

Nonlinear Analysis and Convex Analysis

RIMS Workshop, September 14–16, 2026



Organizer Takanori Ibaraki (Yokohama National Univ.)
 Koji Aoyama (Chiba Univ.)

Masukawa Hall, Maskawa Building for Education and Research, Kyoto University
Access : <https://www.kyoto-u.ac.jp/en/access/north-campus-map> (Building No. 13)

PROGRAM

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

Sep. 14 (Mon)

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| 09:25–09:30 | Takanori Ibaraki (Yokohama National Univ., Japan)
Opening Address |
| 09:30–10:00 | *Masayuki Horiguchi and Ryuya Minamoto (Kanagawa Univ., Japan)
On Duality in Transition Law Estimation Problems for Interval Markov Decision Processes |
| 10:00–10:30 | Kenjiro Yanagi (Yamaguchi University, Japan)
Some refined non-hermite uncertainty relations for q -commutator |
| 10:30–11:00 | *Shunsuke Shiraishi (Hiroshima Institute of Technology, Japan) and Tsuneshi Obata (Otemon Gakuin Univ., Japan)
On a Maximization Problem Arising from Low-Dimensional Positive Reciprocal Matrices in AHP: Uniqueness of the Solution |
| Break | |
| 11:10–11:30 | *Nattapol Rachpira, Satit Saejung, and Pongsakorn Yotkaew (Khon Kaen Univ., Thailand)
Approximating Zeros of Operators and Minimizers via Halpern-Type Sequences in Hadamard Spaces |
| 11:30–11:50 | *Sajjatit Santawong and Satit Saejung (Khon Kaen Univ., Thailand)
On Forti's Direct Method for Improving Stability and Hyperstability Results of Additive Functional Inequalities |
| 11:50–12:10 | *Anawat Rodchan and Pongsakorn Yotkaew (Khon Kaen Univ., Thailand)
Approximating Minimizers of Convex Functions in p -Uniformly Convex Metric Spaces |
| Lunch | |
| 13:20–13:50 | Shuta Sudo (Daiichi Institute of Technology, Japan)
On monotone vector fields on geodesic spaces |
| 13:50–14:20 | Yukio Takeuchi (Takahashi Institute for Nonlinear Analysis, Japan)
A Reexamination of several Families of Mappings and Their Relationships: With Concrete Examples |
| 14:20–14:50 | Mitsuhiro Hoshino (Akita Prefectural Univ., Japan)
Evaluating Inner-Product SOMs through Numerical and Theoretical Approaches |
| Break | |
| 15:00–15:30 | Satit Saejung (Khon Kaen Univ., Thailand)
On the Relationship Between Several Fixed Point Theorems and Banach's Fixed Point Theorem |
| 15:30–16:00 | Gue Myung Lee (Pukyong National Univ., Korea)
Optimality Theorems for Matrix Optimization Problems |
| 16:00–16:30 | Kwan Deok Bae and *Do Sang Kim (Pukyong National Univ., Korea)
Optimality Conditions at Infinity for Nonsmooth Minimax Programming Problems with Applications |

Sep. 15 (Tue)

