

### Remark

- The order of authors is written according to your input order. The first author is not necessarily the speaker. If the talk have two or more authors, then the speaker is underlined.
- The mark  $\mathfrak{b}$  means the presentation by using the blackboard. If you talk by using your PC/tablet, no mark is written.
- The mark  $\star$  means emeritus professor.
- The number on the right side of the title implies the time of talk (minutes). There are some talks whose limited time is shortened due to various reasons. Your kind understanding is appreciated.

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Applied Mathematics . . . . .	28
Topology . . . . .	32
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# Foundation of Mathematics and History of Mathematics

March 23rd (Mon)

## 9:00–11:25

01-01-0001

- 1 Masato Fujita (Japan Coast Guard Acad.) Weakly o-minimal structures possessing exactly  $m$  dimension functions ..... 15

01-01-0007

- 2 Koichiro Ikeda (Hosei Univ.) On theories with the strong tree property ..... 15

01-01-0008

- 3 Akito Tsuboi (Univ. of Tsukuba\*) Chromatic properties of U-rank one graphs ..... 10

01-01-0009

- 4 Koki Okura (Univ. of Tsukuba) On distal expansions ..... 15

01-01-0016

- 5 Hirotaka Kikyo (Kobe Univ.) On Hrushovski's construction and chromatic number ..... 15

01-01-0015

- 6 Toshio Suzuki (Tokyo Metro. Univ.) The field generated by left c.e. reals below a weakly computable real ..... 15  
Masahiro Kumabe (Open Univ. of Japan)  
Kenshi Miyabe (Meiji Univ.)

01-01-0025

- 7 Kohtaro Tadaki (Chubu Univ.) The Wigner–Deutsch collaboration ..... 15

01-01-0010

- 8 Makoto Fujiwara (Tokyo Univ. of Sci.) Goodman's theorem and Markov's principle ..... 15  
Benno van den Berg (Univ. of Amsterdam)

01-01-0018

- 9 Yuzuki Kaneko (Tohoku Univ.) Quasi-metric spaces in reverse mathematics ..... 15  
Keita Yokoyama (Tohoku Univ.)

## 11:40–11:55 Research Section Assembly

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

01-02-0002

- Makoto Tamura (Osaka Sangyo Univ.) On the arithmetic books in the Qin Bamboo Slips housed at the Peking University

## 15:30–17:30

01-01-0014

- 10 Katsushi Waki (Yamagata Univ.) Extraction of geometric areas from Wasan books using NDL Classical Books OCR-Lite ..... 15

01-01-0002

- 11 Noriko Tanaka (Naragakuen Univ.) A comparison of mathematical expressions in schools during the Edo period ..... 15

01-01-0006

- 12 Koichi Hirata (Matsuyama Univ./Ehime Univ.\*) Renjutsu and their solutions with rational number as radii ..... 15

01-01-0019

- 13 Tsukane Ogawa (Yokkaichi Univ.) *Jinkouki* as an abacus book ..... 15  
Noriko Tanaka (Naragakuen Univ.)

01-01-0024

- 14 Hideyuki Majima (Ochanomizu Univ.\*) On the publication of Katsuyousanpou ..... 15

01-01-0003

- 15 Michiyo Nakane The emergence of the Hamilton–Jacobi theory in the calculus of variations ..... 15

01-01-0023

- 16 Ken Saito Making vocabulary of ancient Greek to read Greek mathematical works ..... 15  
(Osaka Pref. Univ.\*/Yokkaichi Univ.)

**17:45–18:00 Mathematics History Team Meeting**

March 24th (Tue)

**9:00–11:45**

01-01-0012

17 Yusuke Hayashi (Kobe Univ.) Stationary list colorings ..... 15

01-01-0013

18 Kenta Tsukuura (Nat. Fisheries Univ.) Coloring triples of uncountable sets ..... 15

01-01-0021

19 Toshimasa Tanno (Kobe Univ.) Perfect set dichotomy theorem in generalized Solovay model ..... 15

01-01-0022

20 Hiroaki Minami (Aichi Gakuin Univ.) The splitting and reaping number for mad families ..... 15

01-01-0026

21 Yasuo Yoshinobu (Nagoya Univ.) More on convex sets and the axiom of choice ..... 15

01-01-0004

22 Ken-etsu Fujita (Tokyo Denki Univ.) Girard's paradox and T-algebras ..... 15

Toshihiko Kurata (Hosei Univ.)

01-01-0005

23 Yoshihito Tanaka Neighborhood models for predicate modal logics with  $\omega$ -rules ..... 15

(Sci. Tokyo/Kyushu Sangyo Univ.)

01-01-0011

24 Takahiro Seki (Niigata Univ.) Classification of non-associative substructural logics with contraposition  
..... 15

01-01-0017

25 Taishi Kurahashi (Kobe Univ.) Derivability conditions **E** and **C** and the second incompleteness theorem  
..... 15

01-01-0020

26 Haruka Kogure (Kobe Univ.) Arithmetical completeness based on neighborhood semantics ..... 15

**13:00–14:00 Talk Invited by Section on Foundation and History of Mathematics**

01-02-0003

Shota Motoura (Otemon Gakuin Univ.) A general framework and inverse action operators for Dynamic Epistemic Logic

# Algebra

March 23rd (Mon)

## 9:30–12:00

02-01-0005

- 1 John Ashley Navarro Capellan  
(Nagoya Univ.)

Towards the McKay correspondence for dimer models: The arrow contraction algorithm and the consistency condition ..... 13

02-01-0021

- 2 Kotaro Kawatani  
(Wakayama Med. Univ.)

Infinitesimal deformation of algebraic curves and Bridgeland stability condition ..... 13

02-01-0073

- 3 Hisato Matsukawa (Hokkaido Univ.)

Equivalences between derived categories of non-proper varieties ..... 13

02-01-0033

- 4 Yuki Tochitani (Tokyo Metro. Univ.)

Autoequivalences of derived categories of bielliptic surfaces ..... 13

02-01-0058

- 5 Atsushi Ito (Univ. of Tsukuba)  
Shinnosuke Okawa (Univ. of Osaka)  
Makoto Miura (Univ. of Osaka)

An example of derived equivalence across a geometric transition ..... 13

02-01-0001

- 6 Makoto Sakurai (Kaichi Gakuen)

Redefinition of chiral algebra theory by ind-coherent sheaves and toric degenerations ..... 13

02-01-0071

- 7 Yuki Kato (Kurume Nat. Coll. of Tech.)

The stable model category of mixed motives from the excisive approximation of the category of non-unital algebras ..... 13

02-01-0003

- 8 Hideya Kuwata  
(Kindai Univ. Tech. Coll.)

Explicit coefficients in the product  $c_k c_{n-k}$  of Chern classes on the permutohedral variety of type  $A_n$  ..... 13

02-01-0051

- 9 Ryunosuke Nakano (Hokkaido Univ.)  
Keiji Matsumoto (Hokkaido Univ.)

Algebro-geometric aspects of the iterative limit theorem for a quaternary of means of four terms ..... 13

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

02-02-0004

- Makoto Enokizono (Univ. of Tokyo)

Normal stable degenerations of Horikawa surfaces

## 15:30–18:00

02-01-0004

- 10 Tomohiro Iwami (Kyushu Inst. of Tech.)

Triple covers of certain irregular three-folds with small  $c_1^3$  or  $c_1 c_2$ , Part I ..... 13

02-01-0072

- 11 Lucas Hiroyuki Ragni Hamada  
(Sci. Tokyo)

Classification of torsion subgroups of elliptic curves with rational  $j$ -invariant ..... 13

02-01-0064

- 12 Yuya Yamamoto  
(Yokohama Nat. Univ.)

The multiplicity-one theorem for the superspeciality of hyperelliptic curves ..... 13

02-01-0046

- 13 Satoru Fukasawa (Yamagata Univ.)

New examples of tangentially degenerate curves ..... 13

02-01-0061

- 14 Ken Sato (Sci. Tokyo)

On symplectic action on (2,1)-cycles on K3 surfaces ..... 13

02-01-0028

- 15 Masayuki Hirokado  
(Hiroshima City Univ.)

Classification of two-dimensional rational triple points in positive characteristic ..... 13

02-01-0016

- 16 Tatsuki Yamaguchi (Sci. Tokyo)

Uniform positivity of F-signature and F-alpha invariant ..... 13

02-01-0025

- 17 Takuya Nemoto (Waseda Univ.)

Globally generated vector bundles on the del Pezzo threefold of degree 6 with Picard number 2 ..... 13

02-01-0031

- 18 Yuta Takahashi (Chuo Univ.)

Weak Fano bundles of rank 2 over hyperquadrics  $Q^n$  of dimension  $n \geq 5$  ..... 13

02-01-0068

- 19 Yuki Kondo (Univ. of Osaka)  
Yasuhiro Wakabayashi (Univ. of Osaka)

Degree of Verschiebung: A combinatorial perspective via higher level dormant opers ..... 13

## March 24th (Tue)

**9:00–12:00**

02-01-0066

- 20 Haruki Domoto (Yamaguchi Univ.) A problem on  $a$ -kernel of an integer ..... 10  
 Tadaaki Igawa  
 Makoto Minamide (Yamaguchi Univ.)  
 Yoshio Tanigawa

02-01-0067

- 21 Haruka Sakai (Yamaguchi Univ.) On a theorem of Turán ..... 10  
 Makoto Minamide (Yamaguchi Univ.)  
 Yoshio Tanigawa

02-01-0063

- 22 Keita Nakai (Nagoya Univ.) Effective estimates of universality for Hurwitz zeta-functions with rational parameters ..... 13

02-01-0039

- 23 Takashi Miyagawa On the mean values of the Barnes multiple zeta function ..... 13  
 (Onomichi City Univ.)  
 Hideki Murahara (Univ. of Kitakyushu)

02-01-0017

- 24 Genki Shibukawa Generating functions of multiple zeta values at non-positive integers ..... 13  
 (Kitami Inst. of Tech.)

02-01-0048

- 25 Mahiro Yokomizo (Tohoku Univ.) Modular iterated integrals and multiple  $L$ -functions ..... 13

02-01-0045

- 26 Hayato Kanno (Tohoku Univ.) Family of linear relations among multiple Eisenstein series ..... 13

02-01-0044

- 27 Tomoko Kikuchi (Sophia Univ.) The explicit formula for multi-indexed poly-Bernoulli numbers of general indices. .... 13  
 Maki Nakasuji  
 (Sophia Univ./Tohoku Univ.)

