

# Nonlinear Analysis and Convex Analysis

RIMS Workshop, August 27–29, 2018

## PROGRAM

Each name flagged with an asterisk is the speaker of the talk.

### Aug. 27 (Mon)

- 9:30–9:35 Wataru Takahashi (Keio University)  
Opening Address
- 9:35–10:05 Yu-Lin Chang (National Taiwan Normal University)  
Weighted means and related inequalities on SOC
- 10:05–10:35 Jein-Shan Chen (National Taiwan Normal University)  
The decompositions of two core non-symmetric cones
- 10:45–11:15 Jong Soo Jung (Dong-A University)  
Composite iterative methods for a general system of variational inequalities and fixed point problems
- 11:15–11:40 Takanori Ibaraki (Yokohama National University)  
Approximation of a zero point of monotone operators with errors in a Banach space
- Lunch
- 13:00–13:30 Lai-Jiu Lin (National Changhua University of Education)  
Simultaneous iteration for variational inequalities over common solutions for finite families of nonlinear problems
- 13:30–14:00 Mau-Hsiang Shih (China Medical University Hospital)  
Duality pairing of embedding triangulations through the octahedron
- 14:15–14:40 Mitsuhiro Hoshino (Akita Prefectural University)  
On local behavior on monotonization in basic self-organizing maps with one-dimensional array
- 14:40–15:05 Sachiko Atsushiba (University of Yamanashi)  
Attractive point and convergence theorems for hybrid-type sequences
- 15:20–15:50 N. T. T. Huong (Le Quy Don University), J.-C. Yao\* (China Medical University), N. D. Yen (Vietnam Academy of Science and Technology)  
Connectedness structure of the solution sets of vector variational inequalities
- 15:50–16:20 Sehie Park (Seoul National University)  
Applications of convex-valued KKM maps
- 16:20–16:50 Wataru Takahashi (Keio University)  
Weak and strong convergence theorems for normally generalized hybrid mappings in Hilbert spaces

### Aug. 28 (Tue)

- 9:00–9:30 Do Sang Kim (Pukyong National University)  
Second-order Karush-Kuhn-Tucker optimality conditions for smooth vector optimization problems
- 9:30–10:00 Gue Myung Lee (Pukyong National University)  
On calculation of resolvent of  $l_\infty$ -norm and its applications
- 10:10–10:35 Jae Hyoung Lee\* (Pukyong National University), Liguojiao (Pusan National University)  
Exact semidefinite programming relaxations for a class of nonsmooth fractional programming
- 10:35–11:00 Liguojiao\* (Pusan National University), Jae Hyoung Lee (Pukyong National University)  
Solving robust fractional multiobjective programming problems with sos-convex polynomial data
- 11:10–11:35 Helene Frankowska (Univ Paris 06), Nobusumi Sagara\* (Hosei University)  
Value functions and optimality conditions for nonconvex variational problems with an infinite horizon in Banach spaces

- 11:35–12:00 Yukio Takeuchi (Takahashi Institute for Nonlinear Analysis)  
On monotonicity of mappings
- Lunch
- 13:10–13:40 Jong Kyu Kim (Kyungnam University)  
Hybrid extragradient methods for a common solution of a system of generalized mixed quasi-equilibrium problems of nonexpansive semigroups
- 13:40–14:05 Mayumi Hojo (Shibaura Institute of Technology)  
Attractive point and mean convergence theorems for normally generalized hybrid mappings in Hilbert spaces
- 14:15–14:40 Toshiharu Kawasaki (Nihon University)  
A strong convergence theorem for countable families of nonlinear nonself mappings in Hilbert spaces and applications
- 14:40–15:05 Yasunori Kimura (Toho University)  
Equilibrium problems on geodesic spaces and approximation to their solutions
- 15:05–15:30 Atsumasa Kondo\* (Shiga University) and Wataru Takahashi (Keio University)  
Strong convergence theorems of Halpern’s type for normally 2-generalized hybrid mappings in Hilbert spaces
- 15:40–16:05 Ryoji Fukuda\* (Oita University), Aoi Honda (Kyushu Institute of Technology), Yoshiaki Okazaki (Fuzzy Logic Systems Institute)  
Convergence theorems for fuzzy integrals of non distribution type
- 16:05–16:25 Takuto Kajimura\*, Yasunori Kimura (Toho University)  
A new definition of resolvents for convex functions on complete geodesic spaces
- 16:25–16:50 Daishi Kuroiwa (Shimane University)  
A duality theorem for convex set optimization

**Aug. 29 (Wed)**

- 9:00–9:25 Toshikazu Watanabe (Meiji University)  
Fixed point theorems for mixed monotone mappings in ordered metric spaces
- 9:25–9:50 Satoshi Suzuki\*, Daishi Kuroiwa (Shimane University)  
Optimality conditions for quasiconvex programming in terms of subdifferentials
- 9:50–10:10 Kazuki Seto\*, Daishi Kuroiwa (Shimane University)  
Observation of arcwise connected quasiconvex functions and its applications
- 10:20–10:40 Hiroyuki Ohtani\*, Koji Okano\*, Daishi Kuroiwa (Shimane University)  
Observation of constraint qualification for the Lagrange-duality of extended real-value convex optimization problem
- 10:40–11:00 Takumi Murakami\*, Yuya Sumida\*, Daishi Kuroiwa (Shimane University)  
Observation of constraint qualification for a Lagrange-type duality of extended real-valued DC optimization problem
- 11:00–11:25 Araya Yousuke (Akita Prefectural University)  
Set relations revisited
- Lunch
- 13:00–13:25 Yutaka Saito\*, Yousuke Araya, Yutaka Kimura (Akita Prefectural University)  
On optimality evaluation method between two sets each having density function
- 13:25–13:45 Yuto Ogata\*, Tamaki Tanaka (Niigata University)  
Approximate minimality in set optimization and its application
- 13:45–14:05 Hui Yu\*, Tamaki Tanaka (Niigata University)  
Computational algorithms and their improvement for set-relation-based scalarization functions
- 14:15–14:35 Koichiro Ike\*, Tamaki Tanaka (Niigata University)  
A characterization of comparison indices for fuzzy sets based on possibility theory
- 14:35–14:55 Yu Kobayashi\*, Hideaki Iiduka (Meiji University)  
Stochastic subgradient method for stochastic equilibrium problems with nonmonotone bifunctions and its application to multiclass classification
- 15:00–15:25 Shin-ya Matsushita (Akita Prefectural University)  
On the resolvent of the sum of maximal monotone operators
- 15:25–15:45 Koji Aoyama (Chiba University)  
Cutter mappings and subgradient projections in Banach spaces