Final: 2018/3/6

2018 The Mathematical Society of Japan
ANNUAL MEETING

Dates: March 18th (Sun)–21st (Wed), 2018

Venue: Graduate School of Mathematical Sciences,
The University of Tokyo
3–8–1 Komaba, Meguro-ku, Tokyo 153–8914 Japan

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	I Bldg. 11 Rm. 1101	II Bldg. 11 Rm. 1102	III Bldg. 11 Rm. 1106	IV Bldg. 11 Rm. 1108	V Bldg. 13 Rm. 1311	VI Bldg. 13 Rm. 1313	VII Bldg. 13 Rm. 1321	VIII Bldg. 13 Rm. 1322	IX Bldg. 13 Rm. 1331
18th (Sun)	Geometry 9:15–11:35 14:15–16:35	Topology 9:40–12:00 15:30–18:00	Algebra 9:00–11:45 14:20–17:20	Functional Analysis 14:15–16:15	Found. of Math. and History of Math. 9:00–11:30 14:10–16:50	Applied Mathematics 9:30–11:45 14:20–16:30	Complex Analysis 9:45–11:45	Statistics and Probability 9:15–12:00 14:15–15:00	Functional Equations 9:15–12:00 14:15–16:15
	Featured Invited Talks 13:00–14:00								
	Invited Talk 16:45–17:45	Invited Talk 14:15–15:15		Invited Talk 16:30–17:30	Invited Talk 17:00–18:00	Invited Talk 16:45–17:45	Invited Talk 14:15–15:15	Invited Talks 15:15–16:15 16:30–17:30	Invited Talk 16:30–17:30
19th (Mon)	Geometry 9:00–11:45	Topology 9:30–10:30 13:00–14:20	Algebra 9:15–12:00	Functional Analysis 9:30–12:00	Found. of Math. and History of Math. 9:00–11:30	Applied Mathematics 9:30–11:45	Complex Analysis 10:00–11:40	Statistics and Probability 9:30–11:30	Functional Equations 9:15–12:00
	Invited Talk 13:15–14:15	Invited Talk 10:45–11:45	Invited Talk 13:15–14:15	Invited Talk 13:15–14:15	Invited Talk 13:15–14:15		Invited Talk 13:15–14:15		Invited Talk 13:15–14:15
	MSJ Prizes Presentation (Lecture Theater) ····· (14:50–15:20) Plenary Talks (Lecture Theater) Spring Prize Winner ····· (15:30–16:30) Takao Yamaguchi (Kyoto Univ.) ····· (16:45–17:45) Official Party (Komaba Faculty House) ····· (18:00–20:00)								
20th (Tue)	Geometry 9:15–11:45 14:15–16:30	Topology 9:20–12:00 15:35–17:45	Algebra 9:15–12:00	Functional Analysis 9:30–12:00 14:15–16:00	Infinite Analysis 10:00–11:30 14:00–15:30	Applied Mathematics 9:15–11:50 14:15–16:40	Real Analysis 9:00–12:00 14:15–16:15	Statistics and Probability 10:00–11:40 14:15–15:05	Functional Equations 9:15–12:00 14:15–16:15
	Featured Invited Talks 13:00–14:00								
	Invited Talk 16:45–17:45	Invited Talk 14:20–15:20	Invited Talks 14:30–15:30 15:40–16:40 16:50–17:50	Invited Talk 16:15–17:15	Invited Talk 15:45–16:45	Invited Talk 16:50–17:50	Invited Talk 16:30–17:30	Invited Talks 15:20–16:20 16:40–17:40	Invited Talk 16:30–17:30
21st (Wed)			Algebra 9:15–12:00 14:20–17:00		Infinite Analysis 9:30–10:30	Applied Mathematics 9:15–11:55 14:15–16:40	Real Analysis 9:15–12:00 14:15–16:00	Statistics and Probability 10:00–12:00	Functional Equations 9:15–12:00 14:15–16:15
	Featured Invited Talks 13:00–14:00								
					Invited Talk 10:45–11:45	Invited Talk 16:50–17:50	Invited Talk 16:15–17:15		Invited Talk 16:30–17:30

Plenary Talks

March 19th (Mon) Rm. 900, Lecture Theater

Spring Prize Winner ..... (15:30–16:30)

Takao Yamaguchi (Kyoto Univ.) Collapsing Riemannian manifolds with boundary ..... (16:45–17:45)

Featured Invited Talks

March 18th (Sun)

Conference Room VI

Akihisa Tamura (Keio Univ.) Discrete convex analysis and mathematical economic models ..... (13:00–14:00)

Conference Room IX

Mariko Yasugi On "Takeuti's Proof Theory" ..... (13:00–14:00)

March 20th (Tue)

Conference Room III

Junzo Watanabe (Tokai Univ.*) The Lefschetz properties of graded Artinian Gorenstein algebras ..... (13:00–14:00)

Conference Room VI

Guest Talk from the Japan Society for Industrial and Applied Mathematics

Satoru Iwata (Univ. of Tokyo) Matroid parity ..... (13:00–14:00)

Conference Room IX

Kazuo Habiro (Kyoto Univ.) Category-theoretic structures in 3-dimensional topology ... (13:00–14:00)

March 21st (Wed)

Conference Room VI

Toshiyuki Tanisaki (Osaka City Univ.) Quantized flag manifolds and representations of quantum groups ..... (13:00–14:00)

Conference Room IX

Naoki Tanaka (Shizuoka Univ.) Semigroups of operators and mutational equations in metric spaces ..... (13:00–14:00)

Talks Invited by Research Sections and Special Session

March 18th (Sun)

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

Sakaé Fuchino (Kobe Univ.) Set-theoretic reflection principles ····· (17:00–18:00)

Geometry (Conference Room I)

Ryokichi Tanaka (Tohoku Univ.)♭ Potential theory on discrete groups and metric embedding ····· (16:45–17:45)

Complex Analysis (Conference Room VII)

Hiroki Sumi (Kyoto Univ.) Randomness-induced phenomena in random holomorphic dynamical systems and their applications ····· (14:15–15:15)

Functional Equations (Conference Room IX)

Award Lecture for the 2017 MSJ Analysis Prize

Yoshitsugu Takei (Doshisha Univ.) On the instanton-type expansions of elliptic functions and Painlevé transcendents —The final stage of the exact WKB analysis for Painlevé equations ····· (16:30–17:30)

Functional Analysis (Conference Room IV)

Nobuaki Obata (Tohoku Univ.) Quantum probabilistic methods for spectral analysis of graphs ····· (16:30–17:30)

Statistics and Probability (Conference Room VIII)

Award Lecture for the 2017 MSJ Analysis Prize

Masayoshi Takeda (Tohoku Univ.) Properties of symmetric Markov processes with tightness property ····· (15:15–16:15)

Koichiro Takaoka (Hitotsubashi Univ.) The first fundamental theorem of asset pricing: stochastic integrals and martingale measures ····· (16:30–17:30)

Applied Mathematics (Conference Room VI)

Masashi Shinohara (Shiga Univ.) Classification problems and extremal problems on distance sets ····· (16:45–17:45)

Topology (Conference Room II)

Daisuke Kishimoto (Kyoto Univ.) Homotopy theory of polyhedral products ····· (14:15–15:15)

March 19th (Mon)

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

Takuya Matsuzaki (Nagoya Univ.) A computer program that solves pre-university mathematical problems ····· (13:15–14:15)

Algebra (Conference Room III)

Kenichi Shimizu (Shibaura Inst. of Tech.) Recent developments of 'non-semisimple' modular tensor categories ····· (13:15–14:15)

Geometry (Conference Room I)

Hirofumi Sasahira (Kyushu Univ.)* The Seiberg–Witten equations and applications ····· (13:15–14:15)

Complex Analysis (Conference Room VII)

Takayuki Koike (Osaka City Univ.) Hermitian metrics on numerically effective line bundles and neighborhoods of complex submanifolds ..... (13:15–14:15)

Functional Equations (Conference Room IX)

Award Lecture for the 2017 MSJ Analysis Prize

Tetsutaro Shibata (Hiroshima Univ.) Asymptotic analysis of eigenvalue problems for nonlinear elliptic equations and analysis of inverse bifurcation problems ..... (13:15–14:15)

Functional Analysis (Conference Room IV)

Hideyuki Ishi (Nagoya Univ./JST PRESTO) Gamma-type integrals over convex cones ..... (13:15–14:15)

Topology (Conference Room II)

Masayuki Asaoka (Kyoto Univ.) Growth rate of the number of periodic points for smooth dynamical systems ..... (10:45–11:45)

March 20th (Tue)

Algebra (Conference Room III)

Award Lecture for the 2018 MSJ Algebra Prize

Kanetomo Sato (Chuo Univ.) A new cohomology theory for arithmetic schemes and its applications ..... (14:30–15:30)

Award Lecture for the 2018 MSJ Algebra Prize

Satoshi Naito (Tokyo Tech) Representation theory of quantum affine algebras ..... (15:40–16:40)

Award Lecture for the 2018 MSJ Algebra Prize

Takayuki Hibi (Osaka Univ.) Monomial ideals and binomial ideals ..... (16:50–17:50)

Geometry (Conference Room I)

Hideki Miyachi (Osaka Univ.) Toward complex analysis on Teichmüller space ..... (16:45–17:45)

Functional Equations (Conference Room IX)

Hirokazu Ninomiya (Meiji Univ.) Traveling wave solutions and entire solutions of reaction-diffusion equations ..... (16:30–17:30)

Real Analysis (Conference Room VII)

Ryotaro Tanaka (Kyushu Univ.) Geometric techniques in Banach space theory: Challenges to Tingley's problem ..... (16:30–17:30)

Functional Analysis (Conference Room IV)

Fumio Hiai (Tohoku Univ.) Multivariate matrix/operator means ..... (16:15–17:15)

Statistics and Probability (Conference Room VIII)

Kazuki Matsubara (ChuoGakuin Univ.) Pairwise additivity of BIB designs and related combinatorial structures ..... (15:20–16:20)

Koji Tsukuda (Univ. of Tokyo) Studies on the theory of weak convergences in Hilbert spaces and its applications ..... (16:40–17:40)

Applied Mathematics (Conference Room VI)

Shuji Yoshikawa (Oita Univ.) Energy method for structure-preserving finite difference schemes ..... (16:50–17:50)

Topology (Conference Room II)

Takefumi Nosaka (Tokyo Tech) Nilpotent studies in 3-dimensional topology ····· (14:20–15:20)

Infinite Analysis (Conference Room V)

Taro Kimura (Keio Univ.) Quiver gauge theory and quiver W-algebra ····· (15:45–16:45)

March 21st (Wed)

Functional Equations (Conference Room IX)

Tsukasa Iwabuchi (Tohoku Univ.)♭ On the ill-posedness for the compressible Navier–Stokes equations ····· (16:30–17:30)

Real Analysis (Conference Room VII)

Shun Uchida (Waseda Univ.) Solvability of a system describing double-diffusive convection phenomena in some porous medium ····· (16:15–17:15)

Applied Mathematics (Conference Room VI)

Akitoshi Takayasu (Univ. of Tsukuba) Verified computations for solutions of evolution equations with semigroup theory ····· (16:50–17:50)

Infinite Analysis (Conference Room V)

Hiroshi Naruse (Univ. of Yamanashi) Generalization of Hall–Littlewood function from the view point of Schubert calculus, generationg function and application ····· (10:45–11:45)

Open Lectures for Citizens

Date: March 17th (Sat) 14:00–16:30

Venue: Rm. 900, Lecture Theater

Sponsored by: Mathematical Society of Japan

Co-sponsored by: Graduate School of Mathematical Sciences, The University of Tokyo

Program: Opening Speech ..... (14:00–14:10)
Hideo Kozono (President of MSJ / Waseda Univ.)