02-01-0050

- 28 Ryotaro Harada (Tokyo Univ. of Sci.) Linear relations among algebraic points on tensor powers of the Carlitz module ..... 13  
 Yen-Tsung Chen  
 (Pennsylvania State Univ.)

02-01-0022

- 29 Kazuki Yamada (Gakushuin Univ.) Homotopy exact sequences and Hyodo–Kato isomorphism for log rigid fundamental groups ..... 13

02-01-0023

- 30 Kazuki Yamada (Gakushuin Univ.) Description of  $p$ -adic polylogarithms via semistable reduction ..... 13

02-01-0034

- 31 Daichi Tanaka (Tohoku Univ.) Maass forms associated with Hecke characters of real quadratic fields and an analogy of Stark (1975) ..... 13

02-01-0060

- 32 Yuichi Sakai (Kurume Inst. of Tech.) The Schwarzian derivative of the KZ equation and its applications ... 13  
 Hiroyuki Tsutsumi  
 (Osaka Univ. of Health and Sport Sci.)

**12:50–14:00**

02-01-0024

- 33 Kohei Fujita (Hokkaido Univ.) An analogue of Ogus’s theorem for certain hypergeometric curves .... 13

02-01-0065

- 34 Chihiro Ando (Yokohama Nat. Univ.) The Lang–Trotter conjecture on average for genus-2 curves with Klein-4 or  $S_3$  reduced automorphism group ..... 13  
 Shushi Harashita  
 (Yokohama Nat. Univ.)

02-01-0014

- 35 Ki Sen (Yokohama Nat. Univ.) Explicit bounds for the norms of ideals of central simple algebras over number fields ..... 13

02-01-0018

- 36 Daisuke Shiomi (Yamagata Univ.) On the divisibility of the relative class number of cyclotomic function fields ..... 10

02-01-0035

- 37 Shigeru Iitaka On perfect numbers 2.0 ..... 10  
 (Open Univ. of Japan/Gakushuin Univ.\*)

## March 25th (Wed)

**9:00–12:00**

02-01-0062

38 Shota Maehara (Kyushu Univ.) Chambers of line arrangements and their algebraic aspects ..... 13

02-01-0041

39 Ryo Uchiumi (Univ. of Osaka) Equivariant version of characteristic quasi-polynomials for hyperplane arrangements ..... 13

02-01-0029

40 Toshio Oshima (Univ. of Tokyo\*) Stable hyperplane arrangements ..... 13

02-01-0055

41 Takafumi Kouno (Waseda Univ.) The quantum  $K$ -theoretic Whitney relation for the flag manifold of type  $C$  ..... 13

02-01-0059

42 Toshitaka Aoki (Kobe Univ.) Preservation of interval resolutions for persistence modules ..... 13  
Shunsuke Tada (Tohoku Univ.)

02-01-0053

43 Kaveh Mousavand Brick-directed algebras and semidistributive lattices ..... 13  
(Okinawa Inst. of Sci. and Tech. Grad. Univ.)

02-01-0015

44 Toshiya Yurikusa (Osaka Metro. Univ.) Finiteness of Jacobian algebras ..... 13

02-01-0049

45 Zelin Jia (Nagoya Univ.) Tropicalization and cluster asymptotic phenomenon of generalized Markov equations ..... 13

02-01-0030

46 Naoki Fujita (Kumamoto Univ.) Marked chain-order polytopes and polyptych lattices ..... 13  
Akihiro Higashitani (Univ. of Osaka)

02-01-0008

47 Yuto Nogata (Hirosaki Univ.) Group zeta functions and subgroup lattice isomorphism in semidirect products ..... 13

02-01-0056

48 Hayaki Kudo (Hirosaki Univ.) An upper bound for cyclotomic numbers and their associated matroids ..... 13  
Koichi Betsumiya (Hirosaki Univ.)  
Wei-Liang Sun  
(Nat. Kaohsiung Normal Univ.)

02-01-0052

49 Yuto Kawase (Kyoto Univ.) On the iterated analogue of the fundamental theorem of homomorphisms ..... 13  
Hayato Nasu (Dalhousie Univ.)**14:15–14:30 Presentation Ceremony for the 2026 MSJ Algebra Prize****14:40–15:40 Award Lecture for the 2026 MSJ Algebra Prize**

02-02-0001

Shigeo Koshitani (Chiba Univ.\*) Research on modular representation theory of finite groups

**16:00–17:00 Award Lecture for the 2026 MSJ Algebra Prize**

02-02-0003

Shunsuke Yamana (Osaka Metro. Univ.) Automorphic forms and L-functions

## March 26th (Thu)

**9:30–12:00**

02-01-0020

50 Kyosuke Maeda (Nihon Univ.) Classification on nearly Gorenstein rational surface singularities with almost reduced fundamental cycle ..... 13  
Tomohiro Okuma (Yamagata Univ.)

Kei-ichi Watanabe

(Nihon Univ./Meiji Univ.)

Ken-ichi Yoshida (Nihon Univ.)

<a href="#">02-01-0040</a>		
51	<a href="#">Tomohiro Okuma</a> (Yamagata Univ.) Ken-ichi Yoshida (Nihon Univ.) Kei-ichi Watanabe (Nihon Univ./Meiji Univ.)	The canonical trace ideal of elliptic surface singularities ..... 13
<a href="#">02-01-0069</a>		
52	<a href="#">Kei-ichi Watanabe</a> (Nihon Univ.) Tomohiro Okuma (Yamagata Univ.) Ken-ichi Yoshida (Nihon Univ.)	Nearly Gorenstein normal graded rings ..... 13
<a href="#">02-01-0036</a>		
53	<a href="#">Taiga Ozaki</a> (Sci. Tokyo) Sora Miyashita (Univ. of Osaka)	On higher-dimensional Teter rings via the canonical trace ideal ..... 13
<a href="#">02-01-0009</a>		
54	<a href="#">Sora Miyashita</a> (Univ. of Osaka) Shinya Kumashiro (Osaka Inst. of Tech.)	Canonical traces of graded fiber products: applications to disconnected Stanley–Reisner rings ..... 13
<a href="#">02-01-0070</a>		
55	<a href="#">Kohsuke Shibata</a> (Yonago Nat. Coll. of Tech.) Kohji Yanagawa (Kansai Univ.)	The grading of a polynomial ring associated with a simplicial poset, and injective envelopes ..... 13
<a href="#">02-01-0027</a>		
56	<a href="#">Naoki Endo</a> (Meiji Univ.)	Normality of Rees algebras of integrally closed monomial ideals ..... 13
<a href="#">02-01-0037</a>		
57	<a href="#">Koji Matsushita</a> (Univ. of Tokyo) b	Gorensteinness of Ehrhart rings of matching polytopes ..... 13
<a href="#">02-01-0019</a>		
58	<a href="#">Ken-ichi Yoshida</a> (Nihon Univ.) Akihiro Higashitani (Univ. of Osaka)	A conjecture on Hilbert–Kunz multiplicities and Ehrhart theory ..... 13
<a href="#">02-01-0042</a>		
59	<a href="#">Akihiro Higashitani</a> (Univ. of Osaka) <a href="#">Kenta Ueyama</a> (Shinshu Univ.)	On the $h$ -polynomials of cyclotomic standard graded commutative algebras ..... 13
<b>14:15–15:15 Talk Invited by Algebra Section</b>		
<a href="#">02-02-0002</a>		
	<a href="#">Akiyoshi Tsuchiya</a> (Toho Univ.)	Interactions between commutative algebra and graph coloring theory
<b>15:30–17:30</b>		
<a href="#">02-01-0002</a>		
60	<a href="#">Kaito Kimura</a> (Nagoya Univ.)	On conductors, test ideals, and parameter ideals ..... 13
<a href="#">02-01-0010</a>		
61	<a href="#">Yuya Otake</a> (Nagoya Univ.)	An approach to the invariant of Auslander and Martsinkovsky ..... 13
<a href="#">02-01-0026</a>		
62	<a href="#">Yuki Mifune</a> (Nagoya Univ.) Souvik Dey (Arkansas Univ.) Jian Liu (Central China Normal Univ.) Yuya Otake (Nagoya Univ.)	On the generation of the singularity category and the annihilator ideals of Ext modules ..... 13
<a href="#">02-01-0013</a>		
63	<a href="#">Ryo Ishizuka</a> (Sci. Tokyo) <a href="#">Shou Yoshikawa</a> (Sci. Tokyo)	Graded perfectoid rings and their applications ..... 13
<a href="#">02-01-0057</a>		
64	<a href="#">Kazuki Hayashi</a> (Sci. Tokyo) Shinnosuke Ishiro (Gunma Nat. Coll. of Tech.) Kazuma Shimomoto (Sci. Tokyo)	An application of Fontaine’s monoidal map to perfectoid towers ..... 13
<a href="#">02-01-0047</a>		
65	<a href="#">Haigang Hu</a> (Univ. of Sci. Tech. of China) Izuru Mori (Shizuoka Univ.) Koki Takeda (Shizuoka Univ.) <a href="#">Wenchao Wu</a> (Shizuoka Univ.)	Noncommutative affine pencils of conics ..... 13

[02-01-0043](#)

66 Daisuke Tambara (Hirotsaki Univ.\*) The space  $A^2$  for a certain four-dimensional division algebra  $A$  over  $\mathbf{F}_2$   
 ..... 10

[02-01-0032](#)

67 Keima Akasaka (Chiba Univ.) (Op)lax twisted arrow  $(\infty, n)$ -categories and their dualizability ..... 13



# Geometry

March 23rd (Mon)

