

2016 Mathematical Society of Japan

ANNUAL MEETING

Dates: March 16th (Wed)–19th (Sat), 2016

Venue: Area 1 and Area 3, University of Tsukuba
1–1–1 Tennodai, Tsukuba 305-8571

Contact to: University of Tsukuba

E-mail tsukuba16mar@mathsoc.jp

During session: Phone +81 (0) 90 1791 3483

Mathematical Society of Japan

Phone +81 (0) 3 3835 3483

	I Bldg. 3A 3A204	II Bldg. 3A 3A402	III Bldg. 3A 3A403	IV Bldg. 1C 1C310	V Bldg. 1D 1D201	VI Bldg. 1D 1D204	VII Bldg. 1E 1E102	VIII Bldg. 1E 1E203	IX Bldg. 1E 1E303	
16th (Wed)	Algebra 9:30–12:00 14:15–16:50	Statistics and Probability 9:30–12:00	Functional Equations 9:30–12:00 14:15–16:15	Found. of Math. and History of Math. 10:00–11:20 14:15–16:00	Geometry 9:30–12:00 14:15–16:30	Topology 10:00–11:55 15:30–17:10	Applied Mathematics 10:30–12:00 14:30–16:00	Complex Analysis 9:45–11:45 14:15–15:05	Functional Analysis 10:00–12:00	
	Featured Invited Talks					13:00–14:00				
		Invited Talks 14:30–15:30 15:45–16:45	Invited Talk 16:30–17:30	Invited Talk 16:15–17:15	Invited Talk 16:45–17:45	Invited Talk 14:15–15:15	Invited Talk 16:10–17:10	Invited Talks 15:25–16:25 16:45–17:45	Invited Talk 14:15–15:15	
17th (Thu)	Algebra 9:30–12:00	Statistics and Probability 9:45–11:30	Functional Equations 9:30–12:00 Invited Talk 13:30–14:30	Found. of Math. and History of Math. 10:00–11:30 13:15–14:25	Geometry 9:00–10:45 Invited Talk 11:00–12:00	Topology 10:00–11:40 Invited Talk 13:30–14:30	Applied Mathematics 10:00–11:30 13:10–14:00	Complex Analysis 9:45–11:50 13:15–14:20	Functional Analysis 10:00–12:00 Invited Talk 13:15–14:15	
	MSJ Prizes Presentation (Bldg. 1H, 1F 1H101) (15:00–15:20)									
	Plenary Talks (Bldg. 1H, 1F 1H101) MSJ Spring Prize Winner (15:30–16:30)									
	Official Party (University Hall) Mikiya Masuda (Osaka City Univ.) (16:40–17:40) (18:00–20:00)									
18th (Fri)	Algebra 9:00–12:00	Statistics and Probability 9:45–12:00	Functional Equations 9:30–12:00 14:15–16:15	Real Analysis 9:30–12:00 14:15–16:10	Geometry 9:30–11:50 14:15–16:00	Topology 10:00–11:45 14:15–15:30	Applied Mathematics 14:30–16:00 Special Session 9:15–11:55	Infinite Analysis 10:00–12:00 14:15–15:15	Functional Analysis 9:30–12:00 14:15–15:00	
	Featured Invited Talks					13:00–14:00				
	Invited Talks 14:30–15:30 15:40–16:40 16:50–17:50	Invited Talks 14:15–15:15 15:30–16:30	Invited Talk 16:30–17:30	Invited Talk 16:30–17:30	Invited Talk 16:15–17:15	Invited Talk 15:45–16:45	Invited Talk 16:15–17:15	Invited Talk 15:30–16:30	Invited Talk 15:15–16:15	
19th (Sat)	Algebra 9:30–12:00 14:15–15:45	Statistics and Probability 9:50–12:00 14:15–16:10	Functional Equations 9:30–12:00 14:15–15:45	Real Analysis 9:30–12:00 14:15–15:00	Geometry 9:00–10:45		Applied Mathematics 10:00–12:00 14:15–15:45	Infinite Analysis 9:30–12:00 14:15–15:15		
	Featured Invited Talks					13:00–14:00				
	Invited Talk 16:00–17:00		Invited Talk 16:00–17:00	Invited Talk 15:15–16:15	Invited Talk 11:00–12:00		Invited Talk 16:00–17:00	Invited Talk 15:30–16:30		

Plenary Talks

March 17th (Thu) Bldg. 1H, 1F 1H101

MSJ Spring Prize Winner	(15:30–16:30)
Mikiya Masuda (Osaka City Univ.)	Toric topology	(16:40–17:40)

Featured Invited Talks

March 16th (Wed)

Conference Room V

Qing-Ming Cheng (Fukuoka Univ.)	Geometry of λ -hypersurfaces of the weighted volume-preserving mean curvature flow	(13:00–14:00)
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Conference Room VII

Guest Talk from the Japan Society for Industrial and Applied Mathematics		
Tetsuya Sakurai (Tsukuba Univ.)	Large-scale simulation and data analysis using quadrature-type eigensolver	(13:00–14:00)

Conference Room VIII

Toshiyuki Sugawa (Tohoku Univ.)	Geometry and analysis of Schwarzian derivative	(13:00–14:00)
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March 18th (Fri)

Conference Room II

Akio Suzukawa (Hokkaido Univ.)	Multivariate survival analysis based on shared frailty models	(13:00–14:00)
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Conference Room IX

Jiro Sekiguchi (Tokyo Univ. of Agri. and Tech.)	^b Free divisors and differential equations	(13:00–14:00)
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March 19th (Sat)

Conference Room I

Satoshi Wakatsuki (Kanazawa Univ.)	Dimension formulas of Siegel modular forms	(13:00–14:00)
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Conference Room III

Shigeaki Koike (Tohoku Univ.)	On ABP maximum principle	(13:00–14:00)
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Talks Invited by Research Sections and Special Session

March 16th (Wed)

Foundation of Mathematics and History of Mathematics (Conference Room IV)

Byunghan Kim (Yonsei Univ.) The Lascar groups and the 1st homology groups in model theory (16:15–17:15)

Geometry (Conference Room V)

Jost-Hinrich Eschenburg^b Extrinsic symmetric spaces (16:45–17:45)
(Univ. of Augsburg)

Complex Analysis (Conference Room VIII)

Johannes Jaerisch (Shimane Univ.) Hausdorff dimension of the Julia sets of non-hyperbolic polynomial semigroups and the method of inducing (15:25–16:25)

Yoshihiko Matsumoto (Tokyo Tech) Deformations of complete Einstein metrics on strictly pseudoconvex domains (16:45–17:45)

Functional Equations (Conference Room III)

Mitsuru Shibayama (Kyoto Univ.) A variational approach to periodic orbits in the n -body problem (16:30–17:30)

Functional Analysis (Conference Room IX)

Hiroaki Niikuni Band-gap spectral structure of carbon nanotubes (14:15–15:15)
(Maebashi Inst. of Tech.)

Statistics and Probability (Conference Room II)

Kazutoshi Yamazaki (Kansai Univ.) Refracted-reflected Lévy processes (14:30–15:30)

Seiichiro Kusuoka (Okayama Univ.) An approach to the solutions and the fundamental solutions to non-divergence form parabolic equations by stochastic analysis (15:45–16:45)

Applied Mathematics (Conference Room VII)

Tadashi Sakuma (Yamagata Univ.) Similarities and dissimilarities between the blocking and anti-blocking polyhedra (16:10–17:10)

Topology (Conference Room VI)

Yukio Matsumoto On the compactification of moduli spaces and crystallographic groups (14:15–15:15)
(Gakushuin Univ./Chuo Univ./Univ. of Tokyo^a)

March 17th (Thu)

Geometry (Conference Room V)

Hiraku Nozawa (Ritsumeikan Univ.) On rigidity and characteristic classes of (G, X) -foliations .. (11:00–12:00)

Functional Equations (Conference Room III)

Award Lecture for the 2015 MSJ Analysis Prize

Kazunaga Tanaka (Waseda Univ.) Singular perturbation problems for nonlinear elliptic equations —variational methods for degenerate setting— (13:30–14:30)

Functional Analysis (Conference Room IX)

- Atsumu Sasaki (Tokai Univ.) Admissible representations, multiplicity-free representations and visible actions on non-tube type Hermitian symmetric spaces (13:15–14:15)

Topology (Conference Room VI)

- Kei Irie (Kyoto Univ.) A C^∞ closing lemma for three-dimensional Reeb flows via embedded contact homology (13:30–14:30)

March 18th (Fri)

Algebra (Conference Room I)

- Award Lecture for the 2016 MSJ Algebra Prize
Kazuhiko Kurano (Meiji Univ.) Intersection theory over local rings and its application to the theory of Cohen–Macaulay modules (14:30–15:30)
- Award Lecture for the 2016 MSJ Algebra Prize
Masa-Hiko Saito (Kobe Univ.) Moduli spaces of connections and differential equations of Painlevé type (15:40–16:40)
- Award Lecture for the 2016 MSJ Algebra Prize
Hidenori Katsurada (Muroran Inst. of Tech.) Periods and congruences of automorphic forms and related topics (16:50–17:50)

Geometry (Conference Room V)

- Eliot Fried (Okinawa Inst. of Sci. and Tech. Grad. Univ.) Variational problems for soap films spanning flexible loops (16:15–17:15)

Functional Equations (Conference Room III)

- Masaki Kurokiba (Muroran Inst. of Tech.)^b Finite time blow up for a solution to system of the drift-diffusion equations in higher dimensions (16:30–17:30)

Real Analysis (Conference Room IV)

- Enji Sato (Yamagata Univ.*) The operators related to Fourier multipliers on some function spaces (16:30–17:30)

Functional Analysis (Conference Room IX)

- Hiroshi Ando (Chiba Univ.) Ultraproducts of operator algebras (15:15–16:15)

Statistics and Probability (Conference Room II)

- Nobuhiro Taneichi (Kagoshima Univ.) An approximation for the distribution of the multinomial goodness-of-fit statistic and its application to discrete statistical model (14:15–15:15)
- Award Lecture for the 2015 MSJ Analysis Prize
Akimichi Takemura (Univ. of Tokyo) Studies on holonomic gradient method (15:30–16:30)

Applied Mathematics (Conference Room VII)

- Miyuki Koiso (Kyushu Univ.) Geometry of anisotropic surface energy (16:15–17:15)

Topology (Conference Room VI)

- Dai Tamaki (Shinshu Univ.) Configuration spaces and homotopy theory (15:45–16:45)

Infinite Analysis (Conference Room VIII)

Daisuke Yamakawa (Tokyo Tech) Twisted wild character varieties (15:30–16:30)

March 19th (Sat)

Algebra (Conference Room I)

Pierre Baumann (Univ. de Strasbourg, CNRS) Paths, polytopes and loops in representation theory (16:00–17:00)

Geometry (Conference Room V)

Asuka Takatsu (Tokyo Metro. Univ.)^b Wasserstein/Information geometry and its applications ... (11:00–12:00)

Functional Equations (Conference Room III)

Award Lecture for the 2015 MSJ Analysis Prize

Mitsuru Sugimoto (Nagoya Univ.) Smoothing effect of Schrödinger equations in the angular direction (16:00–17:00)

Real Analysis (Conference Room IV)

Motohiro Sobajima (Tokyo Univ. of Sci.) On an L^p -theory for second-order elliptic operators with unbounded coefficients (15:15–16:15)

Applied Mathematics (Conference Room VII)

Kota Ikeda (Meiji Univ.) Congestion flow of pulses in an excitable reaction-diffusion system (16:00–17:00)

Infinite Analysis (Conference Room VIII)

Hiroyuki Yamane (Univ. of Toyama) Weyl groupoids and representation theory of generalized quantum groups (15:30–16:30)

Open Lectures for Citizens

Date: March 19th (Sat) 14:00–16:30

Venue: Bldg. 1H, 1F 1H101

Sponsored by: Mathematical Society of Japan

Co-sponsored by: University of Tsukuba

Program: Opening Speech (14:00–14:10)
Motoko Kotani (President of MSJ/Tohoku Univ.)