Lecture 1: "Mathematics for exploring human visual perception and its applications —Harmonic analysis, visual illusions, image processing and art—" ..... (14:10–15:10)
Hitoshi Arai (Univ. of Tokyo)

Lecture 2: "Thurston's 3-manifold theory" ..... (15:30–16:30)
Sadayoshi Kojima (Tokyo Inst. of Tech.)

Web Page: `http://mathsoc.jp/en/meeting/tokyo18mar/`

Foundation of Mathematics and History of Mathematics

March 18th (Sun) Conference Room V

9:00–11:30

1 Shotaro Tanaka * To express fractions into power series by Suida expansion ····· 15

2 Shigeru Masuda (Kyoto Univ.) Mathematical principles treated in mechanics by Poisson ····· 15

3 Shigeru Masuda (Kyoto Univ.) Proof of rise of capillary surface by Poisson ····· 15

4 Michiyo Nakane An introduction of an idea of transformation to Hamilton–Jacobi theory in the beginning of twentieth century ····· 15

5 Toshio Harikae (Osaka Sangyo Univ.) On 'Toshoku' problems in "Shu" ····· 15

6 Katsushi Waki (Yamagata Univ.)
Takuma Tsutihashi (Meiji Univ.)
Kazushi Ahara (Meiji Univ.)
The similarity evaluation of geometric problems in WASAN by NMF ····· 10

7 Mitsuo Morimoto
(Yokkaichi Univ. / Sophia Univ.*)
Daily Mathematics in the Taisei Sankei ····· 15

8 Tsukane Ogawa (Yokkaichi Univ.) Mathematical philosophy of Aida Yasuaki, part 2 ····· 15

9 Takuma Tsuchihashi (Meiji Univ.)
Katsushi Waki (Yamagata Univ.)
Kazushi Ahara (Meiji Univ.)
Automatic tagging to geometric problems in Japanese mathematics (wasan) based on image recognition ····· 15

11:30–12:00 Mathematics History Team Meeting

14:10–16:50

10 Toshio Suzuki (Tokyo Metro. Univ.) Non-depth-first search of an AND-OR tree ····· 15

11 Kazuyuki Tanaka (Tohoku Univ.)
Shohei Okisaka (Tohoku Univ.)
On the uniqueness of the eigen-distribution for weighted AND-OR trees ····· 15

12 Yuki Mizusawa (Tokyo Metro. Univ.) Some results of pseudo Solovay reducibility ····· 15

13 Keita Yokoyama (JAIST) Indicators, forcing and proof-transformation ····· 15

14 Kohtaro Tadaki (Chubu Univ.) An event with probability one occurs certainly in quantum mechanics ····· 15

15 Yukinobu Yajima (Kanagawa Univ.)
Yasushi Hirata (Kanagawa Univ.)
Undecidability of the existence of C^*-embedded but not C-embedded subsets in a product of natural numbers ····· 15

16 Toshimichi Usuba (Waseda Univ.) Products of Lindelöf spaces ····· 15

17 Teruyuki Yorioka (Shizuoka Univ.) On two combinetorial properties which come from Aronszajn trees ··· 15

18 Diego A. Mejía (Shizuoka Univ.) Forcing theory and combinatorics of the real line ····· 15

19 Hiroshi Sakai (Kobe Univ.) Embeddability of uncountable LO into models generated by uncountable indiscernible sequences ····· 15

17:00–18:00 Talk Invited by Section on Foundation and History of Mathematics

Sakaé Fuchino (Kobe Univ.) Set-theoretic reflection principles

March 19th (Mon) Conference Room V

9:00–11:30

20 Takashi Oyabu ♭ Number; number system, and other 5 talks ····· 5

21 Yoshifumi Ito (Tokushima Univ.*) Definition of the concept of sets and its existence theorem ····· 15

22 Yoshihito Tanaka (Kyushu Sangyo Univ.) A predicate extension of the logic of provability ····· 15

23 Nobu-Yuki Suzuki (Shizuoka Univ.) Constructing uncountably many intermediate predicate logics having disjunction property but lacking existence property ····· 15

24 Ken-etsu Fujita (Gunma Univ.) The Church–Rosser Theorem and quantitative analysis of witnesses ·· 15

25 Takahiro Seki (Niigata Univ.) Some relevant modal logics characterized by reduced frames ····· 15

26 Taishi Kurahashi (Nat. Inst. of Tech., Kisarazu Coll.) Provability logics and decompositions of theories ····· 15

27 Masanori Itai (Tokai Univ.) A model theoretic Rieffel's theorem of quantum 2-tori ····· 15

28 Shunsuke Okabe (Kobe Univ.) On widths of automorphism groups on generic structures ····· 15

29 Hirotaka Kikyo (Kobe Univ.), Shunsuke Okabe (Kobe Univ.) On Hrushovski's ab initio amalgamation class ····· 15

11:30–12:00 Research Section Assembly

13:15–14:15 Talk Invited by Section on Foundation and History of Mathematics

Takuya Matsuzaki (Nagoya Univ.) A computer program that solves pre-university mathematical problems

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Algebra

March 18th (Sun) Conference Room III

9:00–11:45

1 Yasutoshi Nomura * Quasi-linear cogruences of Aperiy-like numbers ····· 10

2 Yuta Suzuki (Nagoya Univ.) On relatively prime amicable pairs ····· 10

3 Shigeru Iitaka (Gakushuin Univ.*) Ultimate perfect numbers and hyper perfect numbers ····· 10

4 Hajime Kaneko (Univ. of Tsukuba), Makoto Kawashima (Osaka Univ.) On the number of digit exchanges in the beta expansion of real numbers ····· 10

5 Genki Shibukawa (Osaka Univ.) Some arithmetic properties of the elliptic Dedekind sums ····· 10

6 Kurt Fischer (Tokuyama Coll. of Tech.) The Zetafast algorithm to compute L functions to arbitrary precision as fast as the Riemann–Siegel formula ····· 10

7 Ade Irma Suriajaya (RIKEN), Jörn Steuding (Univ. of Würzburg) An approximate functional equation for the fourth moment of the Riemann zeta function on the critical line ····· 10

14:20–17:20

27 Akinari Hoshi (Niigata Univ.)
Ming-chang Kang (Nat. Taiwan Univ.)
Aiichi Yamasaki (Kyoto Univ.)
Computation of degree three unramified cohomology groups using GAP 10

March 19th (Mon) Conference Room III

9:15–12:00

28 Fumitsuna Maruyama ♭
Masao Toyoizumi (Toyo Univ.)
Yozo Deguchi
On a certain method for determining the non-singularity of an integral matrix 10

29 Yuki Irie (Chiba Univ.) ♭
p-Saturations of Welter's game and the irreducible representations of symmetric groups 10

30 Fumihito Oda (Kindai Univ.)
Yugen Takegahara (Muroran Inst. of Tech.)
Tomoyuki Yoshida (Hokusei Gakuen Univ.)
Axiomatic theory of Burnside rings I 10

31 Masahiro Wakatake (Kindai Univ.)
Fumihito Oda (Kindai Univ.)
The unit group of a partial Burnside ring of a reducible Coxeter group of type A 10

32 Kazuya Aokage (Ariake Nat. Coll. of Tech.)
Tensor product of the spin representations for the symmetric groups 10

33 Shuhei Kamioka (Kyoto Univ.)
A refinement of generating functions for symmetric plane partitions 10

34 Naoki Genra (Kyoto Univ.)
Coproducts for $\mathcal{W}$-algebras 10

35 Ryo Fujita (Kyoto Univ.)
Tilting modules in affine highest weight categories and the Arakawa–Suzuki functor 10

36 Ryo Fujita (Kyoto Univ.)
Affine highest weight categories and quantum affine Schur–Weyl duality of Dynkin quiver types 10

37 Taro Sakurai (Chiba Univ.)
Shigeo Koshitani (Chiba Univ. / Chiba Univ.*)
On characterizations of small block algebras 10

38 Hiroki Sasaki (Shinshu Univ.) *
Cohomology rings of block ideals with extraspecial defect groups 10

39 Shigeo Koshitani ♭
(Chiba Univ. / Chiba Univ.*)
Radha Kessar (City, Univ. of London)
Markus Linckelmann (City, Univ. of London)
Brauer indecomposabilities of the Scott modules 10

40 Shigeo Koshitani ♭
(Chiba Univ. / Chiba Univ.*)
Jürgen Müller (Wuppertal Univ.)
A remark on the projective cover of the trivial module 10

41 Shigeo Koshitani ♭
(Chiba Univ. / Chiba Univ.*)
Caroline Lassueur (Kaiserslautern Univ.)
Locations of simple modules for finite group algebras in the Auslander–Reiten quivers 10

13:15–14:15 Talk Invited by Algebra Section

Kenichi Shimizu (Shibaura Inst. of Tech.) Recent developments of 'non-semisimple' modular tensor categories

March 20th (Tue) Conference Room III

9:15–12:00

42 Takuo Matsuoka — Filtration of a stable infinity 1-category ····· 10

43 Izuru Mori (Shizuoka Univ.), Kenta Ueyama (Hirosaki Univ.) — A categorical characterization of noncommutative projective spaces ··· 10

44 Ayako Itaba (Tokyo Univ. of Sci.), Masaki Matsuno (Shizuoka Univ.) — 3-dimensional quadratic AS-regular algebras corresponding to elliptic curves ····· 10

45 Ayako Itaba (Tokyo Univ. of Sci.), Diego Alejandro Mejía (Shizuoka Univ.), Teruyuki Yorioka (Shizuoka Univ.) — On some non-projective infinitely generated modules over path algebras ····· 10

46 Hideyuki Koie (Tokyo Univ. of Sci.), Tomohiro Itagaki (Tokyo Univ. of Sci.), Katsunori Sanada (Tokyo Univ. of Sci.) — On presentations of Hochschild extension algebras for a class of self-injective Nakayama algebras ····· 10

47 Tomohiro Itagaki (Tokyo Univ. of Sci.) — Batalin–Vilkovisky algebra structures on the Hochschild cohomology of self-injective Nakayama algebras ····· 10

48 Sota Asai (Nagoya Univ.) * — Bricks over preprojective algebras ····· 10

49 Tsutomu Nakamura (Okayama Univ.) — Bousfield localization and cosupport in derived categories of commutative Noetherian rings ····· 10

50 Hiroki Matsui (Nagoya Univ.) — Singular equivalences and reconstruction of singular loci ····· 10

51 Toshinori Kobayashi (Nagoya Univ.) — Syzygies of Cohen–Macaulay modules and endomorphism ring of the maximal ideal ····· 10

52 Futoshi Hayasaka (Okayama Univ.) * — Complete reductions of multigraded modules and normality of monomial ideals ····· 10

53 Shinya Kumashiro (Chiba Univ.), Shiro Goto (Meiji Univ.*) — When is $R \ltimes I$ an almost Gorenstein local ring? ····· 10

54 Ryotaro Isobe (Chiba Univ.), Shiro Goto (Meiji Univ.*), Naoki Taniguchi (Waseda Univ.), Shinya Kumashiro (Chiba Univ.) — Characterization of generalized Gorenstein rings ····· 10

14:15–14:30 Presentation Ceremony for the 2017 MSJ Algebra Prize

14:30–15:30 Award Lecture for the 2018 MSJ Algebra Prize

Kanetomo Sato (Chuo Univ.) A new cohomology theory for arithmetic schemes and its applications