## 9:30–11:30

- [03-01-0011](#)  
1 Hidemasa Suzuki (Chiba Univ.) More on explicit correspondences between gradient trees in  $\mathbb{R}$  and holomorphic convex quadrilaterals in  $T^*\mathbb{R}$  ..... 15
- [03-01-0013](#)  
2 Jun O'Hara (Chiba Univ.) Identification of generic polygonal domains by integral geometric functions ..... 15
- [03-01-0016](#)  
3 Keita Takahashi (Sci. Tokyo) Completeness conditions in Lorentzian geometry ..... 15
- [03-01-0017](#)  
4 Subaru Nomoto (Ritsumeikan Univ.) Generalized Bishop frames of regular timelike curves in 4-dimensional Lorentz space  $L^4$  ..... 10
- [03-01-0024](#)  
5 Isami Koga (Kyushu Int. Univ.) A classification of equivariant harmonic maps between spheres ..... 15  
Yasuyuki Nagatomo (Meiji Univ.)  
Masaro Takahashi  
(Kurume Nat. Coll. of Tech.)
- [03-01-0034](#)  
6 Shin Nayatani (Nagoya Univ.) Generalizing the variance maximization problem for maps to that for smoothing operators ..... 15

## 14:15–16:15

- [03-01-0023](#)  
7 Hikaru Kubota (Univ. of Osaka) Timelike Hausdorff measure and its volume comparison ..... 15
- [03-01-0027](#)  
8 Toshiaki Miyamoto (Tohoku Univ.) Direct sums and decompositions of Gromov's pyramids ..... 15
- [03-01-0033](#)  
9 Asuka Takatsu (Univ. of Tokyo) Law of large numbers for  $q$ -exponential families ..... 15  
Hiroshi Matsuzoe  
(Nagoya Inst. of Tech.)
- [03-01-0002](#)  
10 Yoshiki Jikumaru (Toyo Univ.) On the governing equations of membrane O surfaces ..... 15
- [03-01-0018](#)  
11 Shintaro Akamine (Nihon Univ.) Geometric properties invariant under the decomposition of zero mean curvature surfaces ..... 15  
Joseph Cho (Handong Global Univ.)  
Masaya Hara  
(Nat. Inst. of Tech., Anan Coll.)  
Yuta Ogata (Kyoto Sangyo Univ.)
- [03-01-0022](#)  
12 Shintaro Akamine (Nihon Univ.) Singularities on timelike minimal surfaces in the three-dimensional Heisenberg group ..... 15  
Hirotaka Kiyohara  
(Osaka Kyoiku Univ.)

## 16:30–17:30 Talk Invited by Geometry Section

- [03-02-0002](#)  
Shintaro Akamine (Nihon Univ.) Constant mean curvature surfaces in certain spaces with degenerate metrics

March 24th (Tue)

## 9:30–11:00

- [03-01-0007](#)  
13 Yoshinori Hashimoto Magnitude for metric measure spaces by means of an analogue of path integrals ..... 10  
(Osaka Metro. Univ.)

03-01-0008

- 14 Yoshinori Hashimoto Rigidity of isotropic harmonic maps from elliptic curves to projective spaces ..... 10  
 (Osaka Metro. Univ.)  
 Bruno Mera  
 (Univ. de Lisboa/Tohoku Univ.)  
 Tomoki Ozawa (Tohoku Univ.)

03-01-0009

- 15 Yoshinori Hashimoto Geometric invariant theory and complex structure of  $SU(3)$  ..... 10  
 (Osaka Metro. Univ.)  
 Hiroaki Ishida (Osaka Metro. Univ.)  
 Hisashi Kasuya (Nagoya Univ.)

03-01-0003

- 16 Natsuki Imada (Waseda Univ.) Higher Killing spinors on 3-dimensional manifolds ..... 15  
 Yasushi Homma (Waseda Univ.)  
 Soma Ohno (Waseda Univ.)

03-01-0020

- 17 Doman Takata (Niigata Univ.) Topology and noncommutative geometry of Hilbert manifolds ..... 15

### 13:00–14:00 Talk Invited by Geometry Section

03-02-0003

- Tadayuki Watanabe (Kyoto Univ.) Graph complexes and diffeomorphism groups

March 25th (Wed)

### 9:30–11:30

03-01-0004

- 18 Satoshi Jinnouchi (Univ. of Osaka) On the Kobayashi–Hitchin correspondence for big classes ..... 15

03-01-0005

- 19 Kazushi Kobayashi On a noncommutative deformation of holomorphic line bundles on  
 (Univ. of Teacher Edu. Fukuoka) complex tori and the SYZ transform ..... 15

03-01-0025

- 20 Naoto Yotsutani (Shizuoka Univ.) Toric Fano manifolds that do not admit extremal Kähler metrics ..... 15  
 DongSeon Hwang  
 (IBS Center for Complex Geometry)  
 Hiroshi Sato (Fukuoka Univ.)

03-01-0026

- 21 Naoto Yotsutani (Shizuoka Univ.) On the blow-up formula of Chow weights for polarized toric manifolds  
 King Leung Lee (Univ. of Montpellier) and its application ..... 15

03-01-0030

- 22 Shotaro Murayama Mabuchi constants and Mabuchi solitons on Fano admissible manifolds  
 (Tokyo Univ. of Sci.) ..... 15  
 Yasufumi Nitta (Tokyo Univ. of Sci.)

03-01-0032

- 23 Masaya Kawamura On the Calabi flow on quasi-Kähler manifolds ..... 15  
 (Sugiyama Jogakuen Univ.)

### 14:15–16:15

03-01-0006

- 24 Hiroshi Sawai The fundamental 2-form on a non-Vaisman LCK solvmanifold ..... 15  
 (Numazu Nat. Coll. of Tech.)

03-01-0010

- 25 Ken Kuwata The number of elliptic curves and Gromov–Witten invariants for four-  
 (Nat. Inst. of Tech., Kagawa Coll.) dimensional Fano hypersurfaces ..... 15  
 Masao Jinzenji (Okayama Univ.)

03-01-0015

- 26 Taito Shimoji (Univ. of Osaka) Bigraded Lie algebras and the nilpotent fundamental groups of quasi-  
 projective varieties ..... 15

03-01-0019

- 27 Tsukasa Takeuchi (Meteorological Coll.) Haantjes operators on 4-dimensional phase spaces ..... 15  
 Kei-ichi Kiku-chi (Tokyo Univ. of Sci.)

03-01-0021

- 28 Daichi Arimatsu (Sci. Tokyo) b The mixed Hodge structure on the fundamental group of the Collino surface ..... 15

03-01-0029

- 29 Tadashi Udagawa (Waseda Univ.) Construction of the  $tt^*$ -equation with ADE-type Stokes data ..... 15

### March 26th (Thu)

#### 9:30–10:45

03-01-0001

- 30 Osamu Ikawa (Kyoto Inst. Tech.) Sum of Betti numbers of intersections of real flag manifolds ..... 15  
Hiroyuki Tasaki  
 (Tokyo Metro. Univ./Univ. of Tsukuba)

03-01-0014

- 31 Naoki Kato (Chukyo Univ.) Infinitely many left-symmetric structures on nilpotent Lie algebras ... 15

03-01-0031

- 32 Genki Ishikawa (Ritsumeikan Univ.) Stability analysis for the pseudo-Riemannian geodesic flows of step-two  
 Daisuke Tarama (Ritsumeikan Univ.) nilpotent Lie groups ..... 15

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

03-02-0001

- Hiroshi Tamaru (Osaka Metro. Univ.) Quandles and symmetric spaces

# Complex Analysis

March 23rd (Mon)

**9:30–11:00**

04-01-0001

- 1 Hideki Miyachi (Kanazawa Univ.) Towards a dynamical perspective on the mapping class group ..... 15

04-01-0002

- 2 Takuya Hosokawa Hyperbolic derivative via composition operators ..... 15  
Shûichi Ohno

04-01-0003

- 3 Masahiro Yanagishita On an elementary example of Loewner chains of universal covering mappings ..... 15  
 (Yamaguchi Univ.)

04-01-0010

- 4 Erika Sakurai (Waseda Univ.) On quadrilateral groups which are index finite subgroups of arithmetic triangle groups ..... 15  
 Keisuke Souma (Waseda Univ.)  
 Yohei Komori (Waseda Univ.)

04-01-0011

- 5 Shun Kumagai Self-affinity, Möbius geometry and Schwarzian-pre-Schwarzian derivative ..... 15  
 (Hachinohe Inst. of Tech.)  
 Kenji Kajiwara (Kyushu Univ.)

**14:20–15:20 Talk Invited by Complex Analysis Section**

04-02-0001

- Masayo Fujimura Geometric properties of finite Blaschke products  
 (Nat. Defense Acad. of Japan)

March 24th (Tue)

**9:30–11:30**

04-01-0004

- 6 Takeo Ohsawa (Nagoya Univ.) Extending holomorphic functions from analytic complements of complete Kähler domains ..... 15

04-01-0005

- 7 Takanori Ayano (Osaka Metro. Univ.) Sigma function associated with a hyperelliptic curve with two points at infinity ..... 15  
 Victor M. Buchstaber  
 (Steklov Math. Inst.)

04-01-0006

- 8 Shaolin Chen (Guangxi Normal Univ.) Hardy spaces on bounded symmetric domains I ..... 15  
Hidetaka Hamada  
 (Kyushu Sangyo Univ.)

04-01-0007

- 9 Shaolin Chen (Guangxi Normal Univ.) Hardy spaces on bounded symmetric domains II ..... 10  
Hidetaka Hamada  
 (Kyushu Sangyo Univ.)

04-01-0008

- 10 Hidetaka Hamada Roper–Suffridge type extension operators for univalent mappings revisited ..... 15  
 (Kyushu Sangyo Univ.)  
 Gabriela Kohr (Babeş-Bolyai Univ.)  
 Mirela Kohr (Babeş-Bolyai Univ.)

04-01-0009

- 11 Hidetaka Hamada Koebe one-quarter theorem in infinite dimensions ..... 15  
 (Kyushu Sangyo Univ.)  
 Gabriela Kohr (Babeş-Bolyai Univ.)  
 Mirela Kohr (Babeş-Bolyai Univ.)

04-01-0012

- 12 Masakazu Takakura On the weighted  $L^2$  approximation problems ..... 15  
 (Tokyo Metro. Univ.)

