

# The 14th Taiwan-Japan joint workshop for young scholars in applied mathematics

## Program

**Venue:** room 516, Nakano Campus, Meiji University

### Organizers:

Chiun-Chuan Chen (National Taiwan University)  
Yan-Yu Chen (National Taiwan University)  
Jann-Long Chern (National Taiwan Normal University)  
Chang-Hong Wu (National Yang Ming Chiao Tung University)  
Juan-Ming Yuan (Providence University)  
Chueh-Hsin Chang (National Chung Cheng University)  
Yung-Fu Fang (National Cheng Kung University)  
Wen-Ching Lien (National Cheng Kung University)  
Hung-Wen Kuo (National Cheng Kung University)  
Takeshi Fukao (Ryukoku University)  
Tatsuki Kawakami (Ryukoku University)  
Hideki Murakawa (Ryukoku University)  
Shu-Ichi Kinoshita (Musashino University)  
Kazuhiro Ishige (University of Tokyo)  
Toshiyuki Ogawa (Meiji University)

### Local organizers:

R. Mori, Y. Tsukamoto  
Elliott Ginder, Kota Ikeda, H. Ninomiya (Meiji University)

### Sponsors

Meiji University, MIMS, Ryukoku University  
NCTS  
JSPS KAKENHI Grant Numbers: JP20H01816, JP22K03440

Feb.27 room 516, Meiji University

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9:50-10:00 Opening (Registration starts from 9:30)

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10:00--10:10 Yoshiyuki Iguchi (Meiji University, B4) 1

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10:10--10:20 Jing-En Huang (National Taiwan Normal University, B4) 2

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10:20--10:30 Yuki Kimura (Musashino University, B4) 3

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10:30--10:40 BoLin Lai (National Taiwan Normal University, B3) 4

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10:40--10:50 Tomoki Okamoto (Musashino University, B4) 5

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Break

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11:00--11:15 Rena Okada (Meiji University, M1) 6

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11:15--11:30 You-jun Li (National Taiwan Normal University, M1) 7

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11:30--11:45 Sosuke Hiraoka (Future University Hakodate, M1) 8

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11:45--12:00 Yu-Ru Pai (National Cheng Kung University, M1) 9

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Lunch Break

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13:15--13:30 Hikaru Ariyoshi (Meiji University, M2) 10

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13:30--13:45 Jia-Yu Lin (National Taiwan University, M2) 11

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13:45--14:00 Ami Murai (Ryukoku University, M2) 12

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14:00--14:15 Chien-Feng Chen (National Cheng Kung University, M2) 13

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Break

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14:25--14:40 Ryo Iwasaki (Meiji University, M2) 14

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14:40--14:55 Zheng Xuan Wu (National Taiwan University, M2) 15

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14:55--15:10 Jo Kubokawa (Meiji University, M1) 16

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15:10--15:25 Yuhsuan Tai (National Taiwan University, M2) 17

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Break

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15:55--16:10 Akito Tatekawa (Meiji University, M2) 18

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16:10--16:25 Jia Hao Wu (National Taiwan University, M2) 19

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16:25--16:40 Mahiro Fujinami (Meiji University, M2) 20

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Break 20

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16:50--17:05 Yuhei Onishi (Meiji University, M1) 21

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17:05--17:20 Jiabao Yang (Musashino University, M1) 22

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17:20--17:35 Bo-Sheng Chen (National Yang Ming Chiao Tung University, M1) 23

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Break

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17:45--18:00 Chiaki Shimizu (Musashino University, M1) 24

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18:00--18:15 Bang Shien Chen (National Taiwan Normal University, M1) 25

Feb. 28 room 516, Meiji University

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10:00--10:15 Hirotaka Goto (Meiji University, M2) 26

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10:15--10:30 Yu-Chen Xiao (National Taiwan University, M2) 27

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10:30--10:45 Koki Shinoda (Meiji University, M1) 28

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Break

10:55--11:10 Keigo Masuda (Meiji University, M1) 29

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11:10--11:25 Wei-Siang Fang (National Chung Cheng University, M2) 30