15:40–16:40 Award Lecture for the 2018 MSJ Algebra Prize

Satoshi Naito (Tokyo Tech) Representation theory of quantum affine algebras

16:50–17:50 Award Lecture for the 2018 MSJ Algebra Prize

Takayuki Hibi (Osaka Univ.) Monomial ideals and binomial ideals

March 21st (Wed) Conference Room III

9:15–12:00

55 Hirotaka Higashidaira (Meiji Univ.) On sequentially generalized Cohen–Macaulay bipartite graphs ····· 10

56 Akiyoshi Tsuchiya (Osaka Univ.)
Takayuki Hibi (Osaka Univ.)
Gorenstein Fano polytopes arising from perfect graphs ····· 10

57 Akiyoshi Tsuchiya (Osaka Univ.) Normality and levelness of Cayley sums of lattice polytopes ····· 10

58 Kazunori Matsuda (Osaka Univ.)
Takayuki Hibi (Osaka Univ.)
Regularity and h-polynomials of monomial ideals ····· 10

59 Akihiro Higashitani (Kyoto Sangyo Univ.)
Yusuke Nakajima (Univ. of Tokyo)
On generalized F-signatures of Segre product of polynomial rings ···· 10

60 Takayuki Hibi (Osaka Univ.)
Akihiro Higashitani (Kyoto Sangyo Univ.)
Koutarou Yoshida (Osaka Univ.)
Existence of regular unimodular triangulations of dilated empty simplices ····· 10

61 Mitsuhiro Miyazaki (Kyoto Univ. of Edu.) On the anticanonical level property of a Hibi ring ····· 10

62 Koji Chinen (Kindai Univ.) Analogs of Mallows–Sloane bound for divisible formal weight enumerators ····· 10

63 Norihiro Nakashima (Tokyo Denki Univ.)
Takuro Abe (Kyushu Univ.)
Counter examples of Holm's questions for high order free hyperplane arrangements ····· 10

64 Tatsuya Horiguchi (Osaka Univ.)
Takuro Abe (Kyushu Univ.)
Mikiya Masuda (Osaka City Univ.)
Satoshi Murai (Osaka Univ.)
Takashi Sato (Osaka City Univ.)
Hessenberg varieties and hyperplane arrangements ····· 10

65 Ayako Kubota (Waseda Univ.) Invariant Hilbert scheme resolution of Popov's $SL(2)$-varieties ····· 10

66 Jong Myeong Kim (Nagoya Univ.) A freeness criterion for spherical twists ····· 10

67 Yoshifumi Tsuchimoto (Kochi Univ.) Non-commutative Kähler projective space: from commutative viewpoint ····· 10

14:20–17:00

68 Tetsuya Ando (Chiba Univ.) Semialgebraic variety ····· 10

69 Junjiro Noguchi (Univ. of Tokyo*) $^{\flat}$ Big Picard Theorem and the Manin–Mumford Conjecture ····· 10

70 Momonari Kudo (Kyushu Univ.)
Shushi Harashita (Yokohama Nat. Univ.)
Enumerating superspecial curves of genus 4 over prime fields ····· 10

Geometry

March 18th (Sun) Conference Room I

9:15–11:35

6 Masayuki Igarashi (Tokyo Univ. of Sci.) * On Hermite–Liouville structures constructed on the Hopf surface ····· 10

7 Satoshi Nakamura (Tohoku Univ.) Hessian of the Ricci Calabi functional ····· 15

8 Satoshi Nakamura (Tohoku Univ.) Remarks on modified Ding functional for toric Fano manifolds ····· 10

9 Tomoyuki Hisamoto (Nagoya Univ.) Gradient flow of the Ding energy and optimal degeneration of a Fano manifold ····· 15

14:15–16:35

10 Shin-ichi Oguni (Ehime Univ.) * On a coarse Cartan–Hadamard theorem ····· 15

11 Tomohiro Fukaya (Tokyo Metro. Univ.) New formulation of nonpositively curved spaces from the view point of coarse geometry and its boundary ····· 15

12 Tetsu Toyoda (Suzuka Nat. Coll. of Tech.) A generalization of Gromov's $\mathrm{Cycl}_k(0)$ condition and an intrinsic characterization of five points in a CAT(0) space ····· 15

13 Daisuke Kazukawa (Tohoku Univ.) A new condition for convergence of energies and stability of Ricci curvature bounds ····· 15

14 Hiroki Nakajima (Tohoku Univ.), Takashi Shioya (Tohoku Univ.) Isoperimetric rigidity and distributions of 1-Lipschitz functions ····· 15

15 Hiroki Nakajima (Tohoku Univ.) Lipschitz order with an additive error and normal law à la Lévy on the Hamming cubes ····· 10

16 Taiki Yamada (Tohoku Univ.), Jürgen Jost (Max Planck Inst.) The Ricci curvature and the Laplacian on edges of graphs ····· 10

17 Ayato Mitsuishi (Fukuoka Univ.), Takao Yamaguchi (Kyoto Univ.) Obtuse constant and volume of Alexandrov spaces ····· 15

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

Ryokichi Tanaka (Tohoku Univ.) ♭ Potential theory on discrete groups and metric embedding

March 19th (Mon) Conference Room I

9:00–11:45

18 Hirotaka Ebisui (Geomathes Res. Center) Discovery of concurrent, collinear Theorems ····· 15

19 Jun O'Hara (Chiba Univ.) Residues and intrinsic volumes of submanifolds of $\mathbb{R}^n$ ····· 15

20 Kaho Ohashi (Japan Women's Univ.) Construction of a metric on the moduli space of Delzant polytopes ····· 15

21 Kenzi Satô (Tamagawa Univ.) The existence of orthocenters of simplices of hyperbolic spaces ····· 15

22 Yuichiro Taketomi (Hiroshima Univ.) Singularities of the moduli space of left-invariant metrics and the properties of the corresponding metrics ····· 15

23 Naohiko Kasuya (Kyoto Sangyo Univ.), Masamichi Takase (Seikei Univ.) Knots and links of complex tangents ····· 15

24 Nobuhiro Innami (Niigata Univ.) The asymptotic behavior of geodesic circles in a 2-torus ····· 15

25 Kei Kondo (Yamaguchi Univ.) From Hopf's curvature pinching conjecture to a differentiable exotic sphere theorem ····· 15

26 Toshihiro Shoda (Saga Univ.), Shin Nayatani (Nagoya Univ.) Metrics on a closed surface of genus two which maximize the first eigenvalue of the Laplacian ····· 15

13:15–14:15 Talk Invited by Geometry Section

Hirofumi Sasahira (Kyushu Univ.) * The Seiberg–Witten equations and applications

March 20th (Tue) Conference Room I

9:15–11:45

27 Jong Taek Cho (Chonnam Nat. Univ.), Takahiro Hashinaga (Kitakyushu Nat. Coll. of Tech.), Akira Kubo (Hiroshima Shudo Univ.), Yuichiro Taketomi (Hiroshima Univ.), Hiroshi Tamaru (Hiroshima Univ.) — Realizations of some contact metric manifolds as Ricci soliton real hypersurfaces ····· 15

28 Kazushi Kobayashi (Chiba Univ.) — Some remarks on the homological mirror symmetry for tori ····· 15

29 Mitsuhiro Itoh (Univ. of Tsukuba), Hiroyasu Satoh (Nippon Inst. of Tech.) — Harmonic manifolds of hypergeometric type and spherical Fourier transform ····· 10

30 Nobutaka Boumuki (Oita Univ.) — Irreducible representations of real semisimple Lie groups related to homogeneous holomorphic line bundles over elliptic orbits ····· 10

31 Jun Watanabe (Univ. of Tokyo) ♭ — Fibered cusp b-pseudodifferential operators and its applications ····· 15

32 Norihito Koiso ♭ (Kyushu Univ. / Osaka Univ.⋆) — A wave equation of motion of an elastic wire on a Riemannian manifold ····· 15

33 Toru Kajigaya (MathAM-OIL), Keita Kunikawa (Tohoku Univ.) — Hamiltonian stability for weighted measure and generalized Lagrangian mean curvature flow ····· 15

34 Miyuki Koiso (Kyushu Univ.) — Non-uniqueness of closed non-smooth hypersurfaces with constant anisotropic mean curvature ····· 15

35 Miyuki Koiso (Kyushu Univ.) — Uniqueness of stable closed non-smooth hypersurfaces with constant anisotropic mean curvature ····· 10

14:15–16:30

36 Makoto Sakaki (Hirosaki Univ.) * — Transforms for minimal surfaces in 5-dimensional space forms ····· 10

37 Makoto Sakaki (Hirosaki Univ.) * — Transforms and a representation formula for non-conformal harmonic surfaces in the Euclidean 3-space ····· 15

38 Kurando Baba (Tokyo Univ. of Sci.), Osamu Ikawa (Kyoto Inst. Tech.), Atsumu Sasaki (Tokai Univ.) — Calibrated equalities and hyperpolar actions ····· 15

39 Kurando Baba (Tokyo Univ. of Sci.), Osamu Ikawa (Kyoto Inst. Tech.), Atsumu Sasaki (Tokai Univ.) — Calibrated inequalities in pseudo-Riemannian geometry and a duality ····· 10

40 Atsufumi Honda * (Yokohama Nat. Univ.) — Isometric deformations of mixed type surfaces ····· 10

41 Taro Kimura (Nat. Inst. of Tech., Tsuruoka Coll.), Katsuya Mashimo (Hosei Univ.) — Classification of Cartan embeddings which are austere submanifolds ····· 15

42 Osamu Ikawa (Kyoto Inst. Tech.)
Hiroshi Iriyeh (Ibaraki Univ.)
Takayuki Okuda (Hiroshima Univ.)
Takashi Sakai (Tokyo Metro. Univ.)
Hiroyuki Tasaki (Univ. of Tsukuba)
Lagrangian Floer homology of two real forms in a complex flag manifold 15

43 Yohei Komori (Waseda Univ.)
Construction of pseudo-Anosov automorphisms whose dilatations are 2-Salem numbers 15

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

Hideki Miyachi (Osaka Univ.)
Toward complex analysis on Teichmüller space

Complex Analysis

March 18th (Sun) Conference Room VII

9:45–11:45

1 Shigeyoshi Owa (Yamato Univ.) *
Hitoshi Saitoh (Gunma Nat. Coll. of Tech.)
Janusz Sokol (Univ. of Rzeszow)
Mamoru Nunokawa (Gunma Univ.*)
On univalences for Alexander type integrals 15

2 Kiyoki Tanaka (Daido Univ.) ♭
Toeplitz operators on the polyharmonic Bergman space 15

3 Ryosuke Yamazaki (Gakushuin Boys' Senior High School)
Yasushi Yamashita (Nara Women's Univ.)
The realization problem for Jørgensen numbers 15

4 Naotaka Kajino (Kobe Univ.)
Weyl's eigenvalue asymptotics for the Laplacian on circle packing limit sets of certain Kleinian groups 15

5 Tomoshige Yukita (Waseda Univ.)
Construction of infinite series of ideal hyperbolic Coxeter 4-polytopes whose growth rates are Perron numbers. 15

6 Masahiro Yanagishita (Yamaguchi Univ.)
Construction of p-Weil–Petersson metric on p-integrable Teichmüller space 15

7 Dounnu Sasaki (Waseda Univ.)
The denseness probelm of geodesic currents and subset currents 15

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

Hiroki Sumi (Kyoto Univ.)
Randomness-induced phenomena in random holomorphic dynamical systems and their applications

March 19th (Mon) Conference Room VII

10:00–11:40

8 Takahiro Inayama (Univ. of Tokyo) — L^2 estimates and vanishing theorems for holomorphic vector bundles equipped with singular Hermitian metrics ····· 15