13      Complex Analysis

**13:00–14:00    Talk Invited by Complex Analysis Section**

[04-02-0002](#)

Yuya Takeuchi (Univ. of Tsukuba)    CR Paneitz operator and embeddability

# Functional Equations

March 23rd (Mon)

## 9:30–12:00

05-01-0017

- 1 Yoshiaki Goto  
(Otaru Univ. of Commerce)

The Riemann–Wirtinger integral on the product of two one-dimensional complex tori ..... 12

05-01-0045

- 2 Sunao Ōuchi (Sophia Univ.\*)

Another elementary approach to WKB analysis ..... 12

05-01-0040

- 3 Tomoyuki Tanigawa  
(Osaka Metro. Univ.)  
Takaši Kusano (Hiroshima Univ.\*)  
Jaroslav Jaroš (Comenius Univ.)  
Hiroyuki Usami (Gifu Univ.\*)

Amplitude and zero distribution of oscillatory solutions of half-linear differential equations ..... 12

05-01-0013

- 4 Mingzhu Qu (Hulunbair Univ.)  
Wei Zheng (Heilongjiang Univ.)  
Hideaki Matsunaga  
(Osaka Metro. Univ.)

Asymptotic stability of linear differential equation with two distributed delays ..... 12

05-01-0028

- 5 Hiroyuki Usami (Gifu Univ.\*)  
Manabu Naito (Ehime Univ.\*)

Necessary conditions for half-linear ordinary differential equations in order that they have solutions behaving exponentially II ..... 12

05-01-0025

- 6 Masakazu Onitsuka  
(Okayama Univ. of Sci.)

Conditional Ulam stability for a discrete logistic model ..... 12

05-01-0005

- 7 Hiroyuki Yamagishi  
(Tokyo Metropolitan Coll. of Indus. Tech.)  
Kohtaro Watanabe  
(Nat. Defense Acad. of Japan)  
Atsushi Nagai (Tsuda Coll.)

The best constant of the  $m$ -th Sobolev inequality ( $m = 0, 1, 2$ ) corresponding to the clamped boundary value problem for  $(-1)^M(d/dx)^{2M}$  ..... 10

05-01-0004

- 8 Tetsutaro Shibata (Hiroshima Univ.\*)

Exact solutions and bifurcation curves of nonlocal elliptic equations with convolutional Kirchhoff functions ..... 12

05-01-0011

- 9 Satoshi Tanaka (Tohoku Univ.)  
Kanao Manabe (JG Corporation)

Morse index and global bifurcation of positive solutions to the one-dimensional Liouville type equation with a step function weight ..... 12

05-01-0031

- 10 Akira Toyoshima (Tohoku Univ.)  
Norisuke Ioku (Tohoku Univ.)

The separation property of radial solutions to Hénon type equation on the hyperbolic space ..... 12

## 14:15–16:45

05-01-0009

- 11 Takashi Suzuki (Osaka Univ.)  
Yohei Toyota  
(Nat. Inst. of Tech., Nara Coll.)

Boundedness of the variational functionals associated with point vortices with multi-intensities ..... 5

05-01-0068

- 12 Naoki Hamamoto (Osaka Metro. Univ.)

Poincaré constant for vector fields on the ball with tangential boundary condition ..... 12

05-01-0001

- 13 Ryuji Kajikiya  
(Osaka Electro-Comm. Univ.)

Asymmetry of solutions for the Hénon equation in unbounded domains ..... 12

05-01-0065

- 14 Kotaro Motegi (Sci. Tokyo)

A regularity theorem for weak solutions to mean curvature flow with forcing term ..... 12

05-01-0063

- 15 Shuhei Kitano (Univ. of Tokyo)

ABP maximum principle for 1-Laplace type equations ..... 12

05-01-0006

- 16 Shuntaro Tsubouchi (Univ. of Tokyo) Gradient continuity for the parabolic  $(1, p)$ -Laplace system with an external force term ..... 12

05-01-0059

- 17 Shigeru Sakaguchi (Tohoku Univ.\*) Serrin's overdetermined problem on the three-dimensional sphere and  
Andrea Bisterzo Clifford tori ..... 12  
(Scuola Normale Superiore)

05-01-0050

- 18 Toru Nakajima (Shizuoka Univ.) On isolated singular points of stable-stationary harmonic maps ..... 10

05-01-0046

- 19 Kiichi Tashiro (Sci. Tokyo) On singular limit of the free boundary Allen–Cahn energy ..... 12  
Jingeon An (Univ. of Basel)

05-01-0035

- 20 Daowen Lin Liouville theorem for a semi-linear sub-elliptic equation on the quater-  
(Okinawa Inst. of Sci. and Tech. Grad. Univ.) nionic Heisenberg group ..... 12  
Yang Zhou  
(Univ. of Sci. Tech. of China)

### 17:00–18:00 Award Lecture for the 2025 MSJ Analysis Prize

05-02-0003

- Masaharu Taniguchi (Okayama Univ.) Traveling front solutions of dimension  $n + 1$  generate entire solutions of  
dimension  $n$  in reaction-diffusion equations

March 24th (Tue)

### 9:00–12:00

05-01-0039

- 21 Kimie Nakashima Eigenvalues of spike cluster solutions of inhomogeneous scalar field  
(Tokyo Univ. of Marine Sci. and Tech./Tohoku Univ.) equations ..... 12  
Yasuhito Miyamoto (Univ. of Tokyo)

05-01-0003

- 22 Kouichi Takemura (Ochanomizu Univ.) The Lamé equation on a circle and applications to singular limit eigen-  
Yasuhito Miyamoto (Univ. of Tokyo) value problems ..... 10  
Tohru Wakasa (Kyushu Inst. of Tech.)

05-01-0002

- 23 Kotaro Hisa (Fukuoka Univ.) Threshold property of a singular stationary solution for semilinear heat  
Yasuhito Miyamoto (Univ. of Tokyo) equations with exponential growth ..... 10

05-01-0053

- 24 Kotaro Hisa (Fukuoka Univ.) On blow-up rate for the Hénon parabolic equation with Sobolev super-  
Yukihiro Seki (Tokyo Metro. Univ.) critical nonlinearity ..... 10

05-01-0054

- 25 Hideyuki Miura (Sci. Tokyo) Blow-up rate for the subcritical semilinear heat equation in non-convex  
Jin Takahashi (Sci. Tokyo) domains ..... 12  
Erbol Zhanpeisov (Tohoku Univ.)

05-01-0051

- 26 Yohei Sato (Saitama Univ.) On the existence and nonexistence of solutions to the 1D nonlinear  
Schrödinger equation with a Dirac-type potential ..... 12

05-01-0010

- 27 Yu Su (Anhui Univ. of Sci. Tech.) Ground state solutions for critical nonlocal elliptic equations with dop-  
Tatsuya Watanabe ing profile ..... 12  
(Kyoto Sangyo Univ.)

05-01-0062

- 28 Rikuya Kakinuma (Tohoku Univ.) Existence of  $L^2$  normalized solutions to scalar field equations with  
absorptions ..... 12

05-01-0007

- 29 Yutaro Chiyo (Tokyo Univ. of Sci.) Boundedness and finite-time blow-up in a quasilinear fully parabolic  
Kazuki Hasegawa (Tokyo Univ. of Sci.) attraction-repulsion chemotaxis system ..... 12  
Takeshi Uemura (Tokyo Univ. of Sci.)  
Tomomi Yokota (Tokyo Univ. of Sci.)

05-01-0008

- 30 Shohei Kohatsu (Tokyo Univ. of Sci.) Stability of radial steady states to a chemotaxis system with supercritical flux-dependent sensitivity ..... 12  
Takasi Senba (Kanagawa Univ.)

05-01-0067

- 31 Mario Fuest (Leibniz Univ. Hannover) Blow-up in a fully parabolic chemotaxis-growth system ..... 12  
Johannes Lankeit  
 (Leibniz Univ. Hannover)  
Masaaki Mizukami  
 (Kyoto Univ. of Edu.)

05-01-0074

- 32 Kosuke Shibata (Univ. of Osaka) Existence of axis-symmetric blow-up solutions with multiple peak aggregations for the 2- $D$  Keller-Segel system coupled with a bipolar source-sink flow ..... 12  
Yoshie Sugiyama (Univ. of Osaka)  
Yukihiro Seki (Tokyo Metro. Univ.)

### 13:00–14:00 Award Lecture for the 2025 MSJ Analysis Prize

05-02-0002

- Goro Akagi (Tohoku Univ.) Asymptotic analysis of solutions to nonlinear diffusion equations based on quantitative gradient inequalities

March 25th (Wed)

### 9:00–12:00

05-01-0055

- 33 Yusuke Oka (Univ. of Tokyo) On the solvability of fractional semilinear heat equations with distributional inhomogeneous terms ..... 12

05-01-0070

- 34 Sho Katayama (Univ. of Tokyo) Fundamental solution to the heat equation with a dynamical boundary condition ..... 12  
Kazuhiro Ishige (Univ. of Tokyo)  
Tatsuki Kawakami (Ryukoku Univ.)

05-01-0048

- 35 Md. Rabiul Haque (Rajshahi Univ.) Global well-posedness of initial value problems for systems of convection-diffusion equations in uniformly local Lebesgue spaces ..... 12  
Takayoshi Ogawa (Waseda Univ.)  
Atsuko Okada (Kitasato Univ.)

05-01-0064

- 36 Kosuke Shibuya (Tohoku Univ.) Global solvability for small initial data in critical Besov spaces for the convection-diffusion equation with fractional dissipation ..... 12  
Takayoshi Ogawa (Waseda Univ.)

05-01-0076

- 37 Ayuki Sekisaka (Meiji Univ.) Instability mechanism for a nonlocal reaction-diffusion equation ..... 12  
Hiroko Sekisaka-Yamamoto (RIKEN)

05-01-0075

- 38 Ryo Ito (Kanagawa Univ.) Existence and nonexistence of unbounded traveling wave solutions for reaction-diffusion equations ..... 12  
Hirokazu Ninomiya (Meiji Univ.)

05-01-0049

- 39 Kazuhiro Oeda (Kyushu Sangyo Univ.) Nonlinear diffusion limit and bifurcation structure in a prey-predator system with a protection zone ..... 12  
Kousuke Kuto (Waseda Univ.)

05-01-0037

- 40 Masahiko Shimojo Convergence to traveling waves for reaction-diffusion systems using Lyapunov type arguments ..... 12  
 (Tokyo Metro. Univ.)  
Arnaud Ducrot  
 (Univ. Le Havre Normandie)

05-01-0021

- 41 Hiroko Sekisaka-Yamamoto (RIKEN) Reaction-diffusion approximation for nonlocal evolution equations .... 12  
Ayuki Sekisaka (Meiji Univ.)