Lecture 1: “High-dimensional statistics” (14:10–15:10)
Makoto Aoshima (Univ. of Tsukuba)

Lecture 2: “The fluidity and immutability on convex polytopes” (15:30–16:30)
Takayuki Hibi (Osaka Univ.)

Web Page: <http://mathsoc.jp/en/meeting/tsukuba16mar/>

Foundation of Mathematics and History of Mathematics

March 16th (Wed) Conference Room IV

10:00–11:20

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|---|--|---|----|
| 1 | Toshio Harikae (Osaka Sangyo Univ.) | Solid figures in ancient China | 15 |
| 2 | Makoto Tamura (Osaka Sangyo Univ.) | Chants in math books of the Qin and the Han Dynasties in China
. | 10 |
| 3 | Shunzi Horiguchi
(Niigata Sangyo Univ.) | Handwriting analysis of Chinese characters in the picture scroll of kiku-
genpou betsuden ichimaki-hihachiji and 1000 characters of ten bodies
written by Koutaku Hosoi | 15 |
| 4 | Mitsuo Morimoto
(Yokkaichi Univ./Sophia Univ.*) | A modern transcription of the side writing method in the <i>Taisei Sankei</i>
. | 15 |
| 5 | Mitsuo Morimoto
(Yokkaichi Univ./Sophia Univ.*) | On the last problem of Volume 19, the <i>Taisei Sankei</i> | 15 |

11:20–11:50 Mathematics History Team Meeting

14:15–16:00

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| 6 | Shigeru Masuda
(Res. Workshop of Classical Fluid Dynamics) | Poisson's paradigm in <i>A Study of Mathematical Physics (Un Traité de
Physique Mathématique)</i> | 15 |
| 7 | Shigeru Masuda
(Res. Workshop of Classical Fluid Dynamics) | The theories and equations of heat come from Fourier and Poisson
. | 15 |
| 8 | Michiyo Nakane | Why do we believe that Euler began algebraic analysis? | 15 |
| 9 | Ken Saito (Osaka Pref. Univ.) | Euclid's <i>Elements</i> and the concept of prime factorization | 15 |
| 10 | Koichiro Ikeda (Hosei Univ.) | A remark on non-saturated generic structures | 15 |
| 11 | Hiroataka Kikyo (Kobe Univ.) | On constructions of countable projective planes | 15 |

16:15–17:15 Talk Invited by Section on Foundation and History of Mathematics

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| Byunghan Kim (Yonsei Univ.) | The Lascar groups and the 1st homology groups in model theory |
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March 17th (Thu) Conference Room IV

10:00–11:30

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| 12 | Takashi Oyabu | ^b Diff(M): Physics, and other 5 talks | 5 |
| 13 | Yasuhiko Omata (Tohoku Univ.)
Florian Pelupessy (Tohoku Univ.) | Dickson's lemma and weak Ramsey theory | 15 |
| 14 | Daisuke Ikegami (Tokyo Denki Univ.) | Boolean valued second order logic | 15 |
| 15 | Sakaé Fuchino (Kobe Univ.) | On reflection numbers of some topological and combinatorial properties
. | 15 |
| 16 | Makoto Kikuchi (Kobe Univ.)
Joel David Hamkins (CUNY) | On the element-of relation and the inclusion relation in set theory | 15 |
| 17 | Masanao Ozawa (Nagoya Univ.) | Order of reals in quantum set theory: Difference of its operational
meaning for the different choices of conditionals | 15 |

11:30–12:00 Research Section Assembly**13:15–14:25**

18	Takahiro Seki (Niigata Univ.)	The decidability of some non-associative substructural logics	15
19	Yoshihito Tanaka (Kyushu Sangyo Univ.)	Axioms of S4.3 in \mathcal{EL} and their algebraic models	15
20	Kenshi Miyabe (Meiji Univ.)	Mass problem of randomness notions	15
21	Kohtaro Tadaki (Chubu Univ.)	An operational characterization of the notion of probability by algorithmic randomness II	15

Algebra

March 16th (Wed) Conference Room I

9:30–12:00

1	Toshio Sumi (Kyushu Univ.) Mitsuhiro Miyazaki (Kyoto Univ. of Edu.) Toshio Sakata (Kyushu Univ.)	On the real radical of determinantal ideals of matrices defined by certain tensors	15
2	Takafumi Shibuta (Kyushu Univ.) Shinichi Tajima (Univ. of Tsukuba)	Computation of the standard basis of modules based on Matlis duality	15
3	Yusuke Suyama (Osaka City Univ.)	The Ehrhart polynomial of a 3-dimensional simple integral convex polytope	10
4	Akiyoshi Tsuchiya (Osaka Univ.) Takayuki Hibi (Osaka Univ.) Kazunori Matsuda (Osaka Univ.)	Normal Gorenstein Fano polytopes arising from partially ordered sets and the Ehrhart polynomials	15
5	Kazuho Ozeki (Yamaguchi Univ.) Maria Evelina Rossi (Genova Univ.)	The structure of the Sally module of integrally closed ideals	15
6	Akihiro Higashitani (Kyoto Sangyo Univ.)	Almost Gorenstein standard graded rings and their h -vectors	15
7	Satoshi Yamanaka (Okayama Univ.) ^b	Some remarks on the weakly separability in skew polynomial rings . . .	10
8	Naoyuki Matsuoka (Meiji Univ.) Shiro Goto (Meiji Univ.) Naoki Taniguchi (Meiji Univ.) Ken-ichi Yoshida (Nihon Univ.)	The almost Gorenstein Rees algebras of contracted ideals	15
9	Kei-ichi Watanabe (Nihon Univ.) ^b Tomohiro Okuma (Yamagata Univ.) Kenichi Yoshida (Nihon Univ.)	A characterization of two-dimensional rational singularities via Core of ideals	15

14:15–16:50

10	Shigeru Iitaka (Gakushuin Univ.*)	On ϕ perfect numbers with respect to Euler's function	10
11	Aiichi Yamasaki (Kyoto Univ.) Akinari Hoshi (Niigata Univ.) Ming-chang Kang (Nat. Taiwan Univ.)	Degree three unramified cohomology groups	15
12	Aiichi Yamasaki (Kyoto Univ.) Akinari Hoshi (Niigata Univ.)	Bravais group of dimension $n \leq 6$ and corresponding quadratic forms	15
13	Akinari Hoshi (Niigata Univ.)	On Noether's problem for cyclic groups of prime order	15
14	Akinari Hoshi (Niigata Univ.) Hidetaka Kitayama (Wakayama Univ.)	Three-dimensional purely quasi-monomial actions	15
15	Tetsuya Ando (Chiba Univ.)	PSD cone on a semialgebraic set	15
16	Goo Ishikawa (Hokkaido Univ.) Tatsuya Yamashita (Hokkaido Univ.)	Leibniz complexity of Nash functions on differentiations	15
17	Katsumi Akahori (Gifu Pharmaceutical Univ.)	Remarks on normal generation of special line bundles with $\deg(L) < 2g - 1 - 4h^1(L)$ on algebraic curves	15
18	Shinya Kitagawa (Gifu Nat. Coll. of Tech.)	An example of a genus two fibration with no section on a rational surface	10

March 17th (Thu) Conference Room I

9:30–12:00

19	Tomohiro Iwami (Kyushu Sangyo Univ.)	^b Further refinement of Shokurov's projectivity criterion	15
20	Yoshiaki Fukuma (Kochi Univ.)	On polarized 4-folds (X, L) with $h^0(K_X + 3L) \leq 1$	15
21	Atsushi Noma (Yokohama Nat. Univ.)	Regularity of projected Roth varieties	10
22	Tomoo Matsumura (Okayama Univ. of Sci.) Thomas Hudson (Postech)	Segre classes in algebraic cobordism	15
23	Yuki Kato (Ube Nat. Coll. of Tech.)	Loop stacks of the affine motivic stack of K -theory	15
24	Yu Yasufuku (Nihon Univ.)	Vojta's conjecture on surfaces, the abc conjecture, and Farey sequences	15
25	Hiroshi Tsunogai (Sophia Univ.) Michihiko Sawa (Sophia Univ.)	Determination of Galois orbits of genus 1 dessins of degree up to 6	10
26	Sachio Ohkawa (Univ. of Tokyo)	The Riemann–Hilbert correspondence for unit F -crystals	15
27	Yūsuke Okuyama (Kyoto Inst. Tech.)	A potential theoretic characterization of polynomials among rational functions on the Berkovich projective line	15

March 18th (Fri) Conference Room I

9:00–12:00

- 28 Yasutoshi Nomura ^b On congruences of Apéry-like numbers 10
- 29 Taka-aki Tanaka (Keio Univ.) On the algebraically independent subsets of the ‘intersection’ of the real
Miho Nakashima (Keio Univ.) numbers \mathbb{R} and the finite number of the p -adic fields \mathbb{Q}_p 10
- 30 Takahisa Kawada On the unimodality of the coefficients of Gegenbauer polynomials 15
(Nagoya Inst. of Tech.)
Masakazu Yamagishi
(Nagoya Inst. of Tech.)
- 31 Yoshio Tanigawa (Nagoya Univ.) On a restricted divisor problem 10
Jun Furuya
(Hamamatsu Univ. School of Medicine)
Makoto Minamide (Yamaguchi Univ.)
- 32 Debika Banerjee On the first moment of $\Delta_{(1)}(x)$ 10
(Harish-Chandra Res. Inst.)
Makoto Minamide (Yamaguchi Univ.)
- 33 Yuta Suzuki (Nagoya Univ.) On the sum of a prime and a prime power 10
- 34 Kaneaki Matsuoka (Nagoya Univ.)^b Mean values of higher derivatives of Hardy’s function 10
- 35 Tomoya Machide On identities involving cyclic sums of regularized multiple zeta values
(Nat. Inst. of Information/JST ERATO) each of depth less than 5 10
- 36 Tomohiro Ooto (Univ. of Tsukuba) Properties of Diophantine exponents for formal Laurent series over a
finite field 15
- 37 Fumihiro Sato (Rikkyo Univ.*^b) Real analytic automorphic forms arising from certain prehomogeneous
Kazunari Sugiyama zeta functions in two variables 15
(Chiba Inst. of Tech.)
Takahiko Ueno
(St. Marianna Univ. School of Med.)
- 38 Tadashi Okazaki (Nat. Taiwan Univ.) Prime number and scaling dimension via Whittaker function 15
- 39 Koji Yamagata (Nagoya Inst. of Tech.) On the ring of integers of real cyclotomic fields 15
Masakazu Yamagishi
(Nagoya Inst. of Tech.)

14:15–14:30 Presentation Ceremony for the 2016 MSJ Algebra Prize**14:30–15:30 Award Lecture for the 2016 MSJ Algebra Prize**

Kazuhiko Kurano (Meiji Univ.) Intersection theory over local rings and its application to the theory of
Cohen–Macaulay modules

15:40–16:40 Award Lecture for the 2016 MSJ Algebra Prize

Masa-Hiko Saito (Kobe Univ.) Moduli spaces of connections and differential equations of Painlevé type

16:50–17:50 Award Lecture for the 2016 MSJ Algebra Prize

Hidenori Katsurada Periods and congruences of automorphic forms and related topics
(Muroran Inst. of Tech.)