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11:25--11:40 Kohei Okawa (Ryukoku University, M2) 31

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Lunch Break

12:55--13:10 Pei-Zhen Wang (National Cheng Kung University, D1) 32

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13:10--13:25 Sho Katayama (University of Tokyo, D1) 33

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13:25--13:40 Chou Kao (National Cheng Kung University, D2) 34

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Break

13:50--14:05 Cheng-Pu Lin (National Yang Ming Chiao Tung University, D2) 35

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14:05--14:20 Yusuke Oka (University of Tokyo, D1) 36

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Break

14:30--14:45 Jen-Chieh Teng (National Taiwan University, D3) 37

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14:45--15:00 Sofia Navarro Yabe (Meiji University, D2) 38

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15:00--15:15 Yue-Hong Li (National Cheng Kung University, D3) 39

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15:15--15:30 Ryu Fujiwara (Meiji University, D3) 40

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Break

17:30--20:00 Awards Ceremony and Banquet (6th floor)

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Feb. 29

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10:00-13:00 Free discussion

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Feb.27 room 516, Meiji University

9:50-10:00	Opening (Registration starts from 9:30)	
10:00--10:10	Yoshiyuki Iguchi (Meiji University, B4)	1 Topological Data Analysis of An Epicentre Distribution
10:10--10:20	Jing-En Huang (National Taiwan Normal University, B4)	2 Multi-Camera Multi-People Tracking on Basketball Matches Based on Deep Learning Models
10:20--10:30	Yuki Kimura (Musashino University, B4)	3 Traveling front on a 1- and 2-dimensional growth-diffusion-chemotaxis model
10:30--10:40	Bolin Lai (National Taiwan Normal University, B3)	4 Exploring Parameter Estimation Techniques for HIV Modeling: From Simulation Data to Real-world Applications
10:40--10:50	Tomoki Okamoto (Musashino University, B4)	5 Shape and stability of stationary solutions for the 1D Gray-Scott model
	Break	
11:00--11:15	Rena Okada (Meiji University, M1)	6 Mathematical Modeling and Simulation of Droplet Motion
11:15--11:30	You-jun Li (National Taiwan Normal University, M1)	7 3D Point Clouds Semantic Segmentation Using Visual-Language Models
11:30--11:45	Sosuke Hiraoka (Future University Hakodate, M1)	8 Mathematical modeling of Proneural Wave on growing domain
11:45--12:00	Yu-Ru Pai (National Cheng Kung University, M1)	9 A previous study on fractional calculus
	Lunch Break	
13:15--13:30	Hikaru Ariyoshi (Meiji University, M2)	10 Analysis of Wealth Distribution in Japan via the Affine Wealth Model
13:30--13:45	Jia-Yu Lin (National Taiwan University, M2)	11 Inverse Scattering Problem for Piecewise Constant Coefficients using Deep Learning Algorithm
13:45--14:00	Ami Murai (Ryukoku University, M2)	12 Mathematical analysis of time-fractional diffusion equation with a nonlinear boundary condition
14:00--14:15	Chien-Feng Chen (National Cheng Kung University, M2)	13 Few-shot learning for identifying abnormal vocal signals by YAMNet and transfer learning.
	Break	
14:25--14:40	Ryo Iwasaki (Meiji University, M2)	14 A motion model of spherical microorganisms under free boundary conditions
14:40--14:55	Zheng Xuan Wu (National Taiwan University, M2)	15 Non-monotone travelling wave solutions for the n-species Lotka-Volterra competitive system with diffusion
14:55--15:10	Jo Kubokawa (Meiji University, M1)	16 Pulsating traveling wave in the Mitchell-Schaeffer model
15:10--15:25	Yuhsuan Tai (National Taiwan University, M2)	17 Simulation and Application of Variational Inference
	Break	
15:55--16:10	Akito Tatekawa (Meiji University, M2)	18 Presence of Dirac points in the diamond crystal
16:10--16:25	lia Hao Wu (National Taiwan University, M2)	19 A Refinement Method for Blow-up Solutions to the Energy-Subcritical Semilinear Heat Equation
16:25--16:40	Mahiro Fujinami (Meiji University, M2)	20 Spatio-temporal Dynamics on Bioconvection of Euglena under Periodic Light Illumination
	Break	
16:50--17:05	Yuhei Onishi (Meiji University, M1)	21 Traveling Waves Induced by Precipitation and Re-dissolution Reactions
17:05--17:20	Jiabao Yang (Musashino University, M1)	22 A numerical analysis approach to algorithms for continuous optimization problems
17:20--17:35	Bo-Sheng Chen (National Yang Ming Chiao Tung University, M1)	23 On the Role of Asymmetric Dispersal Rates in a Multi-Strain SIR Model in Patchy Environment
	Break	
17:45--18:00	Chiaki Shimizu (Musashino University, M1)	24 A finite difference method and its error estimate for a system of nonlinear Klein-Gordon equations
18:00--18:15	Bang Shien Chen (National Taiwan Normal University, M1)	25 Global solver for Geman-McClure robust rotation estimation with outlier rejection