9 Genki Hosono (Univ. of Tokyo) — On recent topics on L^2 extension theorems ····· 15

10 Sachiko Hamano (Osaka City Univ.), Masakazu Shiba (Hiroshima Univ.*), Hiroshi Yamaguchi (Shiga Univ.*) — Variation of the **a**-span of an open Riemann surface and pseudoconvexity ····· 15

11 Akio Kodama (Kanazawa Univ.*)$^\flat$ — A localization principle for biholomorphic mapppings between the Fock–Bargmann–Hartogs domains ····· 15

12 Masataka Tomari (Nihon Univ.)*, Tadashi Tomaru (Gunma Univ.*) — maximal ideal cycle and fundamental cycle of normal two dimensional double points ····· 15

13 Katsusuke Nabeshima (Tokushima Univ.), Shinichi Tajima (Univ. of Tsukuba) — An algorithm for computing integral numbers in a ring of convergent power series II ····· 10

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

Takayuki Koike (Osaka City Univ.) — Hermitian metrics on numerically effective line bundles and neighborhoods of complex submanifolds

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Functional Equations

March 18th (Sun) Conference Room IX

9:15–12:00

1 Mostafa Adimy (Univ. of Lyon), Abdennasser Checkroun (Univ. of Tlemcen), Toshikazu Kuniya (Kobe Univ.) — Analysis of a mathematical model for hematopoietic stem cells with a nonlocal term and time delay ····· 10

2 Hideaki Izumi (Chiba Inst. of Tech.) — Solving functional equations by using dimensioned numbers ····· 10

3 Hideaki Matsunaga (Osaka Pref. Univ.), Doi Pati, Sugie Jitsuro (Shimane Univ.) — Oscillation criteria for a nonlinear delay difference equation by phase plane analysis ····· 10

4 Yasuhiro Fujita (Univ. of Toyama), Nao Hamamuki (Hokkaido Univ.), Antonio Siconolfi (Sapienza Univ. of Rome), Norikazu Yamaguchi (Univ. of Toyama) — On a Hamilton–Jacobi flow staring from a pathological function ····· 10

5 Shingo Takeuchi (Shibaura Inst. of Tech.) — Applications of generalized trigonometric functions to a nonlocal boundary value problem ····· 10

14:15–16:15

22 Kenichiro Umezu (Ibaraki Univ.)
Uriel Kaufmann (Univ. Nacional de Córdoba)
Humberto Ramos Quoirin (Univ. de Santiago de Chile)
Loop components of nontrivial nonnegative solutions for indefinite concave-convex problems 10

16:30–17:30 Award Lecture for the 2017 MSJ Analysis Prize

Yoshitsugu Takei (Doshisha Univ.)
On the instanton-type expansions of elliptic functions and Painlevé transcendents —The final stage of the exact WKB analysis for Painlevé equations

March 19th (Mon) Conference Room IX

9:15–12:00

23 Yohei Toyota (Osaka Univ.)
Takashi Suzuki (Osaka Univ.)
The behavior of blow-up solutions for mean filed equation with multi-intensities 10

24 Daisuke Naimen (Muroran Inst. of Tech.)
Massimo Grossi (Sapienza Univ. of Roma)
Blow-up analysis for sign-changing radial solutions in Trudinger–Moser critical equations in $\mathbb{R}^2$ 10

25 Aya Ishizeki (Chiba Univ.)
Takeyuki Nagasawa (Saitama Univ.)
Decomposition of generalized O'Hara's energies 10

26 Yohei Sato (Saitama Univ.)
Shibata Masataka (Tokyo Tech)
Infinitely many solutions for a nonlinear Schrödinger equation with general nonlinearity 10

27 Shota Tateyama (Tohoku Univ.)
Shigeaki Koike (Tohoku Univ.)
Andrzej Święch (Georgia Tech)
Fully nonlinear parabolic equations with unbounded ingredients 10

28 Shota Tateyama (Tohoku Univ.)
The Phragmén–Lindelöf theorem for fully nonlinear parabolic equations with unbounded ingredients 10

29 Naoto Kajiwara (Univ. of Tokyo)
Matthias Hieber (TU Darmstadt)
Klaus Kress (TU Darmstadt)
Patrick Tolksdorf (TU Darmstadt)
Time periodic solutions on real interpolation spaces and its applications to some electrophysiological models 10

30 Naoto Kajiwara (Univ. of Tokyo)
Yoshikazu Giga (Univ. of Tokyo)
Klaus Kress (TU Darmstadt)
Time periodic solutions to the bidomain equations subject to arbitrary large force 10

31 Masaaki Mizukami (Tokyo Univ. of Sci.)
The parabolic-elliptic Keller–Segel case as a limit of the fully parabolic Keller–Segel system 10

32 Xinru Cao (Paderborn Univ.)
Shunsuke Kurima (Tokyo Univ. of Sci.)
Masaaki Mizukami (Tokyo Univ. of Sci.)
Global existence and stabilization in a 3D two-species Keller–Segel–Stokes system with competitive kinetics 10

33 Sachiko Ishida (Chiba Univ.)
Tomomi Yokota (Tokyo Univ. of Sci.)
Takahiro Hashira (Tokyo Univ. of Sci.)
Finite-time blow-up in a fully parabolic Keller–Segel system with degenerate diffusion 10

34 Takayoshi Ogawa (Tohoku Univ.)
Hiroshi Wakui (Tohoku Univ.)
Unboundedness of solutions to a degenerate drift-diffusion equation equation with the mass critical exponent and estimates of the concentration quantity of radially symmetric solutions ····· 10

13:15–14:15 Award Lecture for the 2017 MSJ Analysis Prize

Tetsutaro Shibata (Hiroshima Univ.)
Asymptotic analysis of eigenvalue problems for nonlinear elliptic equations and analysis of inverse bifurcation problems

March 20th (Tue) Conference Room IX

9:15–12:00

35 Kenta Nakamura (Kyushu Univ.)
Masashi Misawa (Kumamoto Univ.)
The existence and properties of a solution to the p-Sobolev flow ····· 10

36 Lorenzo Cavallina (Tohoku Univ.)
Rolando Magnanini (Univ. of Florence)
Shigeru Sakaguchi (Tohoku Univ.)
On the shape of a two-phase heat conductor with a surface of the constant flow property ····· 10

37 Takashi Kagaya (Kyushu Univ.)
A singular limit problem of Allen–Cahn equation with Neumann boundary condition on non-convex domains ····· 10

38 Nao Hamamuki (Hokkaido Univ.)
Yoshikazu Giga (Univ. of Tokyo)
On a dynamic boundary condition for singular degenerate parabolic equations in a half space ····· 10

39 Yukihiro Seki (Kyushu Univ.)
Paweł Biernat (Bonn Univ.)
On blow-up of solutions for harminic map heat flow with values in a sphere ····· 10

40 Hiroshi Matsuzawa (Numazu Nat. Coll. of Tech.)
A free boundary problem for the Fisher-KPP equation with a moving boundary ····· 10

41 Yūki Naito (Ehime Univ.)
Asymptotic behavior of global solutions for semilinear heat equations with slowly decaying initial data ····· 10

42 Kyohei Itakura (Kobe Univ.)
Spectral theory for repulsive Hamiltonians ····· 10

43 Wataru Ichinose (Shinshu Univ.)
The Feynman path integrals of continuous quantum measurements and the non-self-adjoint Schrödinger equations ····· 10

44 Hironori Michihisa (Hiroshima Univ.)
Diffusive structures and wave effects of damped wave equations ····· 10

45 Naofumi Mori (Fukuoka Inst. of Tech.)
The S & K mixed condition for symmetric hyperbolic systems with non-symmetric relaxations ····· 10

46 Kenta Nakamura (Kyushu Univ.)
Tohru Nakamura (Kumamoto Univ.)
Shuichi Kawashima (Kyushu Univ.)
Asymptotic stability of rarefaction waves for a model system of hyperbolic balance laws ····· 10

47 Motohiro Sobajima (Tokyo Univ. of Sci.)
Masahiro Ikeda (RIKEN/Keio Univ.)
Life-span of blowup solutions to semilinear wave equation with space-dependent critical damping ····· 10

14:15–16:15

48 Takayuki Niimura (Hokkaido Univ.)
Attractors and their stability with respect to rotational inertia for a nonlocal extensible beam equation ····· 10

49 Masahiro Ikeda (RIKEN/Keio Univ.)
Yuta Wakasugi (Ehime Univ.)
Inui Takahisa (Tokyo Univ. of Sci.)
Mamoru Okamoto (Shinshu Univ.)
Time decay estimates for the linear damped wave equation and the critical exponent for the semilinear problem with slowly decaying data 10

50 Masahiro Ikeda (RIKEN/Keio Univ.)
Motohiro Sobajima (Tokyo Univ. of Sci.)
Life-span of solutions to semilinear wave equation with time-dependent critical damping 10

51 Natsumi Yoshida (Ritsumeikan Univ.)
Large time behavior of solutions toward a multiwave pattern to the Cauchy problem for the dissipative wave equation with partially linearly degenerate flux 10

52 Natsumi Yoshida (Ritsumeikan Univ.)
Akitaka Matsumura (Osaka Univ.*)
Global asymptotic stability of the rarefaction waves for a scalar conservation law with nonlinear viscosity 10

53 Yuichiro Kawahara (Doshisha Junior and Senior High School)
Nakao Hayashi (Osaka Univ.)
Pavel I. Naumkin (UNAM)
Scattering problem for the fourth order nonlinear Schrödinger equation 10

54 Satoshi Masaki (Osaka Univ.)
Jason Murphy (Missouri Univ. of Sci. and Tech.)
Jun-ichi Segata (Tohoku Univ.)
Long range scattering for nonlinear Schrödinger equation with repulsive delta potential 10

55 Hayato Miyazaki (Tsuyama Nat. Coll. of Tech.)
Satoshi Masaki (Osaka Univ.)
Nonexistence of scattering and modified scattering states for nonlinear Schrödinger equations with critical homogeneous nonlinearity 10

56 Sojiro Murai * (Tokyo Metropolitan Coll. of Indus. Tech.)
Strichartz and scattering for magnetic Schrödinger equations in exterior domain 10

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

Hirokazu Ninomiya (Meiji Univ.)
Traveling wave solutions and entire solutions of reaction-diffusion equations

March 21st (Wed) Conference Room IX

9:15–12:00

57 Ikkei Shimizu (Kyoto Univ.)
Remarks on local well-posedness of Schrödinger map equation 10

58 Mamoru Okamoto (Shinshu Univ.)
Ill-posedness of the Cauchy problem for the fractional Schrödinger equation 10

59 Daisuke Sakoda (Osaka Univ.)
Hideaki Sunagawa (Osaka Univ.)
Small data global existence for a quadratic derivative nonlinear Schrödinger system in two space dimensions 10

60 Hiroyuki Hirayama (Univ. of Miyazaki)
Well-posedness for the Zakharov–Kuznetsov–Burgers equation in two space dimensions 10

61 Ikki Fukuda (Hokkaido Univ.)
Second asymptotic profile for the generalized KdV-Burgers equation 10

62 Shota Sakamoto (Kyoto Univ.)
Duan Renjun (Chinese Univ. of Hong Kong)
Solution to the Boltzmann equation in velocity-weighted Chemin–Lerner type spaces 10

63 Tetu Makino (Yamaguchi Univ.*) * — On axisymmetric solutions of the Einstein–Euler equations ····· 10

64 Itsuko Hashimoto (Kansai Univ./Osaka City Univ.), Akitaka Matsumura (Osaka Univ.*) — Asymototic behavior toward nonlinear waves for radially symmetric solutions of multi-dimensional Burgers equation ····· 10