March 19th (Sat) Conference Room I

9:30–12:00

- 40 Saburoou Saitoh Reality of the division by zero $z/0 = 0$ 10
 (Gunma Univ.*/Inst. of Reproducing Kernels)
 Hiroshi Michiwaki (NejiLaw Inc.)
 Masato Yamada
 (Inst. of Reproducing Kernels)
- 41 Saburoou Saitoh The concept of divisions (fractionals) in fields containing the division
 by zero 10
 (Gunma Univ.*/Inst. of Reproducing Kernels)
 Masato Yamada
 (Inst. of Reproducing Kernels)
- 42 Osamu Shimabukuro (Nagasaki Univ.) Modular adjacency algebras and standard representations of wreath
Akihide Hanaki (Shinshu Univ.) products of complete graphs 10
- 43 Katsuhiko Kuribayashi (Shinshu Univ.) On Mitchell's embedding theorem for a quasi-schemoid 15
Yasuhiro Momose (Shinshu Univ.)
- 44 Hideo Kamimura On direct projective H -supplemented modules 10
 (Fukuoka Inst. of Tech.)
 Isao Kikumasa (Yamaguchi Univ.)
 Yosuke Kuratomi (Yamaguchi Univ.)
- 45 Ryo Tabata (Ariake Nat. Coll. of Tech.) Congruences on irreducible spin characters of symmetric groups 10
Kazuya Aokage
 (Ariake Nat. Coll. of Tech.)
- 46 Kenichi Shimizu (Nagoya Univ.) Remarks on non-semisimple modular tensor categories 15
- 47 Tsunekazu Nishinaka (Univ. of Hyogo) Uncountable locally free groups and their group rings 10
- 48 Hiroki Shimakura (Tohoku Univ.) On orbifold constructions of holomorphic vertex operator algebras of
 central charge 24 10
- 49 Yusuke Arike (Univ. of Tsukuba) Affine vertex operator algebras and modular linear differential equations
Masanobu Kaneko (Kyushu Univ.) 15
Kiyokazu Nagatomo (Osaka Univ.)
Yuichi Sakai
- 50 Yusuke Arike (Univ. of Tsukuba) Vertex operator algebras, minimal models, and modular linear differen-
Kiyokazu Nagatomo (Osaka Univ.) tial equations of order 4 15
Yuichi Sakai

14:15–15:45

- 51 Hiroshi Yamauchi On types of Miyamoto involutions 15
 (Tokyo Woman's Christian Univ.)
 Ching Hung Lam (Academia Sinica)
- 52 Tomohiro Kamiyoshi Counting hom-orthogonal partial tilting modules associated with valued
 (Matsue Coll. of Tech.) Dynkin graphs 10
Yoshiteru Kurosawa
 (Numazu Nat. Coll. of Tech.)
Hiroshi Nagase (Tokyo Gakugei Univ.)
Makoto Nagura
 (Nara Nat. Coll. of Tech.)

11 Geometry

- 53 Izuru Mori (Shizuoka Univ.) Tilting theory for noncommutative quotient singularities 15
Kenta Ueyama (Hirosaki Univ.)
- 54 Kengo Miyamoto (Osaka Univ.) A component of the stable AR quiver that contains Heller lattices:
the case of the Kronecker algebra over complete discrete valuation ring
..... 15
- 55 Ayako Itaba (Shizuoka Univ.) Frobenius Koszul algebras and superpotential 15
Gahee Kim (Shizuoka Univ.)

16:00–17:00 Talk Invited by Algebra Section

Pierre Baumann Paths, polytopes and loops in representation theory
(Univ. de Strasbourg, CNRS)

Geometry

March 16th (Wed) Conference Room V

9:30–12:00

- 1 Sampei Hirose (Shibaura Inst. of Tech.) Discretization of the vortex filament equation 15
Jun-ichi Inoguchi (Univ. of Tsukuba)
Kenji Kajiwara (Kyushu Univ.)
Nozomu Matsuura (Fukuoka Univ.)
Yasuhiro Ohta (Kobe Univ.)
- 2 Jun O'Hara (Chiba Univ.) Regularization of Riesz energy of submanifolds 15
Gil Solanes
(Univ. Autònoma de Barcelona)
- 3 Takanari Saotome The Olivier Rey's inequality on the Heisenberg group 15
(Shibaura Inst. of Tech.)
- 4 Atsufumi Honda Isometric immersions with singularities between space forms of the same
(Miyakonojo Nat. Coll. of Tech.) positive curvature 10
- 5 Kotaro Kawai (Univ. of Tokyo) Stabilities of affine Legendrian submanifolds 15
- 6 Kazuyuki Hasegawa (Kanazawa Univ.) Twistor lifts and factorization for conformal maps of a surface I 15
Katsuhiro Moriya (Univ. of Tsukuba)
- 7 Katsuhiro Moriya (Univ. of Tsukuba) Twistor lifts and factorization for conformal maps of a surface II 15
Kazuyuki Hasegawa (Kanazawa Univ.)
- 8 Katsuhiro Moriya (Univ. of Tsukuba) The Schwarz–Pick theorem for super-conformal maps 15
- 9 Hiroshi Iriyeh (Ibaraki Univ.)^b Hamiltonian non-displaceability of Gauss images of isoparametric hyper-
Hui Ma (Tsinghua Univ.) surfaces 15
Reiko Miyaoka (Tohoku Univ.)
Yoshihiro Ohnita (Osaka City Univ.)

14:15–16:30

- 10 Mitsuhiro Imada (Ibaraki Nat. Coll. of Tech.) Complex contact metric structures on complex hypersurfaces in hyperkähler manifolds 10
- 11 Hiroshi Sawai (Numazu Nat. Coll. of Tech.) Structure theorem for Vaisman completely solvmanifolds 15
- 12 Changhwa Woo (Kyungpook Nat. Univ.) Ricci semi-symmetric hypersurface in complex two-plane Grassmannians 15
Young Jin Suh (Kyungpook Nat. Univ.)
Doo Hyun Hwang (Kyungpook Nat. Univ.)
- 13 Isami Koga (Kyushu Univ.) Rigidity of a certain strongly projectively flat map into the complex Grassmannian 15
- 14 Toru Kajigaya (Osaka City Univ.) Homogeneous Lagrangian submanifolds obtained by solvable Lie groups in complex hyperbolic space 10
Takahiro Hashinaga (Kitakyushu Nat. Coll. of Tech.)
- 15 Kazuhiro Suzuki (Nagoya Inst. of Tech.) Calculation methods of polynomial representations of non-flat totally geodesic surfaces in symmetric spaces of type AI 15
Misa Ohashi (Nagoya Inst. of Tech.)
Hideya Hashimoto (Meijo Univ.)
- 16 Shinobu Fujii (Oshima Nat. Coll. of Maritime Tech.) Quartic Cartan–Münzner polynomials and Casimir operators 10
- 17 Shinji Ohno (Tokyo Metro. Univ.) Construction of biharmonic homogeneous submanifolds in compact symmetric spaces 15
Takashi Sakai (Tokyo Metro. Univ.)
Hajime Urakawa (Tohoku Univ.*)
- 18 Makiko Tanaka (Tokyo Univ. of Sci.) Maximal antipodal subgroups of compact Lie groups II 15
Hiroyuki Tasaki (Univ. of Tsukuba)

16:45–17:45 Talk Invited by Geometry Section

- Jost-Hinrich Eschenburg^b Extrinsic symmetric spaces
(Univ. of Augsburg)

March 17th (Thu) Conference Room V

9:00–10:45

- 19 Yuto Yamamoto (Univ. of Tokyo)^b Geometric monodromy around the tropical limit 15
- 20 Kazushi Kobayashi (Chiba Univ.) Structure of the mapping cone of a morphism between holomorphic line bundles on \mathbb{T}^2 15
- 21 Satoshi Sugiyama (Univ. of Tokyo) On an application of the Fukaya categories to the Koszul duality 15
- 22 Yosuke Morita (Univ. of Tokyo) Obstructions to the existence of compact manifolds locally modelled on homogeneous spaces 15
- 23 Kenta Hayano (Hokkaido Univ.) Topology of holomorphic Lefschetz pencils on abelian surfaces 15
Noriyuki Hamada (Univ. of Tokyo)
- 24 Yohsuke Imagi (Kavli IPMU)^b Construction of compact special Lagrangian T^2 -conifolds 15

11:00–12:00 Talk Invited by Geometry Section

Hiraku Nozawa (Ritsumeikan Univ.) On rigidity and characteristic classes of (G, X) -foliations

March 18th (Fri) Conference Room V

9:30–11:50

- 25 Takuya Tsuchiya (Waseda Univ.) Linear stability of the triangular solution for the three problems in
Kei Yamada (Kyoto Univ.) general relativity 15
Hideki Asada (Hirosaki Univ.)
- 26 Stefan Andrew Horocholyn On the Stokes matrices of the tt^* -Toda equations 15
(Tokyo Metro. Univ.)
- 27 Yutaro Kabata (Hokkaido Univ.) Recognition problem of plane-to-plane map-germs and its application
to projective differential geometry 10
- 28 Atsushi Yano (Hokkaido Univ.) On the characterization of second order partial differential equations of
several unknown functions 10
- 29 Goo Ishikawa (Hokkaido Univ.) Affine connections and singularities of tangent surfaces to space curves
Tatsuya Yamashita (Hokkaido Univ.) 15
- 30 Kazuyoshi Watanabe (Tohoku Univ.)^b Zero-points of closed 1-form on topological spaces 10
- 31 Tomoshige Yukita (Waseda Univ.) On the growth rate of cofinite Coxeter groups in hyperbolic 3-space
..... 15
- 32 Yoshifumi Matsuda Uniform simplicity of Thompson's group T 15
(Aoyama Gakuin Univ.)
- 33 Takefumi Kondo (Kagoshima Univ.) Fixed point property for affine actions on a Hilbert space 15
Shin Nayatani (Nagoya Univ.)
Hiroyasu Izeki (Keio Univ.)

14:15–16:00

- 34 Ryosuke Takahashi (Nagoya Univ.) Asymptotic stability for Kähler–Ricci solitons 10
- 35 Ryosuke Takahashi (Nagoya Univ.) An obstruction to the existence of anti-canonically balanced metrics on
Shunsuke Saito (Univ. of Tokyo) Fano manifolds 10
- 36 Kenta Tottori (Tohoku Univ.) Calabi's conjecture of the Kähler–Ricci soliton type 15
- 37 Masaya Kawamura C^α -convergence of the Chern–Ricci flow on elliptic surfaces 15
(Tokyo Metro. Univ.)
- 38 Hikaru Yamamoto (Univ. of Tokyo) On self-similar solutions in gradient shrinking Ricci solitons 10
- 39 Naoyuki Koike (Tokyo Univ. of Sci.) On the preservability of the curvature-adaptedness along the mean
curvature flow 15
- 40 Yoshihiro Tonegawa (Tokyo Tech) Mean curvature flow of grain boundaries 10
Lami Kim (Tokyo Tech)

16:15–17:15 Talk Invited by Geometry Section

Eliot Fried Variational problems for soap films spanning flexible loops
(Okinawa Inst. of Sci. and Tech. Grad. Univ.)

March 19th (Sat) Conference Room V

9:00–10:45

- 41 Hiroataka Ebisui (Oval Research Center) 4 points collinear theorem among two given circles (Ellipses) 15
- 42 Kenzi Satô (Tamagawa Univ.) A definition of escribed and inscribed simplices of higher dimensional Euclidean spaces and an expansion of Bevan point theorem 15
- 43 Mitsuhiro Itoh (Univ. of Tsukuba) Fisher information metric on the space of probability measures and
Hiroyasu Satoh (Nippon Inst. of Tech.) distance function 10
- 44 Mitsuhiro Itoh (Univ. of Tsukuba) Generalized mean of probability measures and geodesics for Fisher
Hiroyasu Satoh (Nippon Inst. of Tech.) information metric 10
- 45 Ryunosuke Ozawa (Kyoto Univ.) Stability of Talagrand's inequality under the concentration topology 15
- 46 Nobuhiro Innami (Niigata Univ.) Geodesics in a Finsler surface of revolution 10
- 47 Kei Kondo (Yamaguchi Univ.) Differentiable exotic sphere theorem 15
Minoru Tanaka (Tokai Univ.)

