

**The 5<sup>th</sup> Taiwan-Japan Joint Workshop for  
Young Scholars in Applied Mathematics**

February 27-March 1, 2014

**Venue: Room A, National Center for Theoretical Sciences, Hsinchu, Taiwan**

<http://www.math.nthu.edu.tw>

**February 27 (Thursday)**

8:30	<b>Registration</b>	
8:50	<b>Opening</b>	
<b>Chair: Yan-Yu Chen 陳彥宇 (Tamkang University, D)</b>		
9:00-9:15	<b>Wei-Chan Chang 張偉楨</b> (National Taiwan University, M)	Asymptotic Analysis of Multi-species Poisson-Nernst-Planck Systems <b>p.1</b>
9:15-9:30	<b>Jiahong Chen</b> (National Taiwan University, M)	Timing Performance Surrogates in Auto-Tuning for Qualitative and Quantitative Factors <b>p.2</b>
9:30-9:45	<b>Misato Hata 畑 美里</b> (Hiroshima University, M)	Memorized Motion of a Self-Propelled Object <b>p.3-4</b>
9:45-10:00	<b>Hau-Juan Hu 胡浩鈞</b> (National Central University, M)	Blood Flow Simulation in End-to-side Anastomosis Using a Non-Newtonian Model <b>p.5</b>
10:00-10:15	<b>Jhih-Ming Huang</b> (National Taiwan University, M)	A Mixed Precision Eigenvalue Solver on GPU <b>p.6</b>
10:15-10:30	<b>Break</b>	
<b>Chair: Jun Ono 小野 隼 (Meiji University, M)</b>		
10:30-10:45	<b>Akira Kamiyama 神山 彰</b> (Meiji University, M)	Coarse Grain Task Parallel Processing on Multicore Processors <b>p.7</b>
10:45-11:00	<b>Hiroki Kato 加藤 大輝</b> (Meiji University, M)	Propagating Waves in Precipitation System <b>p.8</b>
11:00-11:15	<b>Junichi Matsumoto 松本 純一</b> (Meiji University, M)	Detecting Peaks and Troughs of the Business Cycle Using Wavelet Analysis <b>p.9</b>
11:15-11:30	<b>Kano Nakade 中出 賀乃</b> (Ryukoku University, M)	Mathematical Beading of Strings <b>p.10</b>
11:30-11:45	<b>Tatsuya Nakamoto 中本 達哉</b> (Hiroshima University, M)	Analysis of Dune Dynamics with a Lattice Boltzmann Model for Sediment Transport <b>p.11-12</b>
11:45-12:00	<b>Po-Yao Niu 牛柏堯</b> (National Taiwan University, M)	Dimension Reduction for Tensor Structure Data <b>p.13</b>
12:00-12:15	<b>Kota Ohno 大野 航太</b> (Meiji University, M)	Heaping in the Granular Materials <b>p.14</b>
12:15-13:15	<b>Lunch Break</b>	
<b>Chair: Jiahong Chen (National Taiwan University, M)</b>		
13:15-13:30	<b>Jun Ono 小野 隼</b> (Meiji University, M)	Methodology of Footstep Illusion Art -Rotation Generated by Translation- <b>p.15</b>