05-01-0027

- 42 Ikkei Shimizu (Kyoto Univ.) Time decay estimate for localized perturbation around helical state for the Landau–Lifshitz–Gilbert equation ..... 12



05-01-0072

- 43 Takumi Kanai (Tokyo Univ. of Sci.) Characterization of the wave front set of solutions to the fractional  
 Ryo Muramatsu (Tokyo Univ. of Sci.) Schrödinger equation with potentials ..... 12  
 Yuusuke Sugiyama  
 (Tokyo Univ. of Sci.)

05-01-0066

- 44 Ryo Muramatsu (Tokyo Univ. of Sci.) Well-posedness on modulation spaces for Schrödinger equations with  
 long-range magnetic fields ..... 12

05-01-0069

- 45 Shun Takizawa (Tokyo Univ. of Sci.) Strichartz estimates in Wiener amalgam spaces for Schrödinger equa-  
 tions with at most quadratic potentials ..... 12

**14:15–16:45**

05-01-0052

- 46 Koichi Komada (Ritsumeikan Univ.) Large data scattering for the defocusing generalized Boussinesq equation  
 ..... 12

05-01-0038

- 47 Yu Zhou (Hokkaido Univ.) Nonlinear wave equations on the half-line with nonlinear boundary  
 Hideo Kubo (Hokkaido Univ.) condition ..... 12

05-01-0061

- 48 Tomoyuki Tanaka Improved refined bilinear estimates and well-posedness for generalized  
 (Yokohama Nat. Univ.) KdV type equations ..... 12  
 Luc Molinet (Univ. of Tours)

05-01-0030

- 49 Kaito Kokubu (Tokyo Univ. of Sci.) Classification of unstable travelling wave solutions to KdV type equa-  
 tions ..... 12

05-01-0047

- 50 Takuma Yoshizumi (Univ. of Osaka) Blow-up for nonlinear Klein–Gordon equations in contracting cosmo-  
 Kimitoshi Tsutaya (Hiroshima Univ.) logical backgrounds ..... 12  
 Yuta Wakasugi (Hiroshima Univ.)  
 Makoto Nakamura (Univ. of Osaka)

05-01-0024

- 51 Naoyasu Kita (Kumamoto Univ.) Time decay of solutions to nonlinear Schrödinger equations with attractive-  
Hayato Miyazaki (Kagawa Univ.) dissipative nonlinearity ..... 12  
 Takuya Sato (Ehime Univ.)

05-01-0023

- 52 Hayato Miyazaki (Kagawa Univ.) Nonexistence of scattering states for nonlinear Schrödinger equations  
 Motohiro Sobajima without gauge invariance ..... 12  
 (Tokyo Univ. of Sci.)

05-01-0015

- 53 Toshiki Kondo (Univ. of Osaka) Non-existence of solutions to the Cauchy problem for semi-linear Schrödinger  
 Mamoru Okamoto (Hiroshima Univ.) equation on the torus ..... 12

05-01-0016

- 54 Toshiki Kondo (Univ. of Osaka) Well-posedness of the Cauchy problem for derivative fractional nonlinear  
 Takamori Kato (Saga Univ.) Schrödinger equations on torus ..... 12  
 Mamoru Okamoto (Hiroshima Univ.)

05-01-0033

- 55 Satoshi Masaki (Hokkaido Univ.) On non-polynomial conserved quantity for a class of cubic ODE system  
 Jun-ichi Segata (Kyushu Univ.) ..... 12  
 Kota Uriya (Okayama Univ. of Sci.)

05-01-0036

- 56 Satoshi Masaki (Hokkaido Univ.) Global existence of solutions to a system of cubic nonlinear Schrödinger  
 Jun-ichi Segata (Kyushu Univ.) equations in one dimension ..... 12  
 Kota Uriya (Okayama Univ. of Sci.)

**17:00–18:00 Talk Invited by Functional Equations Section**

05-02-0004

- Kunio Hidano (Tokyo City Univ.) Global existence and combined effect for systems of nonlinear wave  
 equations without the null condition

## March 26th (Thu)

**9:30–12:00**

05-01-0020

- 57 Masahiro Takayama (Keio Univ.) The motion of an inextensible closed string ..... 12  
Tatsuo Iguchi (Keio Univ.)

05-01-0041

- 58 Yoshinori Furuto (Tohoku Univ.) Higher order derivative estimates of the parabolic Lamé system ..... 12  
Tsukasa Iwabuchi (Tohoku Univ.)

05-01-0058

- 59 Shozo Ogino (Tohoku Univ.) On the quasi-neutral limit of the compressible Navier–Stokes–Poisson equations in the scaling critical spaces ..... 12

05-01-0032

- 60 Itsuko Hashimoto Existence of radially symmetric stationary solutions for viscous and Heat-conductive ideal Gas ..... 12  
(Univ. of Osaka/Osaka Metro. Univ.)  
Akitaka Matsumura (Osaka Univ.\*)

05-01-0029

- 61 Masaya Kageura (Kobe Univ.) Stability of the composite wave for the scalar viscous conservation law ..... 12  
Yoshihiro Ueda (Kobe Univ.)

05-01-0056

- 62 Yucong Huang (Sci. Tokyo) Asymptotic stability of the spherically symmetric stationary solution to outflow problem for compressible viscous fluid ..... 12  
Shinya Nishibata (Sci. Tokyo)

05-01-0057

- 63 Yucong Huang (Sci. Tokyo) Asymptotic stability of the stationary state for out-flowing viscous gas under non-spherically symmetric initial perturbations ..... 12  
Shinya Nishibata (Sci. Tokyo)

05-01-0060

- 64 Shunsuke Fujita (Waseda Univ.) Global existence and long-time behavior of solutions to the stochastic gCLMG equation ..... 12  
Reika Fukuizumi (Waseda Univ.)  
Takashi Sakajo (Kyoto Univ.)

05-01-0042

- 65 Tsukasa Iwabuchi (Tohoku Univ.) Local solutions for the inviscid SQG in a bounded domain ..... 12

05-01-0071

- 66 Mitsuo Higaki (Kobe Univ.) Lagrangian controllability in perforated domains ..... 10  
Jiajiang Liao (Beihang Univ.)  
Franck Sueur (Univ. of Luxembourg)

**14:15–16:45**

05-01-0034

- 67 Tsuyoshi Yoneda (Hitotsubashi Univ.) On the locality of vortex breakdown dynamics based on the three-dimensional incompressible Euler equations ..... 12

05-01-0019

- 68 Motofumi Aoki (Kyoto Univ.) On energy conservation law for incompressible Euler equations in bounded domains ..... 12  
Tsukasa Iwabuchi (Tohoku Univ.)

05-01-0012

- 69 Mikihiro Fujii (Nagoya City Univ.) Analyticity in space and time for global solutions to the anisotropic Navier–Stokes equations ..... 12  
Yang Li (Anhui Univ.)

05-01-0014

- 70 Mikihiro Fujii (Nagoya City Univ.) Asymptotic instability for the forced Navier–Stokes equations ..... 12  
Hiroyuki Tsurumi (Tokushima Univ.)

05-01-0022

- 71 Kei Noda (Kyoto Univ.) Periodic solutions of the 3D MHD equations in bounded domains with arbitrary geometry ..... 12  
Hideo Kozono  
(Waseda Univ./Tohoku Univ.)  
Senjo Shimizu (Kyoto Univ.)

05-01-0043

- 72 Kazuyuki Tsuda Time periodic problem of the Navier–Stokes equations in an exterior domain with periodically moving boundary ..... 12  
(Kyushu Sangyo Univ.)  
Reinhard Farwig (TU Darmstadt)

05-01-0018

- 73 Miho Murata (Shizuoka Univ.) Global solvability of the Q-tensor model for nematic liquid crystals in  
 Daniele Barbera (Politecnico di Torino) the half-space ..... 10  
 Yoshihiro Shibata (Waseda Univ.\*)

05-01-0044

- 74 Hirokazu Saito On the dispersive effect of internal gravity waves for the two-phase  
 (Univ. of Electro-Comm.) Stokes semigroup ..... 12  
 Xin Zhang (Tongji Univ.)

05-01-0073

- 75 Takahiro Okabe (Yokohama Nat. Univ.) Domain dependence of the Helmholtz–Weyl decomposition on time  
 Erika Ushikoshi (Yokohama Nat. Univ.) dependent domains ..... 12

### 17:00–18:00 Talk Invited by Functional Equations Section

05-02-0001

- Tatsu-Hiko Miura (Hirosaki Univ.) Difference estimate for weak solutions to the Navier–Stokes equations  
 in a thin spherical shell and on the unit sphere

# Real Analysis

March 25th (Wed)

## 9:30–11:45

06-01-0024

- 1 Soichi Ikeda (Kochi Univ. of Tech.) On certain composite functional equations associated with the Dirichlet function ..... 15

06-01-0006

- 2 Toshiharu Kawasaki Some properties of the extended integral, IV ..... 15  
(Nat. Inst. of Tech., Kisarazu Coll.)

06-01-0010

- 3 Jun Kawabe (Shinshu Univ.) Characterization of the Choquet, Shilkret, and Sugeno integrals as integral functionals ..... 15

06-01-0014

- 4 Aoi Honda (Kyushu Inst. of Tech.) Uniform structures in Sugeno-type  $\mathcal{L}_1(Su)$  spaces ..... 15  
Ryoji Fukuda (Oita Univ.)  
Yoshiaki Okazaki  
(Kyushu Inst. of Tech.\*)

06-01-0008

- 5 Yukino Tomizawa The triangle inequality and geodesic convex quadrilaterals in complete Busemann spaces ..... 15  
(Niigata Inst. of Tech.)

06-01-0025

- 6 Sachiko Atsushiba Approximation of fixed points of some generalized nonexpansive mappings ..... 15  
(Tokyo Woman's Christian Univ.)

06-01-0004

- 7 Shunya Hashimoto (Kyoto Univ.) The weakest condition for a Kannan-type contraction mapping on a complete metric space ..... 15  
Misako Kikkawa (Saitama Univ.)  
Shuji Machihara (Saitama Univ.)  
Aqib Saghir (Saitama Univ.)

## 14:15–15:30

06-01-0003

- 8 Takeshi Iida Composition of the Orlicz fractional maximal operators ..... 15  
(Fukushima Nat. Coll. of Tech.)