11:00–12:00 Talk Invited by Geometry Section

Asuka Takatsu (Tokyo Metro. Univ.)^b Wasserstein/Information geometry and its applications

Complex Analysis

March 16th (Wed) Conference Room VIII

9:45–11:45

- 1 Rintaro Ohno (Tohoku Univ.) On a Fekete–Szegő-type problem of concave functions 15
Toshiyuki Sugawa (Tohoku Univ.)
- 2 Rintaro Ohno (Tohoku Univ.)^b On the second Hankel determinant of concave functions 10
Toshiyuki Sugawa (Tohoku Univ.)
- 3 Masanori Amano (Tokyo Tech) A global coordinate of the Teichmüller space related to asymptotic Jenkins–Strebel rays 15
- 4 Masashi Kisaka (Kyoto Univ.) Julia sets appear quasi-conformally in the Mandelbrot set 15
Tomoki Kawahira (Tokyo Tech)
- 5 Tomoki Kawahira (Tokyo Tech) From Cantor to Misiurewicz along parameter rays 15
- 6 Tomoki Kawahira (Tokyo Tech) The Riemann hypothesis and holomorphic index in complex dynamics 15
- 7 Hiroki Sumi (Osaka Univ.) Hausdorff dimension of the Julia sets of postcritically bounded polynomial semigroups and transversality condition 15

14:15–15:05

- 8 Kentarou Itou (Meijo Univ.) On weighted polynomial approximation by the de la Vallée Poussin
 Ryozi Sakai (Meijo Univ.) mean 15
 Noriaki Suzuki (Meijo Univ.)
- 9 Yoşuke Hishikawa (Gifu Univ.) $L^{(\alpha)}$ -conjugates on parabolic Bloch spaces 15
 Masaharu Nishio (Osaka City Univ.)
 Yamada Masahiro (Gifu Univ.)
- 10 Kiyoki Tanaka (Osaka City Univ.) Biharmonic Bergman kernel of an external domain 15

15:25–16:25 Talk Invited by Complex Analysis Section

- Johannes Jaerisch (Shimane Univ.) Hausdorff dimension of the Julia sets of non-hyperbolic polynomial
 semigroups and the method of inducing

16:45–17:45 Talk Invited by Complex Analysis Section

- Yoshihiko Matsumoto (Tokyo Tech) Deformations of complete Einstein metrics on strictly pseudoconvex
 domains

March 17th (Thu) Conference Room VIII

9:45–11:50

- 11 Kouichi Kimura Homogeneous pseudoconvex Reinhardt domains in \mathbb{C}^3 15
- 12 Atsushi Yamamori (Nagoya Univ.) Yet another proof of Poincaré’s theorem on the inequivalence of the
 unit ball and the polydisk 10
- 13 Tatsuhiro Honda Radius of univalence and related problems in complex Hilbert spaces
 (Hiroshima Inst. of Tech.) 15
 Ian Graham (Univ. of Toronto)
 Hidetaka Hamada
 (Kyushu Sangyo Univ.)
 Gabriela Kohr (Babeş-Bolyai Univ.)
 Kwang Ho Shon (Pusan Nat. Univ.)
- 14 Filippo Bracci Variation of Loewner chains, extreme and support points in the class
 (Univ. di Roma “Tor Vergata”) S^0 in several complex variables 15
 Ian Graham (Univ. of Toronto)
 Hidetaka Hamada
 (Kyushu Sangyo Univ.)
 Gabriela Kohr (Babeş-Bolyai Univ.)
- 15 Yukitaka Abe (Univ. of Toyama) Cohomology groups of sections of homogeneous line bundles over a
 toroidal group 15
- 16 Atsushi Atsuji (Keio Univ.) Nevanlinna type theorems for meromorphic functions on negatively
 curved Kähler manifolds 10
- 17 Masanori Adachi (Tokyo Univ. of Sci.) Curvature restrictions for Levi-flat real hypersurfaces in complex pro-
 Judith Brinkschulte (Univ. Leipzig) jective planes 15
- 18 Takeo Ohsawa (Nagoya Univ.)^b An optimal L^2 extension theorem on \mathbb{C}^n 10

13:15–14:20

- 19 Shinichi Tajima (Univ. of Tsukuba)^b Limiting tangent spaces and local cohomology 15
 Katsusuke Nabeshima
 (Univ. of Tokushima)
- 20 Masataka Tomari (Nihon Univ.)^b On maximal ideal cycle of normal two-dimensional graded singularity
 Tadashi Tomaru (Gunma Univ.) whose central curve is a nonsingular rational curve 15
- 21 Katsusuke Nabeshima A computation method of Bruce–Roberts’ Milnor numbers with param-
 (Univ. of Tokushima) eters 15
 Shinichi Tajima (Univ. of Tsukuba)
- 22 Katsusuke Nabeshima Computing holonomic D -modules and b -functions with parameters ... 15
 (Univ. of Tokushima)
 Katsuyoshi Ohara (Kanazawa Univ.)
 Shinichi Tajima (Univ. of Tsukuba)

Functional Equations

March 16th (Wed) Conference Room III

9:30–12:00

- 1 Katsumi Matsuda (Tokai Univ.) On the exact figure eight solution of the equal-mass planar 3-body
 problem 12
- 2 Takuya Yamashiro (Kumamoto Univ.)^b Holonomic system singular along quartic curve with three cusps 12
 Yoshishige Haraoka (Kumamoto Univ.)
- 3 Masafumi Yoshino (Hiroshima Univ.) Application of Borel summability to small denominator problem 12
- 4 Hikaru Igarashi (Chuo Univ.) New Airy-type solutions of the ultradiscrete Painlevé II equation with
 Shin Isojima (Hosei Univ.) parity variables 12
 Kouichi Takemura (Chuo Univ.)
- 5 Mika Tanda The Voros coefficients of the Gauss hypergeometric differential equation
 (Kwansei Gakuin Univ./Kinki Univ.) with a large parameter 12
 Toshinori Takahashi (Kinki Univ.)
 Takashi Aoki (Kinki Univ.)
- 6 Toshinori Takahashi (Kinki Univ.) The hypergeometric function with a large parameter and WKB solutions
 Mika Tanda 12
 (Kwansei Gakuin Univ./Kinki Univ.)
 Takashi Aoki (Kinki Univ.)
- 7 Patrick van Meurs (Kanazawa Univ.) Discrete-to-continuum convergence of interacting particle systems 12
- 8 Masakazu Onitsuka Attractivity, rectifiability and non-rectifiability of solutions for two-
 (Okayama Univ. of Sci.) dimensional linear differential systems 12
 Satoshi Tanaka (Okayama Univ. of Sci.)
- 9 Masashi Toyoda (Tamagawa Univ.) Note on Knežević–Miljanović’s theorem in a class of fractional differen-
 Toshiharu Kawasaki (Tamagawa Univ.) tial equations 10

- 10 Hiroyuki Usami (Gifu Univ.)^b Asymptotic forms of slowly decaying solutions of a kind of Lanchester-type system 12

14:15–16:15

- 11 Tomoyuki Tanigawa (Kumamoto Univ.) Asymptotic behavior of positive solutions of second order half-linear functional differential equations with deviating arguments of mixed type 12
- 12 Hideaki Matsunaga (Osaka Pref. Univ.) Center manifold theorem and stability for integral equations with infinite delay 12
 Satoru Murakami
 Yutaka Nagabuchi
 (Okayama Univ. of Sci.)
 Nguyen Van Minh (Univ. of Arkansas)
- 13 Tetsutaro Shibata (Hiroshima Univ.) Inverse bifurcation problems for the equation of population model 12
- 14 Shingo Takeuchi Multiple-angle formula of generalized trigonometric functions and its applications to the p -Laplacian 12
 (Shibaura Inst. of Tech.)
- 15 Masato Hashizume (Osaka City Univ.) Minimization problem on the Hardy–Sobolev inequality 12
- 16 Megumi Sano (Osaka City Univ.) Scale invariance structures of the critical and the subcritical Hardy inequalities and their improvements 12
 Futoshi Takahashi (Osaka City Univ.)
- 17 Megumi Sano (Osaka City Univ.) Scaling invariant Hardy type inequalities with non-standard remainder terms 12

16:30–17:30 Talk Invited by Functional Equations Section

- Mitsuru Shibayama (Kyoto Univ.) A variational approach to periodic orbits in the n -body problem

March 17th (Thu) Conference Room III

9:30–12:00

- 18 Atsushi Kosaka (Osaka City Univ.) Singular perturbation of semilinear Neumann problems on non-smooth domains 12
- 19 Daisuke Naimen (Tokyo Tech) Two solutions for the Kirchhoff type elliptic problem with critical nonlinearity in high dimension 12
 Masataka Shibata (Tokyo Tech)
- 20 Norihisa Ikoma (Kanazawa Univ.) Existence of positive solutions for nonlinear elliptic equations involving the Pucci operators 12
 Patricio Felmer (Univ. de Chile)
- 21 Kotaro Watanabe Uniqueness of positive solutions of Brezis–Nirenberg problems on \mathbb{H}^n 12
 (Nat. Defense Acad. of Japan)
 Naoki Sioji (Yokohama Nat. Univ.)
- 22 Ryuji Kajikiya (Saga Univ.) Nonradial positive solutions of the p -Laplace Emden–Fowler equation 12
- 23 Satoshi Tanaka (Okayama Univ. of Sci.) Morse index and symmetry-breaking bifurcation for the one-dimensional Liouville type equation 12
- 24 Tomohiko Sato (Nihon Univ.) Morse indices of the solutions to the Liouville–Gel’fand problem with variable coefficients 12
 Takashi Suzuki (Osaka Univ.)
- 25 Masaaki Mizukami Boundedness in a two-species chemotaxis system with any chemical diffusion 12
 (Tokyo Univ. of Sci.)
 Tomomi Yokota (Tokyo Univ. of Sci.)

- 26 Tatsuki Mori (Ryukoku Univ.) All global bifurcation curves for a cell polarization model 12
 Kousuke Kuto
 (Univ. of Electro-Comm.)
 Tohru Tsujikawa (Univ. of Miyazaki)
 Shoji Yotsutani (Ryukoku Univ.)

13:30–14:30 Award Lecture for the 2015 MSJ Analysis Prize

- Kazunaga Tanaka (Waseda Univ.) Singular perturbation problems for nonlinear elliptic equations —variational methods for degenerate setting—

March 18th (Fri) Conference Room III

9:30–12:00

- 27 Tsubasa Itoh (Tokyo Tech) The growth of the vorticity gradient for the two-dimensional Euler flow
 Hideyuki Miura (Tokyo Tech) on domains with a corner 10
 Tsuyoshi Yoneda (Tokyo Tech)
- 28 Naoki Tsuge (Gifu Univ.) Cauchy problem for the compressible Euler equation with an outer force
 12
- 29 Hirotsada Honda (NTT) On maximal attractor and inertial set for Kuramoto–Sakaguchi equation
 Atusi Tani (Keio Univ.*) 12
- 30 Masatoshi Okita Asymptotic profiles for the compressible Navier–Stokes equations in the
 (Kurume Nat. Coll. of Tech.) whole space 12
 Yoshiyuki Kagei (Kyushu Univ.)
- 31 Kazuyuki Tsuda (Kyushu Univ.) Time periodic problem for the compressible Navier–Stokes equation on
 \mathbb{R}^2 with antisymmetry 12
- 32 Yuko Enomoto (Shibaura Inst. of Tech.)^b Some global well-posedness results for the compressible barotropic vis-
 Yoshihiro Shibata (Waseda Univ.) cous fluid flow 12
- 33 Yoshiyuki Kagei (Kyushu Univ.) On Chorin’s method for stationary solutions of the Oberbeck–Boussinesq
 Takaaki Nishida (Kyoto Univ.) equation 12
- 34 Hajime Koba (Waseda Univ.) On compressible fluid flow on an evolving hypersurface 10
- 35 Hajime Koba (Waseda Univ.) On incompressible fluid flow on an evolving hypersurface 10
- 36 Erika Ushikoshi (Tamagawa Univ.) Hadamard variational formula for the eigenvalues of the Stokes equa-
 Shuichi Jimbo (Hokkaido Univ.) tions and its application 10
 Hideo Kozono (Waseda Univ.)
 Yoshiaki Teramoto (Setsunan Univ.)
- 37 Teppei Kobayasi (Meiji Univ.)^b A steady flow of an incompressible viscous fluid in a generalized aperture
 domain for a plane 12

14:15–16:15

- 38 Ana Silvestre (Tech. Univ. of Lisbon)^b A boundary control problem for the steady self-propelled motion of a
 Takéo Takahashi (Univ. of Lorraine) rigid body in a Navier–Stokes fluid 12
 Toshiaki Hishida (Nagoya Univ.)
- 39 Hideo Kozono (Waseda Univ.) A remark on Liouville-type theorems for the stationary Navier–Stokes
 Yutaka Terasawa (Nagoya Univ.) equations in three space dimensions 10
 Yuta Wakasugi (Nagoya Univ.)