65 Yusuke Ishigaki (Kyushu Univ.) — Global existence of solutions of the compressible viscoelastic fluid around parallel flow ····· 10

66 Keiichi Watanabe (Waseda Univ.) — Maximal regularity of compressible-incompressible two-phase flows with phase transitions ····· 10

67 Yoshihiro Shibata (Waseda Univ.) — Free boundary problem with surface tension ····· 10

68 Yoshihiro Shibata (Waseda Univ.) — Global well-posedness for a $\mathbb{Q}$ tensor model of Incompressible Nematic Liquid Crystals in $\mathbb{R}^N$ ····· 10

69 Kazuyuki Tsuda (Osaka Univ.), Takayuki Kobayashi (Osaka Univ.) — Time decay estimate with diffusive property and smoothing effect for solution to the compressible Navier–Stokes–Korteweg system ····· 10

14:15–16:15

70 Nobu Kishimoto (Kyoto Univ.), Yoshitaka Saiki (Hitotsubashi Univ.), Kengo Nakai (Univ. of Tokyo), Yoneda Tsuyoshi (Univ. of Tokyo) — Global mild solution to Navier–Stokes equations with partial hyperviscosity ····· 10

71 Tatsu-Hiko Miura (Univ. of Tokyo) — On singular limit equations for the Navier–Stokes equations in moving thin domains ····· 10

72 Yasunori Maekawa (Kyoto Univ.) — On stability of physically reasonable solutions to the two-dimensional Navier–Stokes equations ····· 10

73 Kohei Nakao (Shinshu Univ.), Yasushi Taniuchi (Shinshu Univ.) — Beale–Kato–Majda type extension criterion of smooth solutions to the Navier–Stokes equations in three dimensional domains ····· 10

74 Hideo Kozono (Waseda Univ.) *, Yutaka Terasawa (Nagoya Univ.), Yuta Wakasugi (Ehime Univ.) — A remark on Liouville-type theorem for the nonstationary Navier–Stokes equations in two dimensional domains ····· 10

75 Akira Okada (Kyoto Univ.), Hideo Kozono (Waseda Univ.), Senjo Shimizu (Kyoto Univ.) — Spatial analyticity of solutions to the Navier–Stokes equtations with initial data in homogeneous Besov spaces ····· 10

76 Takahiro Okabe (Hirosaki Univ.), Youhei Tsutsui (Shinshu Univ.) — Remark on the strong solvability of the Navier–Stokes equations in the weak L^n space ····· 10

77 Hiroyuki Tsurumi (Waseda Univ.) — Solutions of the stationary Navier–Stokes equations in homogeneous Triebel–Lizorkin spaces ····· 10

78 Hiroyuki Tsurumi (Waseda Univ.) — Ill-posedness of the stationary Navier–Stokes equations in homogeneous Besov spaces ····· 10

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

Tsukasa Iwabuchi (Tohoku Univ.) $^{\flat}$ — On the ill-posedness for the compressible Navier–Stokes equations

Real Analysis

March 20th (Tue) Conference Room VII

9:00–12:00

14:15–16:15

17 Koichi Taniguchi (Chuo Univ.)
Tsukasa Iwabuchi (Tohoku Univ.)
Tokio Matsuyama (Chuo Univ.)
Besov spaces generated by Schrödinger operators ····· 15

18 Tomoya Kato (Osaka Univ.)
Naohito Tomita (Osaka Univ.)
A remark on the Schrödinger operator on Wiener amalgam spaces ··· 15

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

Ryotaro Tanaka (Kyushu Univ.) Geometric techniques in Banach space theory: Challenges to Tingley's problem

March 21st (Wed) Conference Room VII

9:15–12:00

19 Masaaki Mizukami (Tokyo Univ. of Sci.)
The parabolic-elliptic chemotaxis case as a limit of the fully parabolic chemotaxis system with signal-dependent sensitivity ····· 15

20 Shunsuke Kurima (Tokyo Univ. of Sci.)
Vanishing viscosity for a Cahn–Hilliard type system on unbounded domains ····· 15

21 Kosuke Kita (Waseda Univ.)
Mitsuharu Ôtani (Waseda Univ.)
Hiroki Sakamoto (Hitachi-GE Nuclear Energy, Ltd.)
Some threshold property for a reaction diffusion system arising from a nuclear reactor model ····· 15

22 Yutaka Tsuzuki (Hiroshima Shudo Univ.)
Existence for Vlasov–Poisson equations with angle error in magnetic field in a half-space ····· 15

23 Taishi Motoda (Kyoto Univ. of Edu.)
Time periodic solutions of Cahn–Hilliard system with dynamic boundary conditions ····· 15

24 Ryota Nakayashiki (Chiba Univ.)
Kobayashi–Warren–Carter system subject to quasi-linear diffusions and dynamic boundary conditions ····· 15

25 Hiroshi Watanabe (Oita Univ.)
Solvability of degenerate parabolic-parabolic systems ····· 15

26 Makoto Nakamura (Yamagata Univ.)
Yuya Sato (Yamagata Univ.)
On the Cauchy problem of a semilinear diffusion equation in an expanding space ····· 10

27 Makoto Nakamura (Yamagata Univ.)
Remarks on the derivation of Navier–Stokes equations and elastic wave equations in uniform and isotropic spacetimes ····· 10

28 Yoshikazu Giga (Univ. of Tokyo)
Martin Bolkart (TU Darmstadt)
Takuya Suzuki (Adv. Simulation Tech. of Mechanics R&D, Co., Ltd.)
Analyticity of the Stokes semigroup in BMO ····· 10

14:15–16:00

29 Takeshi Fukao (Kyoto Univ. of Edu.)
A strict separation property from pure phases for GMS model with logarithmic potential ····· 15

30 Noriaki Yamazaki (Kanagawa Univ.)
Nobuyuki Kenmochi (Univ. of Warsaw)
Ken Shirakawa (Chiba Univ.)
Quasi-variational evolution equations governed by double time-dependent subdifferentials ····· 15

31 Akio Ito
Evolution inclusion on a real Hilbert space with quasi-variational structure for inner product —Time-dependent convex functions— ····· 15

32 Ken Shirakawa (Chiba Univ.) A gradient system based on an anisotropic image processing ····· 15

33 Kota Kumazaki (Tomakomai Nat. Coll. of Tech.) Solvability of a free boundary problem describing moisture swelling process in porous materials ····· 15

34 Toyohiko Aiki (Japan Women's Univ.) Existence of a weak solution to a free boundary problem describing adsorption process ····· 15

16:15–17:15 Talk Invited by Real Analysis Section

Shun Uchida (Waseda Univ.) Solvability of a system describing double-diffusive convection phenomena in some porous medium

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Functional Analysis

March 18th (Sun) Conference Room IV

14:15–16:15

1 Saburou Saitoh * (Gunma Univ.*/Inst. of Reproducing Kernels)
Tsutomu Matsuura (Gunma Univ.)
Yosihiro Sawano (Tokyo Metro. Univ.)
What are reproducing kernels? ····· 15

2 Saburou Saitoh * (Gunma Univ.*/Inst. of Reproducing Kernels)
Tsutomu Matsuura (Gunma Univ.)
Yoshihiro Sawano (Tokyo Metro. Univ.)
General integral transforms by the concept of generalized reproducing kernels ····· 15

3 Takashi Aoki (Kindai Univ.)
Ryuichi Ishimura (Chiba Univ.)
Daniele C. Struppa (Chapman Univ.)
Shofu Uchida (Kindai Univ.)
Linear continuous operators acting on the space of entire functions of a given order ····· 15

4 Yoritaka Iwata (Tokyo Tech) Module over the Banach algebra defined by the logarithmic representation of infinitesimal generators ····· 15

5 Fumio Hiroshima (Kyushu Univ.)
Susumu Osawa (Kyushu Univ.)
Mass renormalization in the Nelson model ····· 12

6 Fumio Hiroshima (Kyushu Univ.) Renormalized Gibbs measures associated with the Nelson model ····· 15

7 Kiyoomi Kataoka (Univ. of Tokyo)
Yu Mada (Univ. of Tokyo)
On generalized eigenvalues of an operator related to Kuramoto conjecture ····· 15

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

Nobuaki Obata (Tohoku Univ.) Quantum probabilistic methods for spectral analysis of graphs

March 19th (Mon) Conference Room IV

9:30–12:00

8 Junsei Watanabe * (Tokyo Gakugei Univ.) — Functional analytic viewpoints in computational linguistics of translated literary works ····· 15

9 Shizuo Miyajima (Tokyo Univ. of Sci.), Isao Saito (Tokyo Univ. of Sci.) — Characterization of closed balls via metric projections ····· 10

10 Sin-Ei Takahasi (Yamagata Univ.*), Hiroyuki Takagi (Shinshu Univ.), Takeshi Miura (Niigata Univ.), Hirokazu Oka (Ibaraki Univ.) — Semigroup operations distributed by the ordinary multiplication or addition on the real numbers ····· 15

11 Osamu Hatori (Niigata Univ.) — Surjective isometries on Banach algebras of Lipschitz maps ····· 15

12 Nobukazu Shimeno (Kwansei Gakuin Univ.), Yuichi Tamaoka (Kwansei Gakuin Univ.) — The hypergeometric function of type A and the Lauricella hypergeometric series ····· 15

13 Hiroshi Oda (Takushoku Univ.), Nobukazu Shimeno (Kwansei Gakuin Univ.) — Spherical functions for fine K-types ····· 15

14 Atsumu Sasaki (Tokai Univ.) — A Cartan decomposition for spherical homogeneous spaces of reductive type ····· 15

15 Taito Tauchi (Univ. of Tokyo) ♭ — Multiplicity of a degenerate principal series for homogeneous spaces with infinite orbits ····· 15

16 Minoru Itoh (Kagoshima Univ.) — A description of an invariant theory using the notion of wreath algebra with trace ····· 15

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

Hideyuki Ishi (Nagoya Univ. / JST PRESTO) — Gamma-type integrals over convex cones

March 20th (Tue) Conference Room IV

9:30–12:00

17 Yasuo Watatani (Kyushu Univ.) *, Tsuyoshi Kajiwara (Okayama Univ.) — A computation of the dimension group for the self-similar map given by the tent map ····· 15

18 Kengo Matsumoto * (Joetsu Univ. of Edu.) — Ruelle C^*-algebras associated with Smale spaces and bilateral Cuntz–Krieger algebras ····· 15

19 Hiroyuki Osaka (Ritsumeikan Univ.) — Stable rank for crossed products by actions of finite groups on C*-algebras ····· 15

20 Kei Hasegawa (Kyushu Univ.) — Boundary rigidity for free product C*-algebras ····· 15

21 Yusuke Sawada (Nagoya Univ.) — The affine property of quasi-free states on self-dual CAR algebras ···· 15

22 Takuya Takeishi (Kyoto Univ.) — Reconstructing the Bost–Connes semigroup actions from K-theory ··· 15

23 Toshihiko Masuda (Kyushu Univ.) — Tannaka–Kreĭn–Woronowicz duality from the viewpoint of Q-systems ····· 15

24 Yusuke Isono (Kyoto Univ.) Unique prime factorization for infinite tensor product factors ····· 15

25 Narutaka Ozawa (Kyoto Univ.) Finite-dimensional representations constructed from random walks ··· 15

14:15–16:00

26 Masaru Nagisa (Chiba Univ.) Some operator norm inequalities ····· 15

27 Junichi Fujii (Osaka Kyoiku Univ.) Graphical approach to Hopf algebras ····· 15

28 Masayuki Fujimoto (Osaka Kyoiku Univ.)
Yuki Seo (Osaka Kyoiku Univ.)
Mixed Schwarz inequalities via the matrix geometric mean ····· 10

