathematical model for transportation of gas in the blood-alveoli*
- 09:30 -- 09:45 Mori, Tatsuki 森 竜樹 (Ryukoku University, M)  
*Stability of stationary solutions of a cross-diffusion equation -numerical approach*
- 09:45 -- 10:00 Nomura, Rui 野村 塁 (Meiji University, M)  
*Critical Social Learning : A Solution to Roger's Paradox of Non-adaptive Culture*
- 10:00 -- 10:10 Break
- 10:10 -- 10:25 Nakamura, Yuumi 中村優美 (Meiji University, M)  
*Time-series analysis of JPY/TWD*
- 10:25 -- 10:40 Inoue, Soichiro 井上総一郎 (Meiji University, M)  
*Time Series Analysis of Japanese Government Bond*
- 10:40 -- 10:55 Li, Bo 李 博 (Meiji University, M)  
*An introduction of Cellular Automaton Model*
- 10:55 -- 11:10 Tateishi, Keita 立石恵大 (Meiji University, M)  
*Emergence of spiral waves on inhomogeneous excitable media.*
- 11:10 -- 11:25 Break
- 11:25 -- 11:40 Ke, Po-Ju 柯柏如 (National Taiwan University, M)  
*Linking Plant Defense Trait and Negative Plant-Soil Feedback - a Theoretical Approach*
- 11:40 -- 11:55 Hsiao, Jun-Shian 蕭俊賢 (Tsing Hua University, D)  
*On central configuration*
- 11:55 -- 12:10 Liu, Chia-Chen 劉家禎 (Chung Cheng University, PoD)  
*TBA*
- 12:10 -- 12:25 Huang, Chih-Chiang 黃志強 (National Taiwan University, D)  
*Travelling wave solutions of the diffusive FitzHugh-Nagumo system in a cylinder - a variational approach*
- 12:25 -- 12:35 Break
- 12:35 -- 12:50 Chen, Yan-Yu 陳彦宇 (Meiji University, D)  
*Spiral waves of a wave front interaction model in a plane*
- 12:50 -- 13:05 Sushida, Takamichi 須志田 隆道 (Ryukoku University, D)  
*Voronoi spiral tilings*
- 13:05 -- 13:20 Lukito, Adi Nugroho (Meiji University, D)

*TBA*

13:20 -- 14:10

Lunch

14:10 -- 14:30

Award Ceremony

14:30

Free Discussion