Feb.28 room 516, Meiji University

10:00--10:15 Hirotaka Goto (Meiji University, M2)	26 Onset of intragroup conflict in a generalized model of social balance
10:15--10:30 Yu-Chen Xiao (National Taiwan University, M2)	27 Bernstein-von-Mises theorem, Bayesian method, in EIT inverse Problems
10:30--10:45 Koki Shinoda (Meiji University, M1)	28 Mode-switching of Self-propelled Camphor Disks depending on the Number Density

Break

10:55--11:10 Keigo Masuda (Meiji University, M1)	29 Cluster Formation of Self-propelled BZ Droplets
11:10--11:25 Wei-Siang Fang (National Chung Cheng University, M2)	30 Comparsion of CNNs and Capsule Networks for CAPTCHA recognition
11:25--11:40 Kohei Okawa (Ryukoku University, M2)	31 Numerical simulation of breaking ball

Lunch Break

12:55--13:10 Pei-Zhen Wang (National Cheng Kung University, D1)	32 Relativistic Euler Equations
13:10--13:25 Sho Katayama (University of Tokyo, D1)	33 An inhomogeneous boundary value problem for the Lane-Emden equation on a cone
13:25--13:40 Chou Kao (National Cheng Kung University, D2)	34

Break

13:50--14:05 Cheng-Pu Lin (National Yang Ming Chiao Tung University, D2)	35 Well-posedness of The General KdV equation
14:05--14:20 Yusuke Oka (University of Tokyo, D1)	36 Quenching for axisymmetric hypersurfaces under forced mean curvature flows

Break

14:30--14:45 Jen-Chieh Teng (National Taiwan University, D3)	37 A General Semi-parametric Distribution Model with Latent Group-specific Indices
14:45--15:00 Sofía Navarro Yabe (Meiji University, D2)	38 Barchan movement by the sand supply using crestline model
15:00--15:15 Yue-Hong Li (National Cheng Kung University, D3)	39 Hexahedral Mesh Generating for Complex Models.
15:15--15:30 Ryu Fujiwara (Meiji University, D3)	40 Reconstructing underlying network from observed 2-mode clustering pattern using nonlocal monostable equation with s

Break

17:30--20:00 Awards Ceremony and Banquet (6th floor)	
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Feb.29

10:00-13:00 Free discussion	
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## JR Chuo-Line or Sobu-Line



Shinjuku (新宿)

Okubo (大久保)

This stop may skip

Higashi-Nakano (東中野) This stop may skip

Nakano (中野)

Meiji University

Koenji (高円寺)

Jr-East Hotel Mets Koenji

Asagaya (阿佐ヶ谷) Smile Hotel, Tokyo Asagaya

Around 10 min from Shinjuku to Asagaya.