29 Yuki Seo (Osaka Kyoiku Univ.)
Masayuki Fujimoto (Osaka Kyoiku Univ.)
A weighted mixed Schwarz operator inequality via the geometric operator mean ····· 10

30 Takeaki Yamazaki (Toyo Univ.) The Karcher equation, relative operator entropy and the Ando–Hiai inequality ····· 15

31 Shuhei Wada (Nat. Inst. of Tech., Kisarazu Coll.) When does Ando–Hiai inequality hold? ····· 10

32 Hiroaki Tohyama (Maebashi Inst. of Tech.)
Hiroshi Isa (Maebashi Inst. of Tech.)
Eizaburou Kamei
Masayuki Watanabe (Maebashi Inst. of Tech.)
Some relations among the n-th relative operator entropies and the n-th operator divergences ····· 15

16:15–17:15 Talk Invited by Functional Analysis Section

Fumio Hiai (Tohoku Univ.) Multivariate matrix/operator means

Statistics and Probability

March 18th (Sun) Conference Room VIII

9:15–12:00

1 Kazutoshi Yamazaki (Kansai Univ.)
Irmina Czarna (Univ. of Wrocław)
Jose-Luis Perez (Centro de Investigación en Matemáticas)
Tomasz Rolski (Univ. of Wrocław)
Fluctuation theory for level-dependent Lévy processes ····· 15

2 Kei Noba (Kyoto Univ.)
José-Luis Pérez (CIMAT)
Kazutoshi Yamazaki (Kansai Univ.)
Kouji Yano (Kyoto Univ.)
On optimal periodic dividend strategies for Lévy risk processes ····· 15

3 Yuichi Shiozawa (Osaka Univ.), Jian Wang (Fujian Normal Univ.) — Upper rate functions of Brownian motion type for symmetric jump processes · · · 15

4 Takahiro Hasebe (Hokkaido Univ.), Noriyoshi Sakuma (Aichi Univ. of Edu.), Steen Thorbjørnsen (Aarhus Univ.) — Freely selfdecomposability of the normal distributions · · · 10

5 Toshio Nakata (Fukuoka Univ. of Edu.) — The maxima for the generalized St. Petersburg game · · · 10

6 Yong Moo Chung (Hiroshima Univ.), Hiroki Takahasi (Keio Univ.) — Large deviaition principle for unimodal maps with flat critical point · · · 15

7 Jin Hatomoto (Tokyo Nat. Coll. of Tech.) — Relation between mixing properties and chaos in the sense of Devaney · · · 10

8 Hisatoshi Yuasa (Osaka Kyoiku Univ.) * — A relative, strictly ergodic model theorem for infinite measure-preserving systems · · · 15

9 Haruyoshi Tanaka (Wakayama Med. Univ.) — On convergence of the Gibbs measures of perturbed graph iterated function systems with degeneration · · · 15

10 Masatake Hirao (Aichi Pref. Univ.) — On p-frame potential of random point configurations on the sphere · · · 15

14:15–15:00

11 Nariyuki Minami (Keio Univ.) — One-dimensional Schrödinger operator with decaying white noise potential · · · 15

12 Yuki Suzuki (Keio Univ.) — Diffusion processes with random potentials consisting of specially contracted self-similar processes · · · 15

13 Kiyoiki Hoshino (Osaka Pref. Univ.) — On the reconstruction formulas in the wide sense of Wiener functionals from the SFCs · · · 10

15:15–16:15 Award Lecture for the 2017 MSJ Analysis Prize

Masayoshi Takeda (Tohoku Univ.) — Properties of symmetric Markov processes with tightness property

16:30–17:30 Talk Invited by Statistics and Probability Section

Koichiro Takaoka (Hitotsubashi Univ.) — The first fundamental theorem of asset pricing: stochastic integrals and martingale measures

March 19th (Mon) Conference Room VIII

9:30–11:30

14 Satoshi Suzuki (Shimane Univ.) — Quasiconvex programming with a reverse quasiconvex constraint · · · 15

15 Masayuki Horiguchi (Kanagawa Univ.) — Adaptive approach in a multivariate Bayesian control chart · · · 15

16 Toshiharu Fujita (Kyushu Inst. of Tech.) — Decision process with converging branch system —Three types of recursive equations— · · · 15

17 Shuhei Mano (Inst. of Stat. Math.) — A direct sampler for A-hypergeometric distributions and its application to random Young taubleaux · · · 15

18 Hideyasu Yamashita (Aichi Gakuin Univ.) — Probabilistic loop path integral for spins · · · 15

19 Shigeyoshi Ogawa (Ritsumeikan Univ.)
Gerard Kerkyacharian (LPMA, Univ. Paris-Diderot)
Pencho Petrushev (Univ. South Carolina)
Dominique Picard (Univ. Paris-Diderot)
On the regularity of Gaussian processes indexed by Dirichlet spaces 10

20 Tomoko Takemura (Nara Women's Univ.)
Convergence of diffusion processes in a tube 15

11:30–12:00 Research Section Assembly

March 20th (Tue) Conference Room VIII

10:00–11:40

21 Hiromu Yumiba (Int. Inst. for Nat. Sci.)
Yoshifumi Hyodo (Okayama Univ. of Sci. / Int. Inst. for Nat. Sci.)
Masahide Kuwada (Int. Inst. for Nat. Sci.)
GA*-optimal balanced third-order designs of resolution R*({10, 01}) with $N < \nu(m)$ for 3^m factorials 15

22 Mitsuhiro Takami (Tokyo Univ. of Sci.)
Yusuke Saigusa (Yokohama City Univ.)
Aki Ishii (Tokyo Univ. of Sci.)
Sadao Tomizawa (Tokyo Univ. of Sci.)
Measure of departure from local symmetry for square contingency tables 10

23 Nobuhiro Taneichi (Hokkaido Univ. of Edu.)
Yuri Sekiya (Hokkaido Univ. of Edu.)
Jun Toyama (Inst. for the Practical Application of Math.)
Improvement of test of complete independence in multi-dimensional contingency tables. 15

24 Tomoya Ikezawa (Tokyo Univ. of Sci.)
Kiyotaka Iki (Tokyo Univ. of Sci.)
Kouji Yamamoto (Osaka City Univ.)
Sadao Tomizawa (Tokyo Univ. of Sci.)
Measure of departure from point-symmetry for the collapsed square contingency tables 10

25 Takuya Yoshimoto (Tokyo Univ. of Sci. / Chugai Pharmaceutical Co., Ltd.)
Kouji Tahata (Tokyo Univ. of Sci.)
Kiyotaka Iki (Tokyo Univ. of Sci.)
Sadao Tomizawa (Tokyo Univ. of Sci.)
Covariance symmetry model and decomposition of symmetry model for square contingency table 15

26 Jo Suzuki (Osaka Univ.)
Estimation of conditional mutual information for discrete and continuous variables 15

14:15–15:05

27 Kazuyoshi Yata (Univ. of Tsukuba)
Makoto Aoshima (Univ. of Tsukuba)
Bias-corrected estimation of eigenvalues in high-dimensional settings 15

28 Aki Ishii (Tokyo Univ. of Sci.)
Kazuyoshi Yata (Univ. of Tsukuba)
Makoto Aoshima (Univ. of Tsukuba)
Equality tests of high-dimensional covariance matrices by using the noise-reduction methodology 15

29 Yoshihiko Maesono (Kyushu Univ.)
Taku Moriyama (Kyushu Univ.)
Smoothed two-sample nonparametric tests and their asymptotic properties 10

15:20–16:20 Talk Invited by Statistics and Probability Section

Kazuki Matsubara (ChuoGakuin Univ.) Pairwise additivity of BIB designs and related combinatorial structures

16:40–17:40 Talk Invited by Statistics and Probability Section

Koji Tsukuda (Univ. of Tokyo) Studies on the theory of weak convergences in Hilbert spaces and its applications

March 21st (Wed) Conference Room VIII

10:00–12:00

30 Nakahiro Yoshida (Univ. of Tokyo) Martingale expansion and power variation ····· 15

31 Nakahiro Yoshida (Univ. of Tokyo) Asymptotic expansion of Skorohod integrals ····· 15

32 Yoshiyuki Tanida (Waseda Univ.), Fumiya Akashi (Waseda Univ.), Masanobu Taniguchi (Waseda Univ.) Asymptotic theory and numerical studies of Whittle estimation for high-dimensional time series ····· 10

33 Yujie Xue (Waseda Univ.), Masanobu Taniguchi (Waseda Univ.) LASSO estimators for high-dimensional time series with long-memory disturbances ····· 10

34 Kou Fujimori (Waseda Univ.) Cox's proportional hazards model with a high-dimensional and sparse regression parameter ····· 15

35 Fumiya Akashi (Waseda Univ.) Local asymptotic power of self-weighted GEL method and choice of weighting function ····· 15

36 Hikaru Fukuda (Osaka Univ.), Masaaki Fukasawa (Osaka Univ.) Local asymptotic normality property for stable processes under high-frequency observations ····· 15

Applied Mathematics

March 18th (Sun) Conference Room VI

9:30–11:45

1 Tomoko Adachi (Toho Univ.) A labeling of a cyclic bipartite graph and its application to RAID ···· 10

2 Mickaël Buchet (Tohoku Univ. / TU Graz), Emerson Gaw Escolar (Tohoku Univ.) Vietoris–Rips realization of indecomposable persistence modules of arbitrarily large dimension ····· 15

3 Michio Seto (Nat. Defense Acad. of Japan), Sho Suda (Aichi Univ. of Edu.) Application of the theory of quasi-orthogonal integrals to graph theory ····· 10

4 Shohei Satake (Kobe Univ.) Remark on two typical properties of random graphs ····· 15

5 Shu Kanazawa (Tohoku Univ.), Masanori Hino (Kyoto Univ.) Asymptotic behavior of lifetime sums for random simplicial complex processes ····· 15

6 Kosuke Suzuki (Hiroshima Univ.)
Takehito Yoshiki (Kyoto Univ.)
Enumeration of the Chebyshev–Frolov lattice points in axis-parallel boxes ····· 15

7 Naoto Agawa (Kyushu Univ.)
Yoshihiro Mizoguchi (Kyushu Univ.)
A relational T-algebra isomorphic to the category of the topological spaces ····· 15

8 Sho Suda (Aichi Univ. of Edu.)
Gary Greaves (Nanyang Tech. Univ.)
The Smith normal form of skew-symmetric D-optimal designs of order $n \equiv 2 \pmod 4$ ····· 10

9 Hiroshi Nozaki (Aichi Univ. of Edu.)
Maximizing the order of a bipartite regular graph for given valency and second eigenvalue ····· 15

14:20–16:30

10 Yandong Bai (Northwestern Polytechnical Univ.)
Shinya Fujita (Yokohama City Univ.)
Shenggui Zhang (Northwestern Polytechnical Univ.)
Kernels by properly colored paths in arc-colored digraphs ····· 10

11 Jun Fujisawa (Keio Univ.)
R. E. L. Aldred (Univ. of Otago)
Akira Saito (Nihon Univ.)
Distance matching extension in cubic bipartite graphs ····· 15

12 Yumiko Ohno (Yokohama Nat. Univ.)
n-Triad colorings of triangulations on the torus ····· 15

13 Yoshihiro Asayama (Yokohama Nat. Univ.)
Yuki Kawasaki (Yokohama Nat. Univ.)
Seog-Jin Kim (Konkuk Univ.)
Atsuhiro Nakamoto (Yokohama Nat. Univ.)
Kenta Ozeki (Yokohama Nat. Univ.)
3-dynamic coloring for triangulations on surfaces ····· 15

14 Kengo Enami (Yokohama Nat. Univ.)
3-connected 3-regular planar graphs embedded on non-spherical surfaces ····· 15

15 Kenta Ozeki (Yokohama Nat. Univ.)
Toshiki Abe (Yokohama Nat. Univ.)
The signature of edge colorings on the projective plane ····· 15

16 Kenta Noguchi (Tokyo Denki Univ.)
Spanning bipartite subgraphs having large size of even triangulations ····· 15

17 Yusuke Suzuki (Niigata Univ.)
Satoshi Murai (Osaka Univ.)
Exceptional balanced triangulations on closed surfaces ····· 15

16:45–17:45 Talk Invited by Applied Mathematics Section

Masashi Shinohara (Shiga Univ.)
Classification problems and extremal problems on distance sets

March 19th (Mon) Conference Room VI

9:30–11:45

18 Iwao Sato (Oyama Nat. Coll. of Tech.)
Hideo Mitsuhashi (Hosei Univ.)
Hideaki Morita (Muroran Inst. of Tech.)
A weighted generalized Bartholdi zeta function of a digraph ····· 15

19 Yusuke Ide (Kanagawa Univ.)
Norio Konno (Yokohama Nat. Univ.)
Daichi Nakayama (Yokohama Nat. Univ.)
Two-state space-inhomogeneous coined quantum walk 10

20 Takashi Komatsu (Yokohama Nat. Univ.)
Norio Konno (Yokohama Nat. Univ.)
Akihiro Narimatsu (Yokohama Nat. Univ.)
The Quantum walk on the 2-dimensional torus 10

21 Daiju Funakawa (Hokkaido Univ.)
Toru Fuda (Hokkaido Univ.)
Satoshi Sasayama (Hokkaido Univ.)
Akito Suzuki (Shinshu Univ.)
Eigenvalue analysis of a 2-dimensional quantum walk 15

22 Tomoyuki Terada (Kanazawa Inst. of Tech.)
Takashi Komatsu (Yokohama Nat. Univ.)
Norio Konno (Yokohama Nat. Univ.)
Kei Saito (Yokohama Nat. Univ.)
Study on the one-dimensional lazy Fourier walk 10

23 Hiromichi Ohno (Shinshu Univ.)
Unitary equivalence classes of one-dimensional quantum walks 15

24 Takashi Komatsu (Yokohama Nat. Univ.)
Norio Konno (Yokohama Nat. Univ.)
Stationary measures of quantum walks on the higher-dimensional integer lattice 15

25 Takashi Komatsu (Yokohama Nat. Univ.)
Hikari Kawai (Yokohama Nat. Univ.)
Norio Konno (Yokohama Nat. Univ.)
Stationary measures of space-inhomogeneous quantum walks 10

26 Yusuke Yoshie (Tohoku Univ.)
Periodicity of the Grover walk on joint of graphs 15

14:00–14:20 Presentation Ceremony for the 2017 MSJ Prize for Excellent Young Applied Mathematicians

March 20th (Tue) Conference Room VI

9:15–11:50

27 Genki Kusano (Tohoku Univ.)
The bootstrap method by the Persistence weighted Gaussian kernel 15

28 Hiroshi Takeuchi (Tohoku Univ.)
Yasuaki Hiraoka (Tohoku Univ.)
The persistent homology of a correspondence: A viewpoint from quiver representations 15

29 Ippei Obayashi (Tohoku Univ.)
Volume optimal cycles for persistent homology 15

30 Takashi Teramoto (Asahikawa Medical Univ.)
Akihiro Takiyama (Hokkaido Bunkyo Univ.)
The case studies of using computational homology in medical science 10

31 Hiroe Oka (Ryukoku Univ.)
Sota Koyama (Ryukoku Univ.)
The Conley index over base 15

32 Shunji Horiguchi — On convergences and distributions of roots of extended complex Newton's method ····· 15

33 Fuminori Sakaguchi (Univ. of Fukui) — 'Decipherment' of integer sequences corresponding to extra solutions in an integer-type algorithm for ODEs ····· 15

34 Tomooki Yuasa (Ritsumeikan Univ.), Tatsuki Akiyama (Ritsumeikan Univ.), Arturo Kohatsu-Higa (Ritsumeikan Univ.) — Second order unbiased simulation method for reflected stochastic differential equations ····· 15

35 Takehiko Kinoshita, Yoshitaka Watanabe (Kyushu Univ.), Mitsuhiro T. Nakao (Waseda Univ.) — An invertibility verifications for linear elliptic operators mapping to dual space ····· 15

36 Tomoyuki Miyaji (Meiji Univ.), Hisahi Okamoto (Gakushuin Univ.) — Computer-assisted proof of the existence of a unimodal solution to the Proudman–Johnson equation ····· 15

14:15–16:40

37 Yuuki Ueda (Univ. of Tokyo), Norikazu Saito (Univ. of Tokyo) — The inf-sup condition and error estimate of the Nitsche's method for the parabolic problems ····· 15

38 Daisuke Koyama (Univ. of Electro-Comm.) — An application of the interior penalty method to a mixed nonconforming finite element method for biharmonic problems ····· 15

39 Xuefeng Liu (Niigata Univ.), Mitsuhiro Nakao (Waseda Univ./Kyushu Univ.*), Chun'guang You (China Acad. of Eng. Phys.), Shin'ichi Oishi (Waseda Univ.) — A priori error estimation for the finite element solution to Stokes equation in 3D domain ····· 15

40 Norikazu Saito (Univ. of Tokyo) — Variational analysis of the discontinuous Galerkin time-stepping method ····· 15

41 Tomoya Kemmochi (Univ. of Tokyo) — An analytic semigroup approach for the DG time-stepping method ··· 15

42 Nobuyuki Higashimori (Kyoto Univ.) — Numerical examples of unstable finite difference schemes for the initial value problem of the heat equation including sideways case ····· 15

43 Takuya Tsuchiya (Waseda Univ.), Makoto Nakamura (Yamagata Univ.) — On the numerical stability of semi-linear Klein–Gordon equations in de Sitter spacetime ····· 15

44 Ai Ishikawa (Kobe Univ.), Takaharu Yaguchi (Kobe Univ.) — The extension of the energy-preserving method based on the variational principle to the Lie group ····· 15

45 Makoto Okumura (Osaka Univ.) — Nonlinear and linear DVDM scheme for the conservative non-local Allen–Cahn equation ····· 15

16:50–17:50 Talk Invited by Applied Mathematics Section

Shuji Yoshikawa (Oita Univ.) — Energy method for structure-preserving finite difference schemes

March 21st (Wed) Conference Room VI

9:15–11:55

46 Masaji Watanabe (Okayama Univ.), Fusako Kawai (Kyoto Inst. Tech.) — Inverse analysis for microbial population in biodegradation process of xenobiotic polymer ····· 15

47 Yoichi Enatsu (Tokyo Univ. of Sci.)
Emiko Ishiwata (Tokyo Univ. of Sci.)
Takeo Ushijima (Tokyo Univ. of Sci.)
On an SIR model with free boundary 15

48 Mamoru Okamoto (Hokkaido Univ.)
Masaharu Nagayama (Hokkaido Univ.)
Mathematical model including fluid's effect of camphor disk's self-motion 15

49 Takeshi Gotoda (Hokkaido Univ.)
Masaaki Uesaka (Hokkaido Univ.)
Yusuke Yasugahira (Hokkaido Univ.)
Yasuaki Kobayashi (Ochanomizu Univ.)
Hiroyuki Kitahata (Chiba Univ.)
Mitsuhiro Denda (Shiseido Company, Ltd.)
Masaharu Nagayama (Hokkaido Univ.)
Mathematical modeling for stable formation of the granular layer and tight junctions in the epidermis 15

50 Takamichi Sushida (Hokkaido Univ.)
Hitomi Mori (Hokkaido Univ.)
Sumire Ishida (Hokkaido Univ.)
Kazuya Furusawa (Hokkaido Univ.)
Hisashi Haga (Hokkaido Univ.)
Masakazu Akiyama (Hokkaido Univ.)
A mathematical model for representing collective rotational migrations of cell groups covered by basement membrane 15

51 Shun Sato (Univ. of Tokyo)
Reformulation of evolutionary differential equations with a mixed derivative 15

52 Yuuki Shimizu (Kyoto Univ.)
Green's function on surfaces with symmetry 15

53 Takashi Sakajo (Kyoto Univ.)
Takeshi Matsumoto (Kyoto Univ.)
One dimensional hydrodynamic PDE generating turbulent cascade of inviscid invariant 15

54 Takashi Sakajo (Kyoto Univ.)
Rhodri Nelson (Imperial Coll. London)
Bartosz Protas (McMaster Univ.)
Linear feedback control stabilizing point vortex equilibria near a Kasper Wing 15

55 Kohji Ohtsuka (Hiroshima Kokusai Gakuin Univ.)
Shape sensitivity analysis of eigenvalue by generalized J-integral in boundary value problems 15

14:15–16:40

56 Keiichi Ueda (Univ. of Toyama)
Synchronization of two interacting populations of oscillators by autonomous parameter control 15

57 Takeshi Watanabe (Univ. of Tokyo)
Zhijun Gao (Tohoku Univ.)
Yasumasa Nishiura (Tohoku Univ.)
Global bifurcation structure governing interaction between bump heterogeneity and pulse with oscillatory tail 15

58 Kei Nishi (Kyoto Sangyo Univ.)
Masaharu Nagayama (Hokkaido Univ.)
Satoshi Nakata (Hiroshima Univ.)
Bifurcation analysis of the motion of two self-propelled camphor disks on an annular field 15

59 Shogo Yamanaka (Kyoto Univ.)
Kazuyuki Yagasaki (Kyoto Univ.)
Existence of transverse heteroclinic orbits and nonintegrability in two-degree-of-freedom Hamiltonian systems with saddle-centers 15

60 Naoto Nakano (Kyoto Univ. / JST PRESTO)
Characteristics of derivative embedded surfaces and predictability of timeseries 15

61 Takiko Sasaki (Meiji Univ.)
Tetsuya Ishiwata (Shibaura Inst. of Tech.)
Numerical and mathematical analysis for the blow-up curve of solutions to 1-dimensional nonlinear wave equations ····· 15

62 Koichi Anada (Waseda Univ. Senior High School)
Tetsuya Ishiwata (Shibaura Inst. of Tech.)
Takeo Ushijima (Tokyo Univ. of Sci.)
A study for backward self similar solutions of a quasi-linear parabolic equation ····· 15

63 Kaname Matsue (Kyushu Univ. / Kyushu Univ.)
Blow-up rates of blow-up solutions determined by dynamics at infinity ····· 15

64 Kaname Matsue (Kyushu Univ. / Kyushu Univ.)
Oscillatory blow-up solutions with fast blow-up rates and oscillatory grow-up solutions ····· 15

16:50–17:50 Talk Invited by Applied Mathematics Section

Akitoshi Takayasu (Univ. of Tsukuba)
Verified computations for solutions of evolution equations with semigroup theory

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Topology

March 18th (Sun) Conference Room II

9:40–12:00

1 Eiko Iwayama
The simplex of n-dim. and New Euler–Poincaré Expanded characteristic and the relation of combination numbers ····· 5