13:30-13:45	<b>Satoshi Ota</b> 太田 智史 (Ryukoku University, M)	Phase Reduction Analysis on Synchronizations of Saltwater Oscillators <b>p.16</b>
13:45-14:00	<b>Munenori Sato</b> 佐藤 宗徳 (Ryukoku University, M)	One Dimensional 4-neighborhood Cellular Automata with Second Order Additive Invariants <b>p.17</b>
14:00-14:15	<b>Takayoshi Shimizu</b> 清水 隆秀 (Meiji University, M)	Mechanism of the Emergence of a Spiral Reentry <b>p.18</b>
14:15-14:30	<b>Suguru Shizuka</b> 静 優 (Meiji University, M)	Model-Aided Understanding of Vegetation Patterns and Desertification <b>p.19</b>
14:30-14:50	Break	
<b>Chair: Cheng-Fang Su</b> 蘇承芳 (National Central University, D)		
14:50-15:05	<b>Erika Shoji</b> 庄司 江梨花 (Hiroshima University, M)	Experimental Study on Localized Bioconvection Patterns in <i>Euglena Gracilis</i> Suspensions <b>p.20-21</b>
15:05-15:20	<b>Hidenori Suzuki</b> 鈴木 秀典 (Ryukoku University, M)	Minimal Models for Circadian Rhythms <b>p.22</b>
15:20-15:35	<b>Ryotaro Taguchi</b> 田口 亮太郎 (Meiji University, M)	Three-Dimensional Traveling Spots on Singular Limit Problems of Reaction-Diffusion Systems <b>p.23</b>
15:35-15:50	<b>Takahiro Tanabe</b> 田邊 章洋 (Hiroshima University, M)	A Study for Chain Reaction of Splash Processes Caused by Wind on Sand Bed Using Molecular Dynamics <b>p.24-25</b>
15:50-16:10	Break	
<b>Chair: Hidenori Suzuki</b> 鈴木 秀典 (Ryukoku University, M)		
16:10-16:25	<b>Yurie Tanimoto</b> 谷本 百合栄 (Ryukoku University, M)	Chromatic Polynomials for Some Recursively Defined Families of Graphs <b>p.26</b>
16:25-16:40	<b>Kenta Todoroki</b> 轟 賢太 (Meiji University, M)	Relationship between Obstacles and Waves in Three-Dimensional Excitable Media <b>p.27</b>
16:40-16:55	<b>Che-Wei Tsao</b> 曹哲維 (National Sun Yat-sen University, M)	The Stieltjes String and its Associated Nodal Points <b>p.28</b>
16:55-17:10	<b>Miki Tsugawa</b> 津川 未希 (Ryukoku University, M)	A Study of Probabilistic Particle Cellular Automata Using Fundamental Diagram <b>p.29</b>
17:10-17:25	<b>Yan-Yu Chen</b> 陳彥宇 (Tamkang University, D)	Existence of Rigidly Rotating Spots by a Wave Front Interaction Model <b>p.30</b>
17:25-17:40	<b>Chiu-Fen Chou</b> (Nat'l Chiao Tung University, D)	The Ground States of Spin-1 Bose-Einstein Condensates <b>p.31</b>
17:40-17:55	<b>Shih-Wei Chou</b> 周世偉 (National Central University, D)	Hyperbolic Resonant Systems of Balance Laws <b>p.32</b>
18:30	Dinner Party	