06-01-0015

- 9 Katsuo Matsuoka (Toho Univ.) New “weak” estimates of some sublinear operators on Herz spaces with variable exponent  $\dot{K}_{q(\cdot)}^{\alpha,p}(\mathbb{R}^n)$  ..... 15

06-01-0032

- 10 Naoya Hatano (Univ. of Osaka) Weighted generalization of the Poincaré–Sobolev inequality ..... 15

06-01-0030

- 11 Yoshihiro Sawano (Chuo Univ.) Moment-wise decomposition factorization property and ultradifferential operators ..... 15  
Lenny Neyt (Univ. of Vienna)

## 15:45–16:45 Talk Invited by Real Analysis Section

06-02-0002

- Ryoji Fukuda (Oita Univ.) Möbius transform and related developments

March 26th (Thu)

## 9:00–12:00

06-01-0011

- 12 Takeshi Fukao (Ryukoku Univ.) Asymptotic analysis of transmission problems with parameter-dependent Robin conditions ..... 15

06-01-0023

- 13 Osuke Shibata (Tokyo Univ. of Sci.) Global weak solvability of degenerate chemotaxis systems with threshold density ..... 15  
Tomomi Yokota (Tokyo Univ. of Sci.)

06-01-0018

- 14 Daisuke Kubota (Chiba Univ.) Large-time behavior for inhomogeneous pseudo-parabolic total variation  
Daiki Mizuno (Chiba Univ.) flows with time-dependent coefficients ..... 15  
Naotaka Ukai (Chiba Univ.)  
Ken Shirakawa (Chiba Univ.)

06-01-0009

- 15 Hana Kakiuchi (Japan Women's Univ.) On behavior of free boundaries to two-phase Stefan problems with time  
Toyohiko Aiki (Japan Women's Univ.) dependent latent heat term ..... 15

06-01-0012

- 16 Yoshiho Akagawa (Kyoto Univ. of Edu.) On the well-posedness of nonlinear strain kinematic hardening law  
Kazunori Matsui models ..... 15  
(Tokyo Univ. of Marine Sci. and Tech.)

06-01-0017

- 17 Chiharu Kosugi (Yamaguchi Univ.) A class of energy conservation systems representing stretching and  
shrinking motions of the elastic closed curve with the compressible  
stress function ..... 15

06-01-0022

- 18 Kota Kumazaki (Kyoto Univ. of Edu.) Construction of a strong solution to a system consisting of partial  
differential equations and free boundary problems ..... 15

06-01-0028

- 19 Naotaka Ukai (Chiba Univ.) A parabolic energy gradient system with variable dependent coefficients  
Daiki Mizuno (Chiba Univ.) ..... 15  
Ken Shirakawa (Chiba Univ.)  
Harbir Antil (George Mason Univ.)

06-01-0019

- 20 Motoharu Hyodo (Niigata Univ.) Uniqueness and existence of entropy solutions to the Cauchy problem  
Takanori Ebata (Niigata Univ.) for general balance laws ..... 15  
Hiroki Ohwa (Niigata Univ.)

06-01-0020

- 21 Takanori Ebata (Niigata Univ.) Well-posedness of entropy solutions to the Cauchy problem with con-  
Sho Watabe (Niigata Univ.) tinuous flux functions ..... 15  
Hiroki Ohwa (Niigata Univ.)

06-01-0021

- 22 Sho Watabe (Niigata Univ.)  $L^1$  contractive solutions for conservation laws whose flux functions are  
Takahiro Kikuchi (Niigata Univ.) of locally bounded variation ..... 15  
Hiroki Ohwa (Niigata Univ.)

**14:15–16:40**

06-01-0001

- 23 Tobias Black (Paderborn Univ.) Global solvability and asymptotic behavior in a doubly degenerate  
Shohei Kohatsu (Tokyo Univ. of Sci.) chemotaxis-consumption system ..... 15  
Duan Wu (Paderborn Univ.)

06-01-0002

- 24 Yutaro Chiyo (Tokyo Univ. of Sci.) Boundedness of radial solutions to a quasilinear parabolic-elliptic-  
Kazuki Hasegawa (Tokyo Univ. of Sci.) elliptic attraction-repulsion chemotaxis system with flux limitation ... 15  
Tomomi Yokota (Tokyo Univ. of Sci.)

06-01-0031

- 25 Yoshihiro Sawano (Chuo Univ.) Maximal regularity in homogeneous Besov–Morrey spaces and applica-  
Toru Nogayama (Tokyo Univ. of Sci.) tions to the Keller–Segel system ..... 15

06-01-0029

- 26 Shunsuke Kurima (Tokyo Univ. of Sci.) A general nonisothermal and conserved phase field system with inertial  
term ..... 15

06-01-0027

- 27 Yoshihito Nakajima (Tohoku Univ.) Solvability of time-fractional abstract evolution equations involving  
time-dependent  $m$ -accretive operators and its applications ..... 15

06-01-0007

- 28 Shun Uchida (Oita Univ.) Doubly nonlinear parabolic equation with perturbation term ..... 15

06-01-0005

- 29 Akio Ito Quasi-variational evolution inclusions on real Hilbert spaces with con-  
servative quantities ..... 15

06-01-0013

- 30 Ken Shirakawa (Chiba Univ.) 1D optimal control problem with state and control constraints motivated by grain boundary motion ..... 15  
 Hiroshi Watanabe (Oita Univ.)  
 J. Salvador Moll (Univ. Valencia)

06-01-0026

- 31 Daiki Mizuno (Chiba Univ.)  $H^2$ -regularity of solutions to anisotropic singular diffusion equation  
 Ken Shirakawa (Chiba Univ.) under periodic boundary condition ..... 15

### 16:50–17:50 Talk Invited by Real Analysis Section

06-02-0001

- Takahito Kashiwabara (Univ. of Tokyo)  $H^2$ -regularity for variational inequalities of Navier–Stokes type

# Functional Analysis

March 23rd (Mon)

## 9:30–11:45

07-01-0002

- 1 Shuji Watanabe (Sanjo City Univ.) The first-order phase transition and the entropy gap in the BCS model of superconductivity with a uniform external magnetic field ..... 15

07-01-0019

- 2 Shosuke Omori (Hosei Univ.) Rigged Hilbert space formulation for a quasi-Hermitian operator in composite system ..... 15

07-01-0023

- 3 Makoto Nakamura (Univ. of Osaka) Nonexistence of global weak solutions of Klein–Gordon equations with Takuma Yoshizumi (Univ. of Osaka) gauge variant semilinear terms in FLRW spacetimes ..... 10

07-01-0024

- 4 Makoto Nakamura (Univ. of Osaka) On the asymptotic behavior of the semilinear Schrödinger equation in Eiichi Sugimoto (Univ. of Osaka) FLRW spacetimes in one spatial dimension ..... 10

07-01-0027

- 5 Yukihide Tadano (Univ. of Hyogo) Dispersive estimates for the discrete Schrödinger equation on a honey- Changhun Yang (Chunbuk Nat. Univ.) comb lattice ..... 15  
Younghun Hong (Chung-Ang Univ.)

07-01-0020

- 6 Mitsuteru Kadowaki On scattering for three dimensional Schrödinger operators with absorb- (Univ. of Shiga Pref.) ing potentials ..... 15

07-01-0007

- 7 Itaru Sasaki (Shinshu Univ.) Holomorphy of ground states for the translation invariant Pauli–Fierz Yasumichi Matsuzawa (Shinshu Univ.) model in the dipole approximation ..... 15  
Shinnosuke Izumi (Shinshu Univ.)  
Kouta Imura  
(Nagano Pref. Fujimi High School)

07-01-0012

- 8 Yuki Tsujimoto (Kyushu Univ.) The evaluation of the spatial decay of the ground state of the Pauli– Fumio Hiroshima (Kyushu Univ.) Fierz model from below. .... 15

07-01-0018

- 9 Masao Hirokawa (Kyushu Univ.) Asymptotics for anisotropic Rabi models ..... 15  
Fumio Hiroshima (Kyushu Univ.)  
Dong Yun Lee (Kyushu Univ.)

## 14:15–15:15

07-01-0006

- 10 Wataru Ichinose (Shinshu Univ.) A rigorous mathematical formulation of time-continuous quantum mea- surement based on Feynman’s and von Neumann’s postulates ..... 15

07-01-0008

- 11 Kenta Higuchi (Gifu Univ.) Asymptotic analysis on the resonant tunneling effect for quantum walks ..... 15

07-01-0009

- 12 Hisashi Morioka (Ehime Univ.) Resonant scattering for tunable quantum walks on graphs with tails ..... 15  
Kenta Higuchi (Gifu Univ.)  
Ryuta Ishikawa (ABeam Systems Ltd.)  
Etsuo Segawa (Yokohama Nat. Univ.)  
Eijirou Yoshimura (Ehime Univ.)

07-01-0017

- 13 Toshimitsu Takaesu (Gunma Univ.) On the binding condition of a quantum field model by the decay of particle’s potential ..... 15

## 15:30–16:30 Talk Invited by Functional Analysis Section

07-02-0001

- Daichi Komori (Kindai Univ.) An application of Čech–Dolbeault cohomology to the symbol theory of pseudodifferential operators

## March 24th (Tue)

**9:45–10:30**

07-01-0004

- 14 Yasufumi Hashimoto Full-trace subgroups of congruence subgroups  $\Gamma_0(2), \Gamma(2)$  ..... 15  
(Univ. of Ryukyus)

07-01-0014

- 15 Ryosuke Nakahama On spectral zeta functions of one-, two-photon quantum Rabi models  
(NTT Inst. for Funda. Math.) and non-commutative harmonic oscillators ..... 15

07-01-0015

- 16 Toshihisa Kubo (Ryukoku Univ.) The homomorphisms between Verma modules for  $\mathfrak{sl}(3, \mathbb{C})$  ..... 15  
Víctor Pérez-Valdés (Ryukoku Univ.)