2 Eiko Iwayama
The triangle of the cuboids of n-dimension and New Euler–Poincaré Expanded characteristic ····· 5

3 Yoshihito Ogasawara (Waseda Univ.)
On an applicability of topology ····· 10

4 Hironobu Naoe (Tohoku Univ.)
Infinitely many corks having large shadow-complexities ····· 15

5 Akira Miyamura (Tokyo Tech)
A note on signature of Lefschetz fibrations with planar fiber ····· 10

6 Yusuke Inagaki (Osaka Univ.)
On Fuchsian loci of Hitchin components of a pair of pants ····· 15

7 Yuuki Tadokoro (Nat. Inst. of Tech., Kisarazu Coll.)
Pointed harmonic volume and its relation to extended Johnson homomorphism ····· 15

8 Takahiro Yamamoto (Tokyo Gakugei Univ.)
Cobordism groups of Morse functions on manifolds with boundary ··· 15

9 Asahi Tsuchida (Hokkaido Univ.)
Kentaro Saji (Kobe Univ.)
Singularities of bundle homomorphism between a distribution and a vector bundle ····· 15

10 Kentaro Saji (Kobe Univ.)
$SO(3)$-normal form of swallowtail and geometric patterns ····· 10

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

Daisuke Kishimoto (Kyoto Univ.)
Homotopy theory of polyhedral products

15:30–18:00

11 Masayuki Yamasaki (Okayama Univ. of Sci.) — On rotation numbers of regular closed curves on aspherical surfaces · · · 15

12 Katsuhiko Kuribayashi (Shinshu Univ.), Toshiki Aoki — On the category of stratifolds and the Serre–Swan theorem · · · 15

13 Takuo Matsuoka — Higher theories of algebraic structures · · · 15

14 Shin Hayashi (MathAM-OIL) — Bulk-edge correspondence and the cobordism invariance of the index · · · 15

15 Shin Hayashi (MathAM-OIL) — Bulk-edge and corner correspondence · · · 15

16 Syunji Moriya (Osaka Pref. Univ.) — The space of knots in a manifold and the right operadic module of configuration spaces · · · 15

17 Syunji Moriya (Osaka Pref. Univ.) — Non-formality of the odd dimensional framed little disks operads · · · 15

18 Hideya Kuwata (Kindai Univ. Tech. Coll.), Sho Hasui (Osaka Pref. Univ.), Mikiya Masuda (Osaka City Univ.), Seonjeong Park (Osaka City Univ.) — Classification of toric manifolds over an n-cube with one vertex cut · · · 15

19 Hiraku Abe (Osaka City Univ.), Tatsuya Horiguchi (Osaka Univ. / Osaka City Univ.), Mikiya Masuda (Osaka City Univ.) — On the cohomology rings of regular semisimple Hessenberg varieties · · · 10

March 19th (Mon) Conference Room II

9:30–10:30

20 Atsuhide Mori (Osaka Dental Univ.) — Symplectic/contact geometry of t-distributions · · · 15

21 Takuya Katayama (Hiroshima Univ.) — Embeddability of the right-angled Artin groups on the complement graphs of linear forests · · · 15

22 Motoko Kato (Univ. of Tokyo) — On the isomorphism problem of signed Thompson groups · · · 10

23 Narutaka Ozawa (Kyoto Univ.) — Kazhdan's property (T) and semidefinite programming · · · 15

10:45–11:45 Talk Invited by Topology Section

Masayuki Asaoka (Kyoto Univ.) — Growth rate of the number of periodic points for smooth dynamical systems

13:00–14:20

24 Noriaki Kawaguchi (Univ. of Tokyo) ♭ — On the shadowing and limit shadowing properties · · · 15

25 Shinobu Hashimoto (Tokyo Metro. Univ.) — Moduli of two-dimensional diffeomorphisms with cubic tangencies · · · 15

26 Koichi Hiraide (Ehime Univ.) ♭, Chihiro Matsuoka (Osaka City Univ.) — Relationship between topological entropy and Lyapunov exponents · · · 15

27 Kaori Yamazaki (Takasaki City Univ. of Econ.) — Questions on monotone operators for vector-valued maps · · · 15

28 Yukinobu Yajima (Kanagawa Univ.), Yasushi Hirata (Kanagawa Univ.) — Three embeddings and their implications in products of generalized metric spaces · · · 15

March 20th (Tue) Conference Room II

9:20–12:00

29 In Dae Jong (Kindai Univ.)
Kazuhiro Ichihara (Nihon Univ.)
Kouki Taniyama (Waseda Univ.)
Achiral 1-cusped hyperbolic 3-manifolds not coming from amphicheiral null-homologous knot complements ····· 15

30 Kazuhiro Ichihara (Nihon Univ.)
Tetsuya Itoh (Osaka Univ.)
Toshio Saito (Joetsu Univ. of Edu.)
Chirally cosmetic surgeries and Casson invariants ····· 15

31 Naoki Sakata (Hiroshima Univ.)
Veering structures of the canonical decompositions of hyperbolic fibered two-bridge link complements ····· 10

32 Ken'ichi Yoshida (Kyoto Univ.)
Hyperbolicity on tangle gluings ····· 15

33 Ryan Blair (California State Univ.)
Makoto Ozawa (Komazawa Univ.)
Height, trunk and representativity of knots ····· 15

34 Ryan Blair (California State Univ.)
Alexandra A. Kjuchukova (Univ. of Pennsylvania)
Makoto Ozawa (Komazawa Univ.)
The incompatibility of crossing number and bridge number for knot diagrams ····· 15

35 Jie Chen (Tohoku Univ.)
A pair of Seifert matrices that cannot have algebraic Gordian distance one ····· 15

36 Teruaki Kitano (Soka Univ.)
Reidemeister torsion of a Brieskorn homology 3-sphere for $SL(2;\mathbb{C})$-irreducible representations ····· 10

37 Shunsuke Sakai (Hiroshima Univ.)
A characterization of alternating link exteriors in terms of cubed complexes ····· 15

38 Yoshifumi Matsuda (Aoyama Gakuin Univ.)
On the sepaktakraw link ····· 15

14:20–15:20 Talk Invited by Topology Section

Takefumi Nosaka (Tokyo Tech)
Nilpotent studies in 3-dimensional topology

15:35–17:45

39 Noboru Ito (Univ. of Tokyo)
Megumi Hashizume (Meiji Univ.)
On equivalence classes of spherical curves by deformations of types RI and RIII ····· 15

40 Noboru Ito (Univ. of Tokyo)
Migiwa Sakurai (Ibaraki Nat. Coll. of Tech.)
Finite type invariants and n-similarity of virtual knots by forbidden moves ····· 10

41 Yuka Kotorii (RIKEN)
C_n-move on long virtual knot and Goussarov–Polyak–Viro's finite type invariant ····· 10

42 Atsuhiko Mizusawa
On HL-homotopy classes for 3-component handlebody-links ····· 15

43 Naoki Kimura (Waseda Univ.)
Dijkgraaf–Witten invariants of cusped hyperbolic 3-manifolds ····· 10

44 Wataru Yuasa (Tokyo Tech)
A q-series identity via the $\mathfrak{sl}_3$ colored Jones polynomials for the $(2, 2m)$-torus link ····· 10

45 Wataru Yuasa (Tokyo Tech)
The $\mathfrak{sl}_3$ colored Jones polynomials for 2-bridge links ····· 10

46 Tomo Murao (Univ. of Tsukuba) A relationship between MCQ coloring numbers and MCB coloring numbers ····· 10

47 Eri Matsudo (Nihon Univ.) Minimal coloring number of $\mathbb{Z}$-colorable links ····· 10

48 Airi Aso (Tokyo Metro. Univ.) Twisted Alexander polynomials of $(-2, 3, 2n+1)$-pretzel knots ····· 15

Infinite Analysis

March 20th (Tue) Conference Room V

10:00–11:30

1 Kentaro Kojima (Chuo Univ.)
Tsukasa Sato (Chuo Univ.)
Kouichi Takemura (Chuo Univ.)
Polynomial solutions of q-Heun equation ····· 15

2 Zhijie Chen (Yau Math. Sci. Center)
Ting-Jung Kuo (Nat. Taiwan Normal Univ.)
Chang-Shou Lin (Nat. Taiwan Univ.)
Kouichi Takemura (Chuo Univ.)
Real-root property of the spectral polynomial of the Treibich–Verdier potential and related problems ····· 15

3 Ayumu Hoshino (Hiroshima Inst. of Tech.)
Jun'ichi Shiraishi (Univ. of Tokyo)
Explicit formulas for one-column Macdonald polynomials of types C_n and D_n ····· 15

4 Masahiko Ito (Univ. of Ryukyus)
Aiko Miyanaga (Kobe Univ.)
Masatoshi Noumi (Kobe Univ.)
Determinant formulas for the q-hypergeometric integrals associated with the root system of type G_2 ····· 15

5 Kôki Itô (Toyohashi Univ. of Tech.)
Homology of q-cycles ····· 15

6 Kanam Park (Kobe Univ.)
An extension of q-hypergeometric series and a monodromy preserving deformation ····· 15

14:00–15:30

7 Yousuke Ohyama (Tokushima Univ.)
A connection problem for basic hypergeometric series ${}_r\phi_{r-1}(\mathbf{0}; \boldsymbol{b}; q, x)$ ····· 15

8 Yousuke Ohyama (Tokushima Univ.)
q-Stokes coefficients of a difference equation satisfied by basic Hypergeometric Series ${}_3\phi_2(a_1, a_2, a_3; b_1, 0; q, x)$ ····· 15

9 Hokuto Kanbara
Yuto Takeda
Kimio Ueno (Waseda Univ.)
Expansion of solutions for KZ-theoretical monodromy preserving deformation in terms of multiple polylogarithms ····· 15

10 Kimio Ueno (Waseda Univ.)
KZ-theoretical approach to monodromy preserving deformation and its relation to Schlesinger equations ····· 10

11 Masato Okado (Osaka City Univ.)
Anne Schilling (UC Davis)
Travis Scrimshaw (Univ. of Queensland)
Bijection between paths and rigged configurations of nonexceptional affine types ····· 15

12 Kanehisa Takasaki (Kindai Univ.)
Topological vertex and integrable hierarchies of Volterra type ····· 15

15:45–16:45 Talk Invited by Infinite Analysis Special Session

Taro Kimura (Keio Univ.) Quiver gauge theory and quiver W-algebra

March 21st (Wed) Conference Room V

9:30–10:30

13 Kohei Motegi ♭ (Tokyo Univ. of Marine Sci. and Tech.) Elliptic Felderhof model and elliptic Schur functions ····· 15

14 Hiroyuki Yamane (Univ. of Toyama), Iván Angiono (Nat. Univ. of Córdoba) Bruhat order of Weyl groupoids ····· 15

15 Yoshitake Hashimoto (Tokyo City Univ.), Takuya Matsumoto (Nagoya Univ.), Akihiro Tsuchiya (Kavli IPMU) Screening operators and $\mathfrak{sl}_2$ action on the lattice vertex operator algebras of type A_1 ····· 15

16 Ryo Sato (Univ. of Tokyo) Modular transformation properties and the Verlinde formula ····· 15

10:45–11:45 Talk Invited by Infinite Analysis Special Session

Hiroshi Naruse (Univ. of Yamanashi) Generalization of Hall–Littlewood function from the view point of Schubert calculus, generationg function and application

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.

Collaborative works are presented by the underlined authors. The talks with ♭ marks denote presentations on blackboard. 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 `tokyo18mar@mathsoc.jp`.

Each conference room is equipped with a blackboard, a document camera, and a projector with VGA interface for PC presentation. 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 or printed sheets for the document camera in case your PC does not fit to the projector.

Information for Participants

Smoking is prohibited on campus and there is no parking area for visitors.

Official Party

Date: March 19th (Mon) 18:00–20:00
Venue: Seminar Room, 1F, Komaba Faculty House

Participants are asked to pay 6,000 JPY at the party.