- 09:30–09:50 Yasunori Kimura and Hiroto Matsuo (Toho Univ., Japan)
Shrinking projection method with allowable ranges in geodesic spaces
- 09:50–10:10 Yasunori Kimura (Toho Univ., Japan) and Leo Takekawa (Toho Univ., Japan)
Convex minimization corresponding to shrinking projection method on a Hadamard space
- 10:10–10:30 *Ryota Iwamoto (Niigata Univ., Japan), Chieu Thanh Nguyen (Vietnam National Univ. of Agriculture, Vietnam), and Jein-Shan Chen (National Taiwan Normal Univ., Taiwan)
Smoothing external penalty method for convex second-order cone programming
- Break
- 10:40–11:10 Toshiharu Kawasaki (National Institute of Technology, Kisarazu College, Japan)
Fixed point theorem for weighted generalized pseudocontractions in Hilbert spaces
- 11:10–11:40 Sachiko Atsushiba (Tokyo Woman's Christian Univ., Japan)
Convergence theorems of implicit and explicit type iterations for generalized nonexpansive mappings
- 11:40–12:10 Yasunori Kimura (Toho Univ., Japan)
Perturbation functions for resolvent operators in complete geodesic spaces
- Lunch
- 13:20–13:50 Seangleng Khe and *Parin Chaipunya (King Mongkut's Univ. of Technology Thonburi, Thailand)
On the numerical resolution of bilevel programs for energy management applications
- 13:50–14:20 Konrawut Khammahawong (Rajamangala Univ. of Technology Thanyaburi, Thailand)
A Double Inertial Projection Method for Inverse Quasi-variational Inequality Problems
- 14:20–14:50 *Poom Kumam and Abdulwahab Ahmad (King Mongkut's Univ. of Technology Thonburi, Thailand)
Relaxed Viscosity-Type Algorithms with Acceleration Techniques for Variational Inequalities and Demicontractive Mappings with Applications
- Break
- 15:00–15:30 Seiichi Iwamoto (Professor Emeritus, Kyushu Univ., Japan) and *Yutaka Kimura (Akita Prefectural Univ., Japan)
Gap method to duality (II) — initial point vs both points —
- 15:30–16:00 Ruey-Lin Sheu (National Cheng Kung Univ., Taiwan)
Quadratic Fractional Programming with One Quadratic Constraint: Beyond the Positive Denominator Assumption
- 16:00–16:30 Jein-Shan Chen (National Taiwan Normal Univ., Taiwan)
Novel Constructions of Closed Convex Cones and Their Dual Cones

Sep. 16 (Wed)

- 09:40–10:00 *Itsuki Shimada and Satoshi Suzuki (Shimane Univ., Japan)
Quasiconjugate Duality for Portfolio Optimization
- 10:00–10:20 *Hana Shigenobu and Satoshi Suzuki (Shimane Univ., Japan)
Pairwise Stability of Information Networks
- 10:20–10:40 *Hinata Shibuki and Syuuji Yamada (Niigata Univ., Japan)
Properties of Vector-Valued Cone-DC Functions
- Break
- 10:50–11:10 *Keigo Morikawa and Daishi Kuroiwa (Shimane Univ., Japan)
A Study of Unified Iterative Schemes for Fixed Point Approximation
- 11:10–11:30 *Sawako Masuda and Daishi Kuroiwa (Shimane Univ., Japan)
A Unified Preference Framework and Characterizations of Pareto Solutions in Multiobjective Optimization

11:30–11:50	*Tanet Wanmek and Daishi Kuroiwa (Shimane Univ., Japan) An Observation on Greenberg–Pierskalla-Type Subdifferentials for Quasiconvex Functions
Lunch	
13:00–13:30	Takanori Ibaraki (Yokohama National Univ., Japan) and *Shunsuke Kajiba (Teikyo Univ., Japan) Approximation of zero points of maximal monotone operators in a Banach space and its applications
13:30–14:00	*Toshikazu Watanabe and Masayuki Horiguchi (Kanagawa Univ., Japan) On φ -type-contractive mappings in probabilistic quasi b-metric spaces
14:00–14:30	Yousuke Araya (Akita Prefectural Univ., Japan) Set Relations Revisited: A Unified View of Robust Multi-Objective Optimization
Break	
14:40–15:10	*Shunya Hashimoto (Kyoto Univ., Japan), Misako Kikkawa (Saitama Univ., Japan), Shuji Machihara (Saitama Univ., Japan) and Aqib Saghir (Saitama Univ., Japan) On the weakest condition for the existence of fixed points of Kannan-type mappings
15:10–15:40	Fumiaki Kohsaka (Tokai Univ., Japan) Minimax problems in Hadamard spaces
15:40–16:10	Koji Aoyama (Chiba Univ., Japan) On Xu’s inequality in uniformly convex Banach spaces