**10:45–11:45 Talk Invited by Functional Analysis Section**

07-02-0003

- Yohei Ito (Aoyama Gakuin Univ.)<sup>b</sup> Regular and irregular Riemann–Hilbert correspondences for  $\mathcal{D}$ -modules

## March 25th (Wed)

**9:30–11:25**

07-01-0016

- 17 Daisuke Hirota On surjective isometries on the unit sphere of direct sums of Banach  
(Nat. Inst. of Tech., Tsuruoka Coll.) spaces and Tingley’s problem ..... 15

07-01-0026

- 18 Nikita Evseev Weak weak\* time derivatives ..... 15  
(Okinawa Inst. of Sci. and Tech. Grad. Univ.)  
Malte Kampschulte (Charles Univ.)  
Alexander Menovschikov (HSE Univ.)

07-01-0011

- 19 Yusuke Isono (Kyoto Univ.) Cocycle perturbations and ergodicity for actions on type III factors  
..... 15

07-01-0013

- 20 Masaru Nagisa Law of large numbers for non-linear traces of the Choquet type on finite  
(Chiba Univ.\* / Ritsumeikan Univ.) factors ..... 15  
Yasuo Watatani (Kyushu Univ.\*)

07-01-0001

- 21 Takehiko Mori (Chiba Univ.) Dynamical systems with bounded condition and  $C^*$ -algebras ..... 15

07-01-0003

- 22 Nanami Hashimoto (Keio Univ.) Equivalence of categories of KK-theory or E-theory for  $C^*$ -algebras over  
topological spaces by reflection functors ..... 15

07-01-0022

- 23 Narutaka Ozawa (Kyoto Univ.) Proximity and selflessness for group  $C^*$ -algebras ..... 15

**14:15–15:15**

07-01-0021

- 24 Hiroyuki Osaka (Ritsumeikan Univ.) Generalized Hellinger divergences generated by monotone functions .. 15  
Hiroki Shudo (Ritsumeikan Univ.)

07-01-0010

- 25 Yuki Seo (Osaka Kyoiku Univ.) Rescaled  $\mathfrak{h}_\alpha$ -Rényi divergences of all real orders ..... 15

07-01-0005

- 26 Taro Sogabe (Kyoto Univ.)<sup>b</sup> A presentation of certain Cuntz–Pimsner algebra and unique ergodicity  
Kengo Matsumoto of certain ergodic automorphism ..... 15  
(Joetsu Univ. of Edu.)

07-01-0025

- 27 Ryoya Arimoto (Kyoto Univ.) Topological full groups arising from Cuntz and Cuntz–Toeplitz algebras  
Taro Sogabe (Kumamoto Univ.) and their crossed products ..... 15

**15:30–16:30 Talk Invited by Functional Analysis Section**

07-02-0002

- Masatoshi Ito (Maebashi Inst. of Tech.) Various weighted means and their relations



## Statistics and Probability

March 23rd (Mon)

**9:30–11:50**

08-01-0012

- 1 Zijian Xu (Fukuoka Univ.) Monge solutions and uniqueness in multi-marginal optimal transport with hierarchical jumps ..... 15

08-01-0024

- 2 Takuya Nakagawa (Ritsumeikan Univ.)  $L^{\alpha-1}$  distance between two one-dimensional stochastic differential equations with drift terms driven by a symmetric  $\alpha$ -stable process ..... 15

08-01-0014

- 3 Kaneharu Tsuchida  
(Nat. Defense Acad. of Japan) Smooth measures and positive continuous additive functionals attached to a compact nest ..... 15  
Takumu Ooi (Tokyo Univ. of Sci.)  
Toshihiro Uemura (Kansai Univ.)

08-01-0004

- 4 Kohki Iba (Univ. of Osaka) Conditioning and penalization for Lévy processes ..... 15

08-01-0033

- 5 Arturo Kohatsu-Higa The derivative of expectations with respect to the initial value and integration by parts formulas for affine processes ..... 15  
(Ritsumeikan Univ.)  
Yuma Tamura (Ritsumeikan Univ.)

08-01-0034

- 6 Ryoichiro Noda (Kyoto Univ.) Convergence of space-time occupation measures of Markov processes ..... 15

08-01-0007

- 7 Yuji Hamana (Univ. of Tsukuba) Joint distribution of the hitting time to a square-root boundary and the hitting site for Brownian motion ..... 10

08-01-0010

- 8 Shota Osada (Kagoshima Univ.) On the ergodicity of unlabeled dynamics associated with random point fields ..... 15

08-01-0005

- 9 Nariyuki Minami (Keio Univ.\*) On spectral multiplicity of random one-dimensional Schrödinger operators ..... 15

**14:15–15:15 Award Lecture for the 2025 MSJ Analysis Prize**

08-02-0004

- David Croydon (Kyoto Univ.) Cover times of random walks on some special trees

**15:30–16:30 Talk Invited by Statistics and Probability Section**

08-02-0002

- Kei Noba (Univ. of Osaka) On the scale functions of stochastic processes with no positive jumps

March 24th (Tue)

**9:30–11:50**

08-01-0028

- 10 Ryosuke Sato (Hokkaido Univ.) Conservation operator processes from representation theory and their CLT ..... 15

08-01-0027

- 11 Noriyoshi Sakuma (Univ. of Osaka) On generalized Meixner-type free gamma distributions 2 —finite free probability— ..... 10  
Yuki Ueda (Hokkaido Univ. of Edu.)

08-01-0016

- 12 Ryo Inayoshi (Meijo Univ.) Operator information quantities of semigroups associated with functions of the number operator ..... 15

08-01-0019

- 13 Yushi Hamaguchi (Kyoto Univ.) Markovian lifting and ergodicity for stochastic Volterra equations .... 15

08-01-0003

- 14 Hirotsu Nagoji (Hiroshima Univ.) Strong uniqueness of Dirichlet operators related to stochastic quantization for the  $\exp(\Phi)_2$ -model ..... 15  
Hiroshi Kawabi (Keio Univ.)

08-01-0009	15	Soma Nishino (Tokyo Metro. Univ.)	A central limit theorem for the stochastic cable equation . . . . .	15
08-01-0031	16	Mikio Hirokane (Univ. of Osaka) Masaaki Fukasawa (Univ. of Osaka) Kostas Kardaras (London School of Econ.)	Error distributions of Euler–Maruyama and local linearization schemes for SDEs with additive noise . . . . .	15
08-01-0036	17	Shigeyoshi Ogawa (Ritsumeikan Univ.)	On the regular solutions of noncausal SDE . . . . .	15
08-01-0021	18	Rikuki Okamoto (Ritsumeikan Univ.) Jiro Akahori (Ritsumeikan Univ.)	Properties of the initial noise-adjusted SIML high-frequency statistical estimator . . . . .	15

## 12:00–12:30 Research Section Assembly

March 25th (Wed)

### 10:00–12:00

08-01-0002	19	Yuichi Goto (Kyushu Univ.) Abdelhakim Aknouche (Qassim Univ.) Christian Francq (JST CREST/Univ. of Lille)	Mixed difference integer-valued GARCH model for $\mathbb{Z}$ -valued time series . . . . .	15
08-01-0006	20	Kou Fujimori (Shinshu Univ.) Hirosi Shiraishi (Keio Univ.) Junichi Hirukawa (Nanzan Univ.) Konstantinos Fokianos (Univ. of Cyprus)	Lasso-type estimators for multivariate integer-valued autoregressive models with applications to inference for Hawkes processes . . . . .	15
08-01-0008	21	Xiaoqiang Zeng (Guangdong Univ. of Edu.) Yoshihide Kakizawa (Hokkaido Univ.)	Note on an ADCINAR( $p$ ) process . . . . .	15
08-01-0013	22	Takato Hashino (Kyushu Univ.) Koji Tsukuda (Kyushu Univ.)	The Shannon entropy estimation via the Pitman–Yor process . . . . .	15
08-01-0017	23	Teruo Tanaka (Hiroshima City Univ.)	Risk sensitive optimal stopping problems for discrete time multiparam- eter Markov processes . . . . .	15
08-01-0022	24	Rinka Sagawa (Waseda Univ.) Yan Liu (Waseda Univ.) Valentin Patilea (ENSAI)	Discriminant analysis for dependent noisy curves . . . . .	15
08-01-0023	25	Shi Chen (Waseda Univ.) Yan Liu (Waseda Univ.)	Portmanteau test of copula time series . . . . .	15
08-01-0025	26	Junichi Hirukawa (Nanzan Univ.) Masanobu Taniguchi (Waseda Univ.) Marc Hallin (Univ. Libre de Bruxelles)	The second order generalization of Hájek–Le Cam asymptotic minimax theorem . . . . .	15

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

08-02-0001		Michiko Okudo (Chiba Univ.)	Foundations of information geometry and its applications to Bayesian statistics
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## 15:30–16:30 Talk Invited by Statistics and Probability Section

08-02-0003		Hideatsu Tsukahara (Seijo Univ.)	Statistics of risk measures
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## March 26th (Thu)

**10:00–11:40**

08-01-0011

- 27 Tetsuya Sato (Tokyo Univ. of Sci.) Error bounds for high-dimensional Edgeworth expansion for sphericity  
Ayaka Yagi (Tokyo Univ. of Sci.) test with two-step monotone missing data ..... 15  
Takashi Seo (Tokyo Univ. of Sci.)

08-01-0015

- 28 Shuhei Mano (Inst. of Stat. Math.) Direct sampling from conditional distributions by sequential maximum  
likelihood estimations ..... 15

08-01-0018

- 29 Tetsuya Umino (Univ. of Tsukuba) Automatic sparse estimation of high dimensional block diagonal covari-  
Kazuyoshi Yata (Univ. of Tsukuba) ance structures ..... 15  
Makoto Aoshima (Univ. of Tsukuba)

08-01-0020

- 30 Shinpei Imori (Hiroshima Univ.) Model selection in linear regression models with group structure ..... 15

08-01-0029

- 31 Kengo Fujisawa Bivariate ordinal logit model for symmetric ordinal categorical variables  
(Tokyo Univ. of Sci., Yamaguchi) ..... 15

08-01-0030

- 32 Riku Hosonuma (Tokyo Univ. of Sci.) Tests for the two-sample problem of sub-mean vectors with two-step  
Tamae Kawasaki monotone missing data ..... 15  
(Aoyama Gakuin Univ.)  
Takashi Seo (Tokyo Univ. of Sci.)

08-01-0032

- 33 Yuki Hayashi (Nanzan Univ.) Parameter estimation and hypothesis testing for the generalized t-  
Takayuki Shiohama (Nanzan Univ.) distribution ..... 10

# Applied Mathematics

March 23rd (Mon)

## 9:30–11:35

09-01-0040

- 1 Tomohiro Kamiyoshi  
(Matsue Coll. of Tech.)  
Makoto Nagura  
(Osaka Electro-Comm. Univ.)  
Shin-ichi Otani (Kanto Gakuin Univ.)

On left production matrices of generalized Stirling numbers ..... 15

09-01-0039

- 2 Hirotake Kurihara (Yamaguchi Univ.)  
Akihiro Higashitani (Univ. of Osaka)

Imprimitive association schemes and elimination theory ..... 15

09-01-0049

- 3 Kazunori Matsuda  
(Kitami Inst. of Tech.)

The minimum number of edges of connected simple graphs  $G$  with  
 $\text{ind-match}(G) = p$ ,  $\text{min-match}(G) = q$  and  $\text{match}(G) = r$  ..... 15

09-01-0008

- 4 Hojin Chu (KIAS)  
Shinya Fujita (Yokohama City Univ.)  
Boram Park (Seoul National Univ.)  
Homoon Ryu (Ajou Univ.)

Connectivity keeping trees in triangle-free graphs ..... 10

09-01-0046

- 5 Diogo Kendy Matsumoto  
(Teikyo Univ. of Sci.)

The structure of 3-self-centered unique eccentric point graphs of girth  
 $\geq 4$  ..... 15

09-01-0015

- 6 Masaki Kashima (Keio Univ.)  
Riste Škrekovski (Ljubljana Univ.)  
Rongxing Xu (Zhejiang Normal Univ.)

Degeneracy and proper conflict-free degree-choosability of graphs .... 15

09-01-0047

- 7 Atsuhiko Nakamoto  
(Yokohama Nat. Univ.)  
Naoki Matsumoto (Univ. of Ryukyus)  
Kyosuke Wakayama  
(Yokohama Nat. Univ.)

Kempe equivalence of 5-colorings in 3-chromatic triangulations on the  
projective plane ..... 15

## 14:15–16:25

09-01-0003

- 8 Hiroshi Goda  
(Tokyo Univ. of Agri. and Tech.)  
Takayuki Morifuji (Keio Univ.)

Some expressions of graph zetas and the twisted Alexander polynomials,  
and the knot volume ..... 15

09-01-0009

- 9 Iwao Sato (Oyama Nat. Coll. of Tech.)  
Ayaka Ishikawa  
(Muroan Inst. of Tech.)  
Takashi Komatsu (Univ. of Yamanashi)  
Norio Konno (Ritsumeikan Univ.)  
Hideo Mitsunashi (Hosei Univ.)  
Hideaki Morita (Muroan Inst. of Tech.)

The weighted complexities of abelian coverings of a graph ..... 15

09-01-0010

- 10 Iwao Sato (Oyama Nat. Coll. of Tech.)  
Akahori Jiro (Ritsumeikan Univ.)  
Norio Konno  
(Ritsumeikan Univ./Yokohama Nat. Univ.\*)  
Shohei Koyama (Ritsumeikan Univ.)  
Etsuo Segawa (Yokohama Nat. Univ.)

The edge version of Konno–Sato theorem ..... 15

09-01-0028			
11	<u>Shohei Koyama</u> (Ritsumeikan Univ.) Jiro Akahori (Ritsumeikan Univ.) Norio Konno (Ritsumeikan Univ./Yokohama Nat. Univ.*) Iwao Sato (Oyama Nat. Coll. of Tech.)	Bootstrap quantum walks .....	15
09-01-0022			
12	<u>Shuhei Mano</u> (Inst. of Stat. Math.) Robert Griffiths (Monash Univ.)	Symmetric quantum walks on Hamming graphs and their limit distributions .....	15
09-01-0045			
13	<u>Hiroto Sekido</u> (Yokohama Nat. Univ.) Etsuo Segawa (Yokohama Nat. Univ.)	Effects of magnetic flux on the periodicity of quantum graph walks .....	15
09-01-0011			
14	Kenta Higuchi (Gifu Univ.) Ryuta Ishikawa (Ehime Univ.) Hisashi Morioka (Ehime Univ.) Etsuo Segawa (Yokohama Nat. Univ.)	Sticky quantum walk model .....	15

### 16:40–17:40 Talk Invited by Applied Mathematics Section

09-02-0002	Yusuke Ide (Nihon Univ.)	Eigenspaces related to quantum walks on graphs
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### March 24th (Tue)

#### 9:15–11:40

09-01-0035			
15	Xiao-Nan Lu (Gifu Univ.)	Completely uniform nested pairings of Carmichael's Steiner quadruple systems on projective lines .....	15
09-01-0006			
16	Kosuke Suzuki (Yamagata Univ.)	Exact $\ell^\infty$ -separation radius of the two-dimensional Sobol' sequence ...	15
09-01-0017			
17	<u>Shuhei Tsujie</u> (Hokkaido Univ. of Edu.) Hung Manh Tran (Phenikaa Univ.) Tan Nhat Tran (Binghamton Univ.)	The correspondence of maximal Arrow's single-peaked domains and regular vines .....	15
09-01-0043			
18	Takuya Saito (Hokkaido Univ.)	Convolution formulas for invariants of polymatroid sums and other weighted posets .....	15
09-01-0002			
19	Chie Nara (Meiji Univ.) Erik D. Demaine (MIT) Martin L. Demaine (MIT) Markus Hecher (MIT) Rebecca Lin (MIT) Victor Luo (MIT)	Continuous flattening of convex polyhedral linkages and their reversing by Menger's theorem .....	15
09-01-0029			
20	Masato Konoike (Univ. of Osaka)	On the magic positivity of Ehrhart polynomials of dilated polytopes .....	15
09-01-0014			
21	Aki Mori (Setsunan Univ.)	Two-dimensional faces of order and chain polytopes .....	15
09-01-0024			
22	Akihiro Higashitani (Univ. of Osaka)	On the equivariant $\gamma$ -nonnegativity of order polytopes of graded posets .....	15

### March 25th (Wed)

#### 9:25–12:00

09-01-0004			
23	Yusuke Asai (JIHS) Shingo Iwami (Nagoya Univ.) Yoshihisa Morita (Ryukoku Univ.*)	Development of virus dynamics model describing cell-to-cell transmission .....	15

09-01-0005			
24	Yusuke Asai (JIHS) Shingo Iwami (Nagoya Univ.) Yoshihisa Morita (Ryukoku Univ.*)	Existence of traveling waves in a viral infection model with cell-to-cell transmission .....	15
09-01-0021			
25	Toshikazu Kuniya (Kobe Univ.)	Hopf-bifurcation in a time-delayed multi-group SIR epidemic model for population behavior change .....	15
09-01-0016			
26	Sungrim Seirin Lee (Kyoto Univ./Kyoto Univ.)	Pattern formation in skin diseases .....	15
09-01-0018			
27	Natsume Motohashi (Hokkaido Univ.) Hideo Ikeda (Univ. of Toyama) Masaharu Nagayama (Hokkaido Univ.)	On the existence of one-dimensional standing pulse solutions for a self-propelled motion model .....	15
09-01-0034			
28	Peize Yu (Hokkaido Univ.) Sohei Tasaki (Hokkaido Univ.)	Optimizing nutrient-consuming motility of bacteria with mathematical model .....	15
09-01-0048			
29	Madoka Nakayama (Sci. Tokyo) Izumi Takagi (Tohoku Univ.) Jun-ichi Wakita (Chuo Univ.) Wataru Shoji (Tohoku Univ.) Sohei Tasaki (Hokkaido Univ.)	Cell population migration cycle and response to environmental pH in <i>Bacillus subtilis</i> .....	15
09-01-0044			
30	Keiichi Ueda (Univ. of Toyama) Yasumasa Nishiura (Hokkaido Univ./Chubu Univ.)	Pulse dynamics under internal and external environmental changes ...	15
09-01-0001			
31	Hajime Koba (Univ. of Osaka)	Mathematical modeling of a soap bubble in air .....	15

#### 14:15–14:40 Presentation Ceremony for the 2025 Applied Mathematics Prize

#### 14:50–16:30

09-01-0012			
32	Kazunori Matsui (Tokyo Univ. of Marine Sci. and Tech.) Yoshiho Akagawa (Kyoto Univ. of Edu.)	A numerical method for an elastoplastic model with linear kinematic hardening .....	15
09-01-0026			
33	Masato Kimura (Kanazawa Univ.) Hisanori Miyata (Kanazawa Univ.)	Mass conservation and gelation analysis of the Smoluchowski coagulation equation via the generalized moment method .....	15
09-01-0050			
34	Shinya Uchiumi (Hokkaido Univ.)	Analysis of Lagrange–Galerkin scheme having boundary quadrature points .....	15
09-01-0030			
35	Haruka Nakamura (Univ. of Tokyo) Norikazu Saito (Univ. of Tokyo)	On a monotone scheme for Hamilton–Jacobi–Bellman equations .....	15
09-01-0027			
36	Takuya Tsuchiya (Meiji Gakuin Univ.) Makoto Nakamura (Univ. of Osaka)	Structure-preserving numerical calculation of Klein–Gordon–Proca system .....	15
09-01-0025			
37	Tsuyoshi Yoneda (Hitotsubashi Univ.)	Mathematical structure of a novel Reservoir-based gradient descent method and its high predictive accuracy in machine learning implementation .....	15

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

09-02-0003			
	Tomoki Uda (Univ. of Toyama)	Advances in anisotropy-aware topological data analysis	

## March 26th (Thu)

**9:25–12:00**

09-01-0007

- 38 Toshiyuki Nakayama (Shunan Univ.) Probabilistic foundations for topological change detection in high-dimensional data analysis ..... 15

09-01-0013

- 39 Yoshitaka Watanabe (Kyushu Univ.) Stability analysis of Kolmogorov flow by an eigenvalue excluding method  
Shuting Cai (Fujian Jiangxia Univ.) ..... 15

09-01-0019

- 40 Takaaki Nishida (Kyoto Univ.\*) Thermohaline convection in the horizontal layer with non-uniform heat  
Fujiwara Hiroshi (Kyoto Univ.) supply ..... 15  
Chun-Hsiung Hsia (Nat. Taiwan Univ.)

09-01-0031

- 41 Masakazu Akiyama (Univ. of Toyama) About a crystal structure simulator