Nonlinear Analysis and Convex Analysis



RIMS Workshop, December 9–11, 2024

Organizer Sachiko Atsushiba (Tokyo Woman's Christian Univ.) Yasunori Kimura (Toho Univ.)

Room 111 of Research Institute for Mathematical Sciences, Kyoto University Access : https://www.kurims.kyoto-u.ac.jp/en/access-01.html

PROGRAM

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

December 9 (Mon)

9:10-9:15	Sachiko Atsushiba (Tokyo Woman's Christian Univ.) Opening Address
9:15–9:45	*Koji Aoyama (Chiba Univ.), Shigeru Iemoto (Chuo Univ.) Parallel methods for quasinonexpansive mappings in a Hilbert space
9:45–10:15	Hiroko Manaka (Nihon Univ.) A generalized extension of averaged mappings defined in Hilbert space to Banach spaces
10:15-10:45	Toshiharu Kawasaki (Tamagawa Univ.) Fixed point theorems for mappings determined by several parameters in metric spaces
Break	
10:55–11:25	*Yousuke Araya (Akita Pref. Univ.), Wei-Shih Du (National Kaohsiung Normal Univ.) A new minimal element theorem and new generalizations of Ekeland's variational principle in complete lattice optimization problem
11:25-11:55	*Shunsuke Shiraishi (Hiroshima Institute of Technology),Tsuneshi Obata (Otemon Gakuin Univ.)Calculating maximum eigenvalues in pairwise comparison matrices for the analytic hierarchy process
11:55-12:25	Jun Kawabe (Shinshu Univ.) The integral representation theorems of nonlinear functionals on an abstract space
Lunch Special Sess	ion Dedicated to Professor Lai-Jiu Lin for His 77th Birthday
13:40-14:10	*Syuuji Yamada (Niigata Univ.), Tamaki Tanaka (Niigata Univ.) Properties of vector-valued cone-dc functions and its applications
14:10-14:40	Yasunori Kimura (Toho Univ.) Convex analysis on a complete geodesic space with bounded curvature
14:40-15:10	Wei-Shih Du (National Kaohsiung Normal Univ.) On essential vectorial semicontinuity and adjustability convexity: Existence results and applications
Break	
special Sess	Dedicated to Professor Lai-Jiu Lin for His 77th Birthday
15:20-15:50	Premyuda Dechboon (Burapha Univ.), MD Ziaul Huq (Niigata Univ.), Ryota Iwamoto (Niigata Univ.), *Tamaki Tanaka (Niigata Univ.) On scalarization methods for sets and generalized cone-continuity for set-valued maps
15:50-16:40	*Lai-Jiu Lin (National Changhua Univ. of Education), Sung-Yu Wang (National Changhua Univ. of Education) An existence theorem for simultaneous systems of maximal element problems and systems of generalized variational coincidence problems with applications

December 10 (Tue)

9:05-9:35	Hidefumi Kawasaki (Kyushu Univ.) Some applications of Borsuk's antipodal theorem
9:35-10:05	*Masayuki Horiguchi (Kanagawa Univ.), Wang Handong (Kanagawa Univ.), Rikuto Suzuki (Kanagawa Univ.), Ryuya Minamoto (Kanagawa Univ.) On an interval Bayesian method and fractional programming problems
10:05-10:35	Mitsuhiro Hoshino (Akita Pref. Univ.) Local behavior of updated node value functions in self-organizing maps with inner product learning
Break	
10:45 - 11:15	Takanori Ibaraki (Yokohama National Univ.) Strong convergence theorems for resolvents of a maximal monotone operator
11:15-11:45	Hiroyasu Mizuguchi On a generalized relation of Pythagorean orthogonality by two-dimensional norm
11:45-12:15	Yukino Tomizawa (Niigata Institute of Technology) Refinements of the triangle inequality in geodesic metric spaces
Lunch	
13:30-14:00	Narin Petrot (Naresuan Univ.) Distributed conjugate gradient method for solving variational inequality problems with common fixed-point constraints
14:00-14:30	*Poom Kumam (King Mongkut's Univ. of Technology Thonburi), Wiyada Kumam (Rajamangala Univ. of Technology Thanyaburi) Projection method for solving systems of nonlinear equations
14:30-15:00	Konrawut Khammahawong (Rajamangala Univ. of Technology Thanyaburi) Iterative algorithms for monotone variational inequality and fixed point problems on Hadamard manifolds
15:00-15:30	Supaluk Phothi (Chiang Mai Univ.) On convergence theorems for backward G-quasi nonexpansive mappings with respect to a direct graph
Break	
15:40-16:05	*Kittisak Tontan (Chiang Mai Univ.), Yasunori Kimura (Toho Univ.), Supaluk Phothi (Chiang Mai Univ.) Fixed point approximation of nonexpansive mapping with nonsummable errors in a geodesic space endowed with graphs
16:05-16:30	Shuta Sudo (Toho Univ.) The Solodov–Svaiter type proximal point algorithm on a Hadamard space
16:30-16:55	*Takuto Kajimura (Toho Univ.), Yasunori Kimura (Toho Univ.) The proximal point algorithm with a general perturbation on geodesic spaces
December 11 (W	Ved)
9:05-9:30	*Ryota Iwamoto (Niigata Univ.), Tamaki Tanaka (Niigata Univ.) Set-valued Fan-Takahashi inequalities via scalarization and its applications
9:30-9:55	*Akihito Hamano (Toho Univ.), Yasunori Kimura (Toho Univ.) Existence and approximation of a common fixed point on Banach spheres
9:55-10:20	*Mori Tomoya (Shimane Univ.), Daishi Kuroiwa (Shimane Univ.) Inner products on interval vector spaces
10:20-10:45	*Masuda Taiki (Shimane Univ.), Mori Tomoya (Shimane Univ.), Daishi Kuroiwa (Shimane Univ.) Support vector machines for interval-valued data
Break	

10:55–11:25	Daishi Kuroiwa (Shimane Univ.) Generalized criteria in set optimization
11:25-11:55	Yukio Takeuchi (Takahashi Institute for Nonlinear Analysis) On some interesting questions that I have not been able to resolve
11:55-12:25	Seiichi Iwamoto (Professor Emeritus Kyushu Univ.), *Yutaka Kimura (Akita Pref. Univ.) Gap function approach to duality discount model vs control model
Lunch	
13:40-14:05	*Hiromu Sasaki (Akita Pref. Univ.), Shin-ya Matsushita (Akita Pref. Univ.) HMLasso subproblems and related optimization methods
14:05-14:30	Yasunori Kimura (Toho Univ.), *Miho Nakadai (Toho Univ.) Common fixed point theorem using two kinds of mappings on a Hadamard space
14:30-15:00	Kazuya Sasaki (Toho Univ.) Spherical nonspreadingness and perturbations for resolvents of convex functions on geodesic spaces
Break	
15:10-15:40	Toshikazu Watanabe (Nihon Univ.) On some generalizations of ψ -contractive mappings in Menger spaces
15:40-16:10	Takashi Honda (Iwate Univ.) Orthogonality in a Banach space
16:10-16:40	Sachiko Atsushiba (Tokyo Woman's Christian Univ.) Weak and strong convergence theorems for monotone nonexpansive-type mappings in Banach spaces