**February 28 (Friday)**

<b>Chair: Yu-Hao Liang 梁育豪 (National Tsing Hua University, D)</b>		
9:00-9:15	<b>Lorenzo Contento</b> (Meiji University, D)	Spiral Dynamics in a Three-Species Competition –diffusion System <b>p.33</b>
9:15-9:30	<b>M Osman Gani</b> (Meiji University, D)	Numerical Bifurcation Analysis of Periodic Traveling Wave Solutions in a Reaction-Diffusion System for Excitable Media <b>p.34</b>
9:30-9:45	<b>Wei-Fan Hu 胡偉帆</b> (Nat'l Chiao Tung University, D)	A Hybrid Immersed Boundary and Immersed Interface Method for Interfacial Flow in DC Electric Field <b>p.35</b>
9:45-10:00	<b>Ming-Yueh Huang 黃名鉞</b> (National Taiwan University, D)	Estimation and Inference for Conditional Distribution Models with Response-Dependent Index Coefficients <b>p.36</b>
10:00-10:20	Break	
<b>Chair: Yui Matsuda 松田 唯 (Hiroshima University, D)</b>		
10:20-10:35	<b>Mayuko Iwamoto 岩本 真裕子</b> (Meiji University, D)	Numerical Study on One-Dimensional Model for Adhesive Locomotion with Mucus <b>p.37</b>
10:35-10:50	<b>Kenji Kimura 木村 健治</b> (Ryukoku University, D)	Counting Tatami tilings by replica Exchange Monte Carlo <b>p.38</b>
10:50-11:05	<b>Duy-Manh Le</b> (National Central University, D)	Classifying Self-Terminating and non Self-Terminating Ventricular Fibrillations in an Isolated Heart <b>p.39</b>
11:05-11:20	<b>Yu-Hao Liang 梁育豪</b> (National Tsing Hua University, D)	Complete and Cluster Synchronization in Some Specific Neural Networks <b>p.40</b>
11:20-11:35	<b>Liren Lin 林立人</b> (Academia Sinica, D)	Mass Redistribution Method with Applications to the Ground States of Spin-1 BEC <b>p.41</b>
11:35-11:50	<b>Yi-su Lo 駱易俗</b> (National Central University, D)	A Full Space Lagrange-Newton-Krylov Algorithm for Trajectory Optimization Problems <b>p.42</b>
11:50-12:05	<b>Yuan-Hsun Lo 羅元勳</b> (National Taiwan Normal University, D)	Joint Equidistributions on Classical Coxeter Groups <b>p.43</b>
12:05-12:20	<b>Yu-Chen Luo 羅御宸</b> (Nat'l Sun Yat-sen University, D)	Distribution of the Prüfer angle in $p$ -Laplacian Eigenvalue Problems <b>p.44</b>
12:20-13:20	Break	
<b>Chair: Pei-Lan Yen 顏珮嵐 (Nat'l Sun Yat-sen University, D)</b>		
13:20-13:35	<b>Yui Matsuda 松田 唯</b> (Hiroshima University, D)	Mode Change in the Self-Motion of a Benzoquinone Disk Coupled with a NADPH System <b>p.45-46</b>
13:35-13:50	<b>Tatsuki Mori 森 竜樹</b> (Ryukoku University, D)	Structure and Stability of Stationary Solutions to a Reaction-Diffusion Model for Cell Polarization <b>p.47</b>
13:50-14:05	<b>Ijioma Ekeoma Rowland</b> (Meiji University, D)	Influence of Heat Conduction on the Emergence of Fingering Instability in Combustion <b>p.48</b>

14:05-14:20	<b>Tien-Tsan Shieh</b> (Nat'l Chiao Tung University, D)	On a New Class of Fractional Partial Differential Equations <b>p.49</b>
14:20-14:35	<b>Naoyuki Shinjo</b> 新城 直幸 (Ryukoku University, D)	Asymptotic Behavior of Solutions to Model Equations for O <sub>2</sub> Transport in a Capillary with the Gas Exchange <b>p.50</b>
14:35-14:50	<b>Cheng-Fang Su</b> 蘇承芳 (National Central University, D)	The Existence of Solutions of 2-dimensional Incompressible Navier-Stokes Equations on a Moving Domain in an Optimal Sobolev Space <b>p.51</b>
14:50-15:05	<b>Takamichi Sushida</b> 須志田 隆道 (Ryukoku University, D)	Shape Convergence Property for Voronoi Spiral Tilings <b>p.52</b>
15:05-15:20	<b>Kohta Suzuno</b> 鈴野 浩大 (Meiji University, D)	Visualize RDS by RDS <b>p.53</b>
15:20-15:40	Break	
<b>Chair: Kohta Suzuno</b> 鈴野 浩大 (Meiji University, D)		
15:40-15:55	<b>Ayumi Takemoto</b> 竹本 あゆみ (Hiroshima University, D)	The Establishment of the Left-Right Asymmetry in the Sea Urchin Embryo <b>p.54-55</b>
15:55-16:10	<b>Yoshitaro Tanaka</b> 田中 吉太郎 (Meiji University, D)	Reaction-diffusion Model Aided Understanding of Pattern Formation of Inflorescence <b>p.56</b>
16:10-16:25	<b>Scotti Tommaso</b> (Meiji University, D)	Does Toxicity Promote Blooming? <b>p.57</b>
16:25-16:40	<b>Shao-Hsuan Wang</b> 王紹宣 (National Taiwan University, D)	A Unified Estimation for the Concordance Measure with Censored Survival Data <b>p.58</b>
16:40-17:05	<b>Pei-Lan Yen</b> 顏珮嵐 (Nat'l Sun Yat-sen University, D)	Join Colourings of Chordal Graphs <b>p.59</b>
17:30-18:00	<b>Award Session</b>	