40	Takahiro Okabe (Hirosaki Univ.)	Time periodic strong solution to the Navier–Stokes equations with large data	12
41	Mitsuo Higaki (Tohoku Univ.)	Navier wall law for nonstationary viscous incompressible flows	12
42	<u>Noboru Chikami</u> (Tohoku Univ.) Raphaël Danchin (Univ. Paris-Est)	Global solution for the Navier–Stokes–Poisson system in two and higher dimensions	12
43	<u>Hirokazu Saito</u> (Waseda Univ.) Sri Maryani (Waseda Univ.)	On the \mathcal{R} -boundedness of solution operator families for two-phase Stokes resolvent equations	10
44	Ken Abe (Kyoto Univ.)	On regularity of axisymmetric Navier–Stokes flows in an exterior domain	10
45	Takashi Suzuki (Osaka Univ.)	2D Smoluchowski–Poisson equation: criteria on collision of sub-collapses	8
46	Takayoshi Ogawa (Tohoku Univ.) ^b <u>Hiroshi Wakui</u> (Tohoku Univ.)	Non-uniform bound and finite time blow up for solutions to a drift-diffusion equation in higher dimensions	12

16:30–17:30 Talk Invited by Functional Equations Section

Masaki Kurokiba (Muroran Inst. of Tech.)	^b Finite time blow up for a solution to system of the drift-diffusion equations in higher dimensions
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March 19th (Sat) Conference Room III

9:30–12:00

47	Yuki Kimura (Tohoku Univ.)	Asymptotic profile of a solution to thermoelastic equations	12
48	<u>Hironichi Ito</u> (Tokyo Univ. of Sci.) Victor A. Kovtunenکو (Univ. of Graz) Kumbakonam R. Rajagopal (Texas A & M Univ.)	On a crack problem for nonlinear elasticity	12
49	Hideo Soga (Ibaraki Univ.)	Generalization of the Maxwell equation and relation to elastic equations	12
50	<u>Hironari Miyoshi</u> (Waseda Univ.) Masayoshi Tsutsumi (Waseda Univ.)	Convergence of hydrodynamical limits for generalized Carleman models with nonhomogeneous boundary condition	10
51	Hironobu Sasaki (Chiba Univ.)	Small analytic solutions to the Hartree equation	10
52	<u>Sojiro Murai</u> (Univ. of Electro-Comm.) Kiyoshi Mochizuki (Tokyo Metro. Univ.*/Chuo Univ.)	Smoothing and scattering for Klein–Gordon equations in exterior domain with time dependent perturbations	10
53	<u>Mamoru Okamoto</u> (Shinshu Univ.) Shuji Machihara (Saitama Univ.) Hyungjin Huh (Chung-Ang Univ.)	Well-posedness and ill-posedness of the Cauchy problem for the one dimensional nonlinear Dirac equations	10
54	Takiko Sasaki (Univ. of Tokyo)	Blow-up curve for a derivative nonlinear wave equation	10
55	Hiroyuki Takamura (Future Univ.-Hakodate)	Improved Kato’s lemma and a new conjecture on the lifespan of solutions of semilinear wave equations in two space dimensions	12
56	Masaru Ikehata (Hiroshima Univ.)	On finding an obstacle embedded in the rough background medium via the enclosure method in the time domain	12
57	Yuta Wakasugi (Nagoya Univ.)	Scaling variables and asymptotic profiles of solutions to the semilinear damped wave equation with variable coefficients	10

14:15–15:45

- 58 Sohei Ashida (Kyoto Univ.) Propagation estimates for the scattering channels with 2 clusters of N-body Schrödinger operators 12
- 59 Masayuki Hayashi (Waseda Univ.) Global solutions for a generalized nonlinear derivative Schrödinger equation 12
Tohru Ozawa (Waseda Univ.)
- 60 Ryosuke Hyakuna (Waseda Univ.) On global solutions to the nonlinear Schrödinger equations with large L^p -initial data 10
- 61 Takahisa Inui (Kyoto Univ.) Global Dynamics for a nonlinear Schrödinger equation with a repulsive Dirac delta potential 12
Masahiro Ikeda (Kyoto Univ.)
- 62 Kota Uriya (Tohoku Univ.) Final state problem for systems of cubic nonlinear Schrödinger equations 12
- 63 Yuji Sagawa (Osaka Univ.) The lifespan of small solutions to cubic derivative nonlinear Schrödinger equations in one space dimension 10
Hideaki Sunagawa (Osaka Univ.)

16:00–17:00 Award Lecture for the 2015 MSJ Analysis Prize

- Mitsuru Sugimoto (Nagoya Univ.) Smoothing effect of Schrödinger equations in the angular direction

Real Analysis

March 18th (Fri) Conference Room IV

9:30–12:00

- 1 Yoshifumi Ito (Univ. of Tokushima*)^b New proof of Plancherel's theorem 15
- 2 Yōhei Yamasaki (Yamato Univ.) Around a Jordan curve of positive measure in \mathbb{R}^3 15
- 3 Yōhei Yamasaki (Yamato Univ.) On the “directed measure” not in the C^1 class 15
- 4 Kiyohisa Tokunaga (Yamaguchi Univ.) The antisymmetric total double integral 15
- 5 Toshiharu Kawasaki (Nihon Univ.) Some examples between the Lebesgue and Denjoy integrals 15
- 6 Yukino Tomizawa (Chuo Univ.) Fixed point property with respect to the Bregman distance 10
- 7 M. Ali Khan (Johns Hopkins Univ.) Maharam-types and Lyapunov's theorem for vector measures on locally convex spaces without control measures 15
Nobusumi Sagara (Hosei Univ.)
- 8 Ryotaro Tanaka (Niigata Univ.) On the duality of James constant of rotation invariant norms 15
Naoto Komuro (Hokkaido Univ. of Edu.)
Kichi-Suke Saito (Niigata Univ.)
- 9 Hiroyasu Mizuguchi (Niigata Univ.) On the duality of a new constant related to Isosceles orthogonality 15

14:15–16:10

- 10 Hiroko Manaka (Yokohama Nat. Univ.) Fixed point theorems for an elastic nonlinear mapping in Banach spaces 15
- 11 Fumiaki Kohsaka (Tokai Univ.) Strong convergence of an implicitly defined iterative sequence for maximal monotone operators in Banach spaces 15
- 12 Koji Aoyama (Chiba Univ.) Strongly quasi-nonexpansive mappings 15
- 13 Tomonari Suzuki (Kyushu Inst. of Tech.) Topology on ν -generalized metric spaces 15
- 14 Aoi Honda (Kyushu Inst. of Tech.) Fractional Shepp sequence space and fractional difference operators on L_p 15
Yoshiaki Okazaki (Fuzzy Logic Systems Inst.)
- 15 Yoshiaki Okazaki L_p space for a subadditive monotone measure and its dual L_p^\dagger 15
(Fuzzy Logic Systems Inst.)
Aoi Honda (Kyushu Inst. of Tech.)
- 16 Naohito Tomita (Osaka Univ.) Multilinear Fourier multipliers with minimal Sobolev regularity 15
Loukas Grafakos (Univ. of Missouri)
Akihiko Miyachi (Tokyo Woman's Christian Univ.)
Hanh Van Nguyen (Univ. of Missouri)

16:30–17:30 Talk Invited by Real Analysis Section

- Enji Sato (Yamagata Univ.*) The operators related to Fourier multipliers on some function spaces

March 19th (Sat) Conference Room IV

9:30–12:00

- 17 Yutaka Tsuzuki (Tokyo Univ. of Sci.) Existence of solutions to Vlasov–Poisson systems in a half-space 15
Alexander Leonidovich Skubachevskii (Peoples' Friendship Univ. of Russia)
- 18 Akio Ito Existence of solutions for brewing model of Japanese Sake with stirring effect. 15
Yusuke Murase (Meijo Univ.)
- 19 Dai Noboriguchi (Waseda Univ.) The existence theorem of solutions for degenerate parabolic equations with stochastic forcing 15
Kazuo Kobayasi (Waseda Univ.)
- 20 Hiroshi Watanabe (Salesian Polytech.) Continuous dependence of BV -entropy solutions to strongly degenerate parabolic equations with variable coefficients 15
- 21 Ken Shirakawa (Chiba Univ.) Energy-dissipation for phase field model of grain boundary motion with anisotropy 15
Hiroshi Watanabe (Salesian Polytech.)
Salvador Moll (Univ. of Valencia)
- 22 Risei Kano (Kochi Univ.) The convergence of solutions for the perfect plasticity models 15
Takesi Fukao (Kyoto Univ. of Edu.)
- 23 Takeshi Fukao (Kyoto Univ. of Edu.) Degenerate parabolic equations with dynamic boundary conditions ... 15

- 24 Noriaki Yamazaki (Kanagawa Univ.) Lagrange multiplier and singular limit of double obstacle problems for
Takeshi Fukao (Kyoto Univ. of Edu.) Allen–Cahn equation with constraint 15
Mohammad Hassan Farshbaf-Shaker
(WIAS, Germany)
- 25 Toyohiko Aiki (Japan Women’s Univ.) Hysteresis behavior of a solution to the free boundary problem describ-
Sato Naoki ing an adsorption phenomena 15
(Nagaoka Nat. Coll. of Tech.)
Murase Yusuke (Meijo Univ.)
- 14:15–15:00**
- 26 Kentarou Fujie (Tokyo Univ. of Sci.) Existence and large time behavior of a global-in-time solution to a
Sachiko Ishida (Tokyo Univ. of Sci.) chemotaxis tumor invasion model with degenerate diffusion 15
Akio Ito
Tomomi Yokota (Tokyo Univ. of Sci.)
- 27 Noriaki Yoshino (Tokyo Univ. of Sci.) An operator theoretic approach to parabolic-parabolic chemotaxis sys-
tems 15
- 28 Toshitaka Matsumoto (Shizuoka Univ.) Quasilinear theoretical approach to size-structured models 15
Naoki Tanaka (Shizuoka Univ.)

15:15–16:15 Talk Invited by Real Analysis Section

- Motohiro Sobajima On an L^p -theory for second-order elliptic operators with unbounded
(Tokyo Univ. of Sci.) coefficients

Functional Analysis

March 16th (Wed) Conference Room IX

10:00–12:00

- 1 Hisashi Morioka Spectral properties of Schrödinger operators on perturbed lattices 15
(Shibaura Inst. of Tech.)
Kazunori Ando (Ehime Univ.)
Hiroshi Isozaki (Univ. of Tsukuba)
- 2 Kazunori Ando (Ehime Univ.) Spectral properties of the Neumann–Poincaré operator and anomalous
Hyeonbae Kang (Inha Univ.) localized resonance 15
- 3 Toshimitsu Takaesu (Gunma Univ.) Essential spectrum of a fermionic quantum field model and its applica-
tion 15
- 4 Atsuhide Ishida (Otemon Gakuin Univ.) A propagation property for the fractional power of negative Laplacian
..... 15
- 5 Michiyuki Watanabe (Niigata Univ.) Asymptotic behavior of stationary solutions to elastic wave equations
Hiroshi Isozaki (Univ. of Tsukuba) in half-spaces 15
Mitsuteru Kadowaki
(Univ. of Shiga Pref.)

- 6 Hiroyuki Yamagishi (Tokyo Metropolitan Coll. of Indus. Tech.)
Yoshinori Kametaka (Osaka Univ.*) The best constant of discrete Sobolev inequalities on the regular polyhedra including double bond 15
- 7 Toshinao Kagawa (Tokyo City Univ.)
Kunio Yoshino (Tokyo City Univ.) The Hermite expansion of the characteristic functions 15

14:15–15:15 Talk Invited by Functional Analysis Section

- Hiroaki Niikuni (Maebashi Inst. of Tech.) Band-gap spectral structure of carbon nanotubes

March 17th (Thu) Conference Room IX

10:00–12:00

- 8 Hideyuki Ishi (Nagoya Univ.) Harmonic analysis on Bergman–Hartogs domains 15
- 9 Ryosuke Nakahama (Univ. of Tokyo) Explicit embeddings of holomorphic discrete series representations ... 15
- 10 Masatoshi Kitagawa (Univ. of Tokyo) The BGG category \mathcal{O} and the category of generalized Harish-Chandra modules 15
- 11 Narufumi Nakagaki (Nara Univ. of Edu.)
Tatsuya Tsurii (Osaka Pref. Univ.) Fusion rule algebras associated with inductions and restrictions of irreducible representations 15
- 12 Shohei Oyanoki (Nara Univ. of Edu.)
Tatsuya Tsurii (Osaka Pref. Univ.) Hypergroup duals and geometric duals 15
- 13 Taiki Okamoto (Nara Univ. of Edu.)
Tatsuya Tsurii (Osaka Pref. Univ.) Polynomial representations of hypergroups 15
- 14 Tatsuya Tsurii (Osaka Pref. Univ.)
Hiromichi Ohno (Shinshu Univ.)
Akito Suzuki (Shinshu Univ.)
Yasumichi Matsuzawa (Shinshu Univ.)
Satoe Yamanaka (Nara Women's Univ.) Non-commutative hypergroup of order five 15

13:15–14:15 Talk Invited by Functional Analysis Section

- Atsumu Sasaki (Tokai Univ.) Admissible representations, multiplicity-free representations and visible actions on non-tube type Hermitian symmetric spaces

March 18th (Fri) Conference Room IX

9:30–12:00

- 15 Yukiko Iwata (Meteorological Coll.) Constrictive Markov operators 15
- 16 Kazuya Okamura (Nagoya Univ.)
Masanao Ozawa (Nagoya Univ.) Measurement theory in local quantum physics 15
- 17 Shûichi Ohno (Nippon Inst. of Tech.)^b Weighted composition operators on $H^\infty \cap \mathcal{B}_o$ 10
- 18 Sin-Ei Takahasi (Yamagata Univ.* / Toho Univ.)
Yuji Kobayashi (Toho Univ.)
Makoto Tsukada (Toho Univ.) A complete classification of continuous fraction-like operations on the complex field 15

19	Toshikazu Abe (Niigata Univ.)	A generalization of normed space based on gyrogroup	15
20	Benoit Collins (Kyoto Univ.) Takahiro Hasebe (Hokkaido Univ.) Noriyoshi Sakuma (Aichi Univ. of Edu.)	Free probabilistic analysis of random matrices converging to compact operators	15
21	Hiroaki Tohyama (Maebashi Inst. of Tech.) Hiroshi Isa (Maebashi Inst. of Tech.) Masatoshi Ito (Maebashi Inst. of Tech.) Eizaburo Kamei Masayuki Watanabe (Maebashi Inst. of Tech.)	Expanded forms of operator valued α -divergence and Petz–Bregman divergence	15
22	Masaru Nagisa (Chiba Univ.) Albania Nugraha Imam (Chiba Univ.)	Matrix monotone function and Operator monotone function	15
14:15–15:00			
23	Yuki Seo (Osaka Kyoiku Univ.)	Matrix inequalities via positive multilinear maps	10
24	Tsuyoshi Kajiwara (Okayama Univ.) Yasuo Watatani (Kyushu Univ.)	C*-algebras associated with two dimensional self-similar maps	15
25	Hajime Moriya (Shibaura Inst. of Tech.)	Hidden supersymmetries in some fermion lattice models	15
15:15–16:15 Talk Invited by Functional Analysis Section			
	Hiroshi Ando (Chiba Univ.)	Ultraproducts of operator algebras	

Statistics and Probability

March 16th (Wed) Conference Room II

9:30–12:00

1	Isamu Dōku (Saitama Univ.)	Cox–Perkins type limit theorem for EDMs	15
2	Toshio Nakata (Fukuoka Univ. of Edu.)	Weak laws of large numbers for weighted independent random variables with infinite mean	10
3	Koji Tsukuda (Kurume Univ.)	On $L^2(0, 1)$ functional central limit theorems for logarithmic assemblies	10
4	Yong Moo Chung (Hiroshima Univ.) Hiroki Takahasi (Keio Univ.) Juan Rivera-Letelier (Univ. of Rochester)	On the large deviation principle in one-dimensional dynamics	15
5	Haruyoshi Tanaka (Wakayama Med. Univ.)	Asymptotic perturbation of graph iterated function systems	15
6	Takahiro Hasebe (Hokkaido Univ.) Noriyoshi Sakuma (Aichi Univ. of Edu.)	On unimodality for free Lévy processes	10

7	<u>Kazuhiro Yoshikawa</u> (Ritsumeikan Univ.)	Some identities of characters of infinitely divisible multidimensional Shintani zeta distributions	15
8	<u>Kiyoiki Hoshino</u> (Osaka Pref. Univ.) <u>Tetsuya Kazumi</u> (Osaka Pref. Univ.)	On the integrability of Ogawa integrals of noncausal Wiener functionals	10
9	<u>Takafumi Otsuka</u> (Tokyo Metro. Univ.) <u>Kumiko Hattori</u> (Tokyo Metro. Univ.) <u>Noriaki Ogo</u> (Tokyo Metro. Univ.)	A family of self-avoiding random walks interpolating the loop-erased random walk and a self-avoiding walk on the Sierpinski gasket	15
10	<u>Shin Harase</u> (Ritsumeikan Univ.) <u>Tomooki Yuasa</u> (Ritsumeikan Univ.)	A comparison study of Sobol' sequences in option pricing	15

14:30–15:30 Talk Invited by Statistics and Probability Section

Kazutoshi Yamazaki (Kansai Univ.) Refracted-reflected Lévy processes

15:45–16:45 Talk Invited by Statistics and Probability Section

Seiichiro Kusuoka (Okayama Univ.) An approach to the solutions and the fundamental solutions to non-divergence form parabolic equations by stochastic analysis

March 17th (Thu) Conference Room II

9:45–11:30

11	<u>Fumio Nakajima</u> (Iwate Univ.)	Statistical approach to the form of Mt. Fuji through its contour map	15
12	<u>Yoshihiko Maesono</u> (Kyushu Univ.) <u>Taku Moriyama</u> (Kyushu Univ.)	Direct kernel type estimator of a hazard ratio and its asymptotic properties	10
13	<u>Gaku Igarashi</u> (Univ. of Tsukuba)	Boundary-bias-free density estimation using multivariate log-normal kernel	15
14	<u>Sigeo Aki</u> (Kansai Univ.) <u>Katuomi Hirano</u> (Josai Univ.)	On monotonicity of expected values of some run-related distributions	10
15	<u>Nobuki Takayama</u> (Kobe Univ.) <u>Yoshiaki Goto</u> (Kobe Univ.) <u>Yoshihito Tachibana</u> (Kobe Univ.)	Numerical evaluation of conditional probability for two way contingency table	10
16	<u>Tamio Koyama</u> (Univ. of Tokyo)	Numerical calculation of simplex probability by holonomic gradient method	15
17	<u>Katusi Fukuyama</u> (Kobe Univ.) <u>Mai Yamashita</u> (Osaka Toin Junior and Senior High School)	Metric discrepancy results for geometric progressions with large ratios	5
18	<u>Yasuki Isozaki</u> (Kyoto Inst. Tech.)	Density of the first hitting time of the integer lattice by symmetric Lévy processes	15

11:30–12:00

March 18th (Fri) Conference Room II

9:45–12:00

19	<u>Seiichi Iwamoto</u> (Kyushu Univ.*)	Dual least squares method —some variants—	15
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20	<u>Yutaka Kimura</u> (Akita Pref. Univ.) Seiichi Iwamoto (Kyushu Univ.*)	Is Golden path optimal?	15
21	Akio Tanikawa (Osaka Inst. of Tech.)	A generalized class of pseudomeasurements for identifying unknown parameters of linear stochastic systems	10
22	<u>Masayuki Horiguchi</u> (Kanagawa Univ.) A. B. Piunovskiy (Univ. of Liverpool)	Optimal stopping problem in uncertain Markov decision processes	15
23	Masahiko Sakaguchi (Kochi Univ.)	A minimal imbedding for maximization the S. W. Golomb exponential function	10
24	<u>Kazuki Matsubara</u> (ChuoGakuin Univ.) Sanpei Kageyama (Tokyo Univ. of Sci.)	Some existence of cyclic splitting BIB designs	15
25	<u>Xiao-Nan Lu</u> (Nagoya Univ.) Masakazu Jimbo (Chubu Univ.)	A construction of cyclic 3×3 grid-block designs and its application	15
26	<u>Hiromu Yumiba</u> (Int. Inst. for Nat. Sci.) Yoshifumi Hyodo (Okayama Univ. of Sci./Int. Inst. for Nat. Sci.) Masahide Kuwada (Int. Inst. for Nat. Sci.)	Characteristics of balanced fractional 3^m factorial designs of resolution $R^* (\{10, 01\} \{00, 10, 01, 20, 11\})$ with $N < \nu(m)$	15
27	<u>Masanori Sawa</u> (Kobe Univ.) Masatake Hirao (Aichi Pref. Univ.) Hirotaka Yamamoto (Kobe Univ.)	A generalization of the corner-vector method for constructing D-optimal designs on the hyperballs	15

14:15–15:15 Talk Invited by Statistics and Probability Section

Nobuhiro Taneichi (Kagoshima Univ.)	An approximation for the distribution of the multinomial goodness-of-fit statistic and its application to discrete statistical model
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15:30–16:30 Award Lecture for the 2015 MSJ Analysis Prize

Akimichi Takemura (Univ. of Tokyo)	Studies on holonomic gradient method
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March 19th (Sat) Conference Room II

9:50–12:00

28	<u>Fumiya Akashi</u> (Waseda Univ.) Xiaofeng Shao (Univ. of Illinois at Urbana-Champaign)	LAD-based empirical likelihood method for linear hypothesis and its local asymptotic power	15
29	Fumiya Akashi (Waseda Univ.)	Self-weighted empirical likelihood method for hypothesis testing of stable ARMA models	15
30	Yan Liu (Waseda Univ.)	Box–Cox transformation for variance stabilization of dependent observations	15
31	<u>Yujie Xue</u> (Waseda Univ.) Yan Liu (Waseda Univ.) Masanobu Taniguchi (Waseda Univ.)	Minimax extrapolation error of predictors	10
32	<u>Hideaki Nagahata</u> (Waseda Univ.) Masanobu Taniguchi (Waseda Univ.)	Analysis of variance for multivariate time series	10
33	Yoshihiro Suto (Waseda Univ.)	Shrinkage estimation for the misspecified pseudo interpolator of a stationary process	10

34	Yoshihide Kakizawa (Hokkaido Univ.)	Generalized Birnbaum–Saunders kernel density estimator	15
35	Yoshihide Kakizawa (Hokkaido Univ.)	Some integrals involving multivariate Hermite polynomials	10
36	Kazuyoshi Yata (Univ. of Tsukuba) Makoto Aoshima (Univ. of Tsukuba)	Estimation of a signal matrix for high-dimensional data	15
14:15–16:10			
37	Aki Ishii (Univ. of Tsukuba)	Note on two-sample tests for high-dimension, low-sample-size data . . .	15
38	Ayaka Yagi (Tokyo Univ. of Sci.) Takashi Seo (Tokyo Univ. of Sci.) Muni Srivastava (Univ. of Toronto)	On likelihood ratio test statistic for test of mean vector with monotone missing data	15
39	Mana Aizawa (Tokyo Univ. of Sci.) Kouji Yamamoto (Osaka Univ.) Sadao Tomizawa (Tokyo Univ. of Sci.)	Measure of departure from sum-symmetry model for square contingency tables having ordered categories	10
40	Yusuke Saigusa (Tokyo Univ. of Sci.) Kouji Tahata (Tokyo Univ. of Sci.) Sadao Tomizawa (Tokyo Univ. of Sci.)	A measure of departure from second-order marginal symmetry for multi-way contingency tables	15
41	Akira Shibuya (Tokyo Univ. of Sci.) Kiyotaka Iki (Tokyo Univ. of Sci.) Sadao Tomizawa (Tokyo Univ. of Sci.)	Diagonal exponent conditional symmetry model for square contingency tables with ordered categories	10
42	Ryotaro Maeda (Tokyo Univ. of Sci.) Kouji Tahata (Tokyo Univ. of Sci.) Sadao Tomizawa (Tokyo Univ. of Sci.)	Extended double linear diagonals-parameter symmetry model and decomposition of double symmetry for square tables with ordered categories	15
43	Jo Suzuki (Osaka Univ.)	Efficient computation of model selection under $n \ll p$	15
44	Yoshikazu Takada (Kumamoto Univ.)	Improving on the best equivariant predictor under restricted parameters	10

Applied Mathematics

March 16th (Wed) Conference Room VII

10:30–12:00

1	Kazuhiko Ushio	Balanced C_9 -foil designs and related designs	15
2	Shoichi Tsuchiya (Senshu Univ.) Michitaka Furuya (Tokyo Univ. of Sci.)	On maximum HIT in P_6 -free graph	15
3	Kenta Noguchi (Tokyo Denki Univ.)	Colorings of a medial graph of plane quadrangulations	15
4	Naoki Matsumoto (Seikei Univ.)	Graph-grabbing game on bipartite graphs	15
5	Shohei Satake (Nagoya Univ.) Masanori Sawa (Kobe Univ.) Masakazu Jimbo (Chubu Univ.)	Asymmetry of oriented graphs and some related results	15

14:30–16:00

- 6 Tadashi Takahashi (Konan Univ.) The Inference Process using Automated Theorem Prover 10
- 7 Masataka Kaneko (Toho Univ.) Effective linkage between TeX drawing and handling of graphical data
Toshio Oshima (Josai Univ.) 15
Setsuo Takato (Toho Univ.)
- 8 Ryohei Miyadera A Variant of Nim —A necessary and sufficient condition for the Grundy
(Kwansei Gakuin High School) number of this game to be the Nim-sum— 15
Yushi Nakaya
(Kwansei Gakuin High School)
- 9 Akihiro Higashitani Classification of lattice simplices and binary simplex codes 15
(Kyoto Sangyo Univ.)
- 10 Masahiro Hachimori Partitionability of simplicial complexes, h -triangles and hereditary prop-
(Univ. of Tsukuba) erties 15

16:10–17:10 Talk Invited by Applied Mathematics Section

- Tadashi Sakuma (Yamagata Univ.) Similarities and dissimilarities between the blocking and anti-blocking
polyhedra

March 17th (Thu) Conference Room VII

10:00–11:30

- 11 Iwao Sato (Oyama Nat. Coll. of Tech.) Zeta function of a simplicial complex 15
Etsuo Segawa (Tohoku Univ.)
Kaname Matsue (Inst. of Stat. Math.)
- 12 Hideo Mitsuhashi (Utsunomiya Univ.) Quaternionic weighted zeta functions of finite graphs 15
Norio Konno (Yokohama Nat. Univ.)
Iwao Sato (Oyama Nat. Coll. of Tech.)
- 13 Akito Suzuki (Shinshu Univ.) Asymptotic behavior of a quantum walker and the weak limit theorem
. 15
- 14 Takuya Tsuchiya (Waseda Univ.) Numerical simulations of Maxwell's equations by discrete variational
Gen Yoneda (Waseda Univ.) derivative method 15
- 15 Fumihiko Nakamura (Hokkaido Univ.) Asymptotic periodicity of non-expanding piecewise linear maps with
random small noises 10

13:10–14:00

- 16 Shinya Fujita (Yokohama City Univ.) Some results on properly colored cycles in edge-colored graphs 10
- 17 Akira Saito (Nihon Univ.) The Chvátal–Erdős condition and a 2-factor with two components in a
kiyoshi Yoshimoto (Nihon Univ.) graph 15
- 18 Kiyoshi Ando A condition on $G[V_5(G)]$ for a 5-connected graph G to have a con-
(Nat. Inst. of Information/JST ERATO) tractible edge 15

14:00–14:15 Presentation Ceremony for the 2015 MSJ Prize for Excellent Young Applied Mathematicians

March 18th (Fri) Conference Room VII

9:15–11:55 Special Session “Topological data analysis and persistent homology”

Yasuaki Hiraoka (Tohoku Univ.)	Topological data analysis and persistent homology	35
Ippeï Obayashi (Tohoku Univ.)	Inverse problem from persistence diagrams to point clouds	35
Tomoyuki Shirai (Kyushu Univ.)	Random complex and persistent homology	35
Genki Kusano (Tohoku Univ.)	Kernel methods for persistent homology and topological data analysis	35

14:30–16:00

19	<u>Masaji Watanabe</u> (Okayama Univ.) Fusako Kawai (Kyoto Inst. Tech.)	Study on inverse problems from modeling of exogenous type microbial depolymerization processes	15
20	Fumio Nakajima (Iwate Univ.)	A mathematical approach to the economy of atomic power generation	15
21	Kaname Matsue (Inst. of Stat. Math.)	Covering-exchange for fast-slow systems with multi-dimensional slow variables	15
22	<u>Koichi Anada</u> (Waseda Univ. Senior High School) Tetsuya Ishiwata (Shibaura Inst. of Tech.)	Blow-up sets and rates for Type II blow-up solutions to a quasi-linear parabolic partial differential equation	15
23	Toshikazu Kuniya (Kobe Univ.)	Global dynamics of a mathematical model for the spread of information	15

16:15–17:15 Talk Invited by Applied Mathematics Section

Miyuki Koiso (Kyushu Univ.)	Geometry of anisotropic surface energy
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March 19th (Sat) Conference Room VII

10:00–12:00

24	Shunzi Horiguchi (Niigata Sangyo Univ.)	Experiments to compare the convergences of third extended Halley method with Halley method	15
25	<u>Hidenori Ogata</u> (Univ. of Electro-Comm.) Hiroshi Hirayama (Kanagawa Inst. of Tech.)	Numerical integration method based on the hyperfunction theory	15
26	<u>Takaharu Yaguchi</u> (Kobe Univ.) Ai Ishikawa (Kobe Univ.)	Application to a learning algorithm for multilayer perceptrons of dissipative structure-preserving numerical methods	15
27	Naoharu Ito (Nara Univ. of Edu.)	A study on self-inversive operator polynomials with spectrum on the unit circle	15
28	Patrick van Meurs (Kanazawa Univ.)	Discrete-to-continuum limits of interacting dislocations	15
29	Fuminori Sakaguchi (Univ. of Fukui)	Implementation of an integer-type algorithm for linear partial differential equations using quasi-orthogonalization	15

14:15–15:45

- 30 Hirofumi Notsu (Waseda Univ.) Error estimates of a stabilized Lagrange–Galerkin scheme for an Oseen-type diffusive Peterlin model 15
Masahisa Tabata (Waseda Univ.)
Mária Lukáčová-Medvid’ová (Univ. of Mainz)
Hana Mizerová (Univ. of Mainz)
- 31 Nobuyuki Higashimori (Kyoto Univ.) Convergence of an abstract finite difference scheme for the Cauchy problem on a Banach scale 15
Hiroshi Fujiwara (Kyoto Univ.)
Yuusuke Iso (Kyoto Univ.)
- 32 Yoshitaka Watanabe (Kyushu Univ.) Computer-assisted instability proof with high accuracy for plane Poiseuille flow 15
Takehiko Kinoshita (Kyoto Univ.)
Mitsuhiro T. Nakao (Sasebo Nat. Coll. of Tech.)
- 33 Akitoshi Takayasu (Waseda Univ.) Verified computations for solutions to nonlinear heat equations based on fractional powers of a positive operator and the evolution operator 15
Makoto Mizuguchi (Waseda Univ.)
Kubo Takayuki (Univ. of Tsukuba)
Shin’ichi Oishi (Waseda Univ.)
- 34 Makoto Mizuguchi (Waseda Univ.) On a computable Sobolev embedding constant for fractional powers of a weighted Laplace operator 15
Akitoshi Takayasu (Waseda Univ.)
Takayuki Kubo (Univ. of Tsukuba)
Shin’ichi Oishi (Waseda Univ.)

16:00–17:00 Talk Invited by Applied Mathematics Section

- Kota Ikeda (Meiji Univ.) Congestion flow of pulses in an excitable reaction-diffusion system

Topology

March 16th (Wed) Conference Room VI

10:00–11:55

- 1 Yusuke Takimura Thirty-two equivalence relations on knot projections 10
 (Gakushuin Boys’ Junior High School)
Noboru Ito (Waseda Univ.)
- 2 Noboru Ito (Waseda Univ.) Triply-graded knot projections under (1, 3) homotopy 15
Yusuke Takimura
 (Gakushuin Boys’ Junior High School)
- 3 Shosaku Matsuzaki (Waseda Univ.) Minors of multibranching surfaces 10
Makoto Ozawa (Komazawa Univ.)
- 4 Makoto Ozawa (Komazawa Univ.) Genera of multibranching surfaces 10
Shosaku Matsuzaki (Waseda Univ.)
- 5 Shinya Okazaki (Osaka City Univ.) An invariant comes from the Alexander polynomial of a handlebody-knot 10

6	<u>Atsuhiko Mizusawa</u> (Waseda Univ.) Yuka Kotorii (Univ. of Tokyo)	On invariants of HBL-homotopy classes of 3-component handlebody-links with vanishing linking numbers	10
7	<u>Kodai Wada</u> (Waseda Univ.) Akira Yasuhara (Tokyo Gakugei Univ.)	Milnor invariants of clover links	10
8	<u>Kazuhiro Ichihara</u> (Nihon Univ.) Toshio Saito (Joetsu Univ. of Edu.) In Dae Jong (Kinki Univ.)	On cosmetic surgery conjecture on knots	15
9	<u>Kazuhiro Ichihara</u> (Nihon Univ.) Jiming Ma (Fudan Univ.) Ken-ichi Yoshida (Nihon Univ.)	Hyperbolicity and the number of components for random link	15

14:15–15:15 Talk Invited by Topology Section

Yukio Matsumoto (Gakushuin Univ./Chuo Univ./Univ. of Tokyo*)	On the compactification of moduli spaces and crystallographic groups
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15:30–17:10

10	Masakazu Teragaito (Hiroshima Univ.)	Generalized torsion elements in the knot groups of twist knots	10
11	Yuta Nozaki (Univ. of Tokyo)	The preimage of a knot under the covering map from S^3 to $\mathbb{R}P^3$	15
12	<u>Akiko Shima</u> (Tokai Univ.) Teruo Nagase (Tokai Univ.*)	Properties of CS-minimal charts	15
13	<u>Noriyuki Hamada</u> (Univ. of Tokyo) Kenta Hayano (Hokkaido Univ.)	Finite covers of Lefschetz fibrations	15
14	Erika Kuno (Tokyo Tech)	Disk graphs and right-angled Artin subgroups in handlebody groups	10
15	Genki Omori (Tokyo Tech)	A simple infinite presentation for the mapping class group of a non-orientable surface	15
16	Genki Omori (Tokyo Tech)	Simple closed curves on a non-orientable surface and the twist subgroup of the mapping class group	10

March 17th (Thu) Conference Room VI

10:00–11:40

17	Chieko Komoda (Kurume Nat. Coll. of Tech.)	Open mapping theorems with finite fibers for C-spaces and finite C-spaces	10
18	Katsuhisa Koshino (Kanagawa Univ.)	Topological types of hyperspaces of finite sets in metrizable spaces	10
19	Tomohiko Ishida (Kyoto Univ.)	Quasi-isometry type of the metric space derived from the kernel of the Calabi homomorphism	10
20	<u>Huhe Han</u> (Yokohama Nat. Univ.) Takashi Nishimura (Yokohama Nat. Univ.)	Strictly convex Wulff shapes and C^1 convex integrands	15
21	Takahiro Yamamoto (Kyushu Sangyo Univ.)	Elimination of B_2 -singularities	15

32 Topology

- 22 Kenichirou Shinkai (Shinshu Univ.) On the matrix Toda brackets and 3-rd cohomology groups of small categories 15
 Yasuhiro Momose (Shinshu Univ.)
- 23 Miho Hatanaka (Osaka City Univ.) Cohomology representations of toric manifolds associated to some simple graphs 15

13:30–14:30 Talk Invited by Topology Section

- Kei Irie (Kyoto Univ.) A C^∞ closing lemma for three-dimensional Reeb flows via embedded contact homology

March 18th (Fri) Conference Room VI

10:00–11:45

- 24 Hokuto Konno (Univ. of Tokyo) Bounds on genus and configurations of embedded surfaces in 4-manifolds 15
- 25 Antonio J. Di Scala Non-Kähler complex structures on \mathbb{R}^4 II 15
 (Politecnico di Torino)
- Naohiko Kasuya
 (Aoyama Gakuin Univ.)
- Daniele Zuddas (KIAS)
- 26 Yoshihiko Mitsumatsu (Chuo Univ.) Turbulization of 2-dimensional foliations on 4-manifolds 15
 Elmar Vogt (Freie Univ. Berlin)
- 27 Yoshihiko Mitsumatsu (Chuo Univ.) Convexity of symplectic ends, leafwise symplectic foliations on 5-sphere, and strange symplectic 4-manifolds 15
- 28 Takahiro Oba (Tokyo Tech) Open book decompositions of unit cotangent bundles of orientable closed surfaces 15
 Burak Ozbagci (Koç Univ.)
- 29 Kouichi Yasui (Hiroshima Univ.) Nonexistence of Stein structures on 4-manifolds and maximal Thurston–Bennequin numbers 10
- 30 Kouichi Yasui (Hiroshima Univ.) Maximal Thurston–Bennequin number and reducible Legendrian surgery 10

14:15–15:30

- 31 Motoo Tange (Univ. of Tsukuba) On finite order corks 15
- 32 Motoo Tange (Univ. of Tsukuba) Branched double covers and rational homology 4-balls 15
- 33 Kouki Sato (Tokyo Tech) 1-connected rational filling of rational homology 3-spheres 15
- 34 Tetsuya Abe (OCAMI) Ribbon disks via handle decompositions of B^4 15
 Motoo Tange (Univ. of Tsukuba)
- 35 Tatsuro Shimizu (Kyoto Univ.) Chern–Simons perturbation theory around a non-trivial flat connection and Morse homotopy 10

15:45–16:45 Talk Invited by Topology Section

- Dai Tamaki (Shinshu Univ.) Configuration spaces and homotopy theory
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Infinite Analysis

March 18th (Fri) Conference Room VIII

10:00–12:00

- | | | |
|---|---|---|
| 1 | <u>Masahiko Ito</u> (Tokyo Denki Univ.)
Masatoshi Noumi (Kobe Univ.) | The Jackson integral of A type and a generalization of Ramanujan's ${}_1\psi_1$ summation and Slater's ${}_r\psi_r$ transformation 15 |
| 2 | <u>Masahiko Ito</u> (Tokyo Denki Univ.)
Masatoshi Noumi (Kobe Univ.) | A construction of the elliptic Lagrange interpolation functions of type A 15 |
| 3 | Shuheii Kamioka (Kyoto Univ.) | A generalization of the q -Chu–Vandermonde sum for basic hypergeometric series 15 |
| 4 | Genki Shibukawa (Osaka Univ.) | Pseudo Wilson polynomials 15 |
| 5 | <u>Hidehito Nagao</u> (Akashi Coll. of Tech.)
Yasuhiko Yamada (Kobe Univ.) | Padé method and the q -Garnier system 15 |
| 6 | Takao Suzuki (Kinki Univ.) | Fourth order q -Painlevé system containing q -hypergeometric function ${}_3\phi_2$ 15 |

14:15–15:15

- | | | |
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| 7 | Shotaro Konnai (Kobe Univ.) | Analysis of the Katz operations stabilizing the class of Okubo systems 15 |
| 8 | Kazuki Hiroe (Josai Univ.) | Stokes structure and links 15 |
| 9 | Kimio Ueno (Waseda Univ.) | Monodromy preserving deformation associated to KZ equation 15 |
| 10 | Yoshishige Haraoka (Kumamoto Univ.) ^b | On representations of braid groups associated with complex reflection groups 15 |

15:30–16:30 Talk Invited by Infinite Analysis Special Session

Daisuke Yamakawa (Tokyo Tech) Twisted wild character varieties

March 19th (Sat) Conference Room VIII

9:30–12:00

- | | | |
|----|--|---|
| 11 | Yoshihiro Takeyama
(Univ. of Tsukuba) | Algebraic construction of multi-species q -Boson system 15 |
| 12 | <u>Masato Okado</u> (Osaka City Univ.)
Atsuo Kuniba (Univ. of Tokyo)
Shouya Maruyama (Univ. of Tokyo) | Multispecies TAZRP 15 |
| 13 | <u>Saburo Kakei</u> (Rikkyo Univ.)
Jonathan J. C. Nimmo
(Univ. of Glasgow)
Satoshi Tsujimoto (Kyoto Univ.)
Ralph Willox (Univ. of Tokyo) | Linearization of the box-ball system: an elementary approach 15 |

14	<u>Yasuhiro Ohta</u> (Kobe Univ.) Sampei Hirose (Shibaura Inst. of Tech.) Jun-ichi Inoguchi (Univ. of Tsukuba) Kenji Kajiwara (Kyushu Univ.) Nozomu Matsuura (Fukuoka Univ.)	Determinant and Pfaffian solutions for motion of discrete space curve	15
15	Yoko Shigyo (Tsuda Coll.)	Expansion coefficients of a solution of the BKP hierarchy	15
16	Takanori Ayano (Osaka City Univ.)	A generalization of Jacobi inversion formulae to telescopic curves on all the strata	15
17	Yosuke Saito (Osaka City Univ.)	Eigenfunctions of Ruijsenaars operator arising from the functional equation of the dual Cauchy type kernel function	15
18	Diogo Kendy Matsumoto (Waseda Univ.)	Yang–Baxter maps on the Generalized pre-semiring	15
14:15–15:15			
19	Takeshi Ikeda (Okayama Univ. of Sci.)	Littlewood–Richardson rule for factorial P -functions	15
20	<u>Yuki Kanakubo</u> (Sophia Univ.) Toshiki Nakashima (Sophia Univ.)	Cluster variables on double Bruhat cell of classical group and crystal base	15
21	Yoshiyuki Kimura (Kobe Univ.)	Remarks on quantum unipotent subgroup and dual canonical basis ...	15
22	<u>Shunsuke Tsuchioka</u> (Univ. of Tokyo) Masaki Watanabe (Univ. of Tokyo)	Pattern avoidance seen in multiplicities of maximal weights of affine Lie algebra representations	15
15:30–16:30 Talk Invited by Infinite Analysis Special Session			
	Hiroyuki Yamane (Univ. of Toyama)	Weyl groupoids and representation theory of generalized quantum groups	

Information for Speakers

The Organizing Committee apologizes that it had to cut the duration of contributed talks because of technical reasons. Since the schedule is very tight, we ask the speakers to strictly keep time. A bell will be rung when 2/3 of the assigned time has passed. A second bell will be rung as soon as the time is up, and the speaker has to leave the stage.

The talks with **b** marks denote presentations on blackboard or whiteboard. The speakers with ***** marks are professors emeriti. If you find anything wrong in the program, do not hesitate to inform the Chair of Organizing Committee by sending e-mail to the address `program16mar@mathsoc.jp`.

Each conference room is equipped with a blackboard and a projector with VGA interface for PC presentation. There is not a document camera in the conference room. You are asked to use your own PC and necessary accessory (for example, HDMI-VGA adapter) for a PC presentation. The time for connecting your PC to the projector is included in the assigned duration of your talk. You are recommended to check beforehand if your PC can be connected to the projector in the conference room. We strongly advise you to prepare an alternative method to present your talk such as a copy of the PDF file of your sheets on a USB flash drive.

Information for Participants

Smoking is prohibited in the campus. Smokers are kindly asked to smoke in some smoking area.

There is no parking area for visitors in the campus.

You can get a wireless LAN connection within the areas the On-Campus Wireless LAN System covers through “eduroam” WLAN roaming service.

Official Party

Date: March 17th (Thu) 18:00–20:00

Venue: University Hall, 1F Resturan Plaza “Tsukuba Demi”

Participants are asked to pay 5,000 JPY at the party.

Directions

2016 MSJ ANNUAL MEETING

Dates : March 16th (Wed)–19th (Sat), 2016

Venue : Area 1 and Area 3, University of Tsukuba
1–1–1 Tennodai, Tsukuba 305-8571

Contact to : Division of Mathematics, University of Tsukuba
1–1–1 Tennodai, Tsukuba 305-8571

tsukuba16mar@mathsoc.jp

Phone +81 (0) 90 1791 3483 (During session)

Web Site : <http://mathsoc.jp/en/meeting/tsukuba16mar/>

Conference Rooms

	Place	Research Sections
Conference Room I	Bldg. 3A 2F 3A204	Algebra, Featured Invited Talk
Conference Room II	Bldg. 3A 4F 3A402	Statistics and Probability, Featured Invited Talk
Conference Room III	Bldg. 3A 4F 3A403	Functional Equations, Featured Invited Talk
Conference Room IV	Bldg. 1C 3F 1C310	Foundation of Mathematics and History of Mathematics, Real Analysis
Conference Room V	Bldg. 1D 2F 1D201	Geometry, Featured Invited Talk
Conference Room VI	Bldg. 1D 2F 1D204	Topology
Conference Room VII	Bldg. 1E 1F 1E102	Applied Mathematics, Featured Invited Talk
Conference Room VIII	Bldg. 1E 2F 1E203	Complex Analysis, Infinite Analysis, Featured Invited Talk
Conference Room IX	Bldg. 1E 3F 1E303	Functional Analysis, Featured Invited Talk
Plenary Talks	Bldg. 1H, 1F 1H101	
Open Lectures for Citizens	Bldg. 1H, 1F 1H101	

Other Rooms

Membership Fee & Extended Abstracts	Bldg. 1C 3F 1C305
Discussion Rooms	Bldg. 3A 4F 3A405/Bldg. 1E 3F 1E302
Book Display and Sale	Bldg. 1C 3F 1C303/1C304/1C306
Executive Committee, MSJ President	Bldg. 1C 4F 1C403
Official Party	University Hall, 1F Resturan Plaza “Tsukuba Demi”