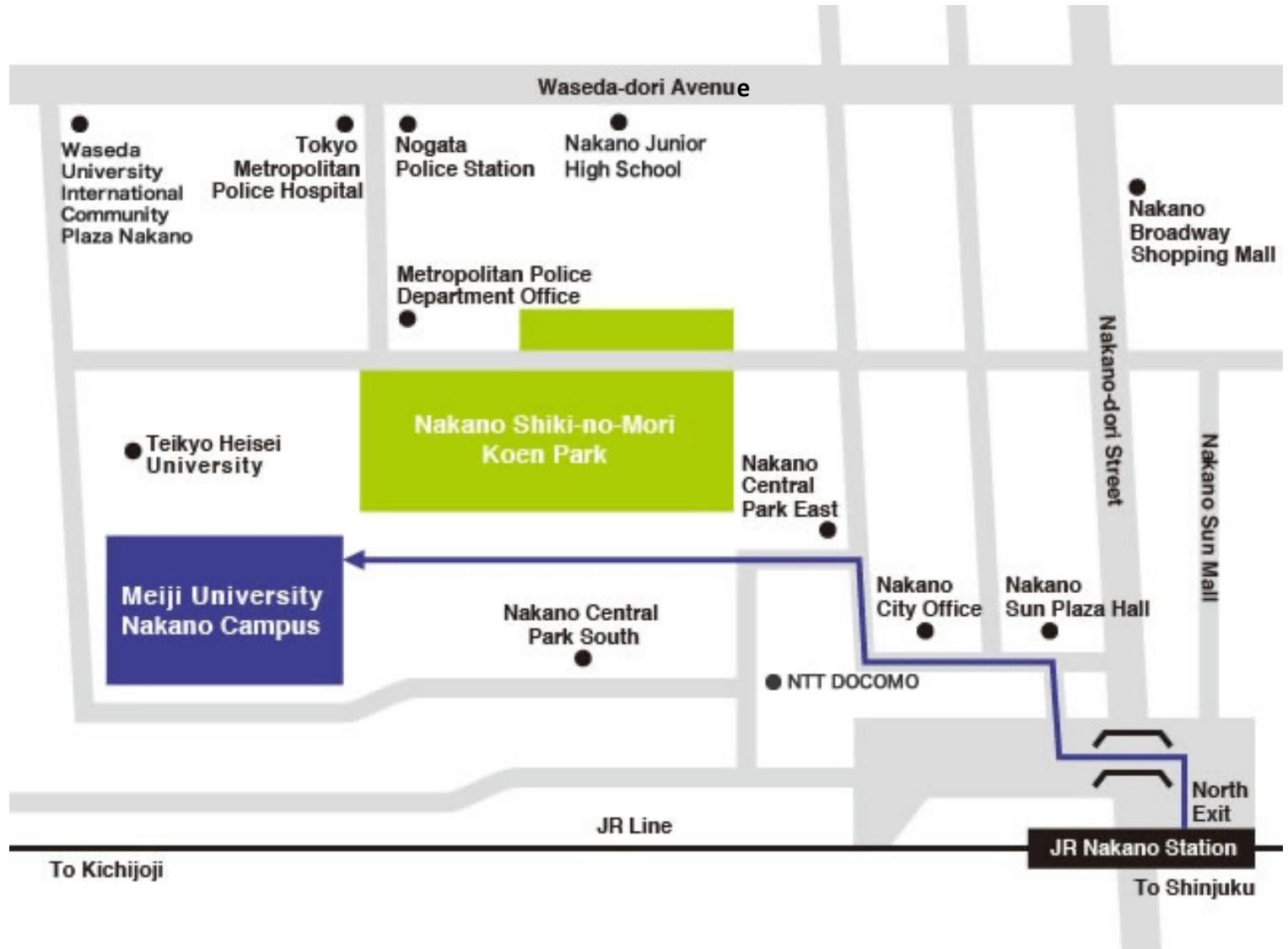
### Jr-East Hotel Mets Koenji

2-5-1 Koenji Kita, Suginami-ku, Tokyo 166-0002  
Phone : 81-3-5327-0011

### Smile Hotel, Tokyo Asagaya

3-37-11 Asagaya-Minami, Sugunami-ku, Tokyo  
Phone : 03-3220-8755

# From Nakano Station to Meiji University



It is also within walking distance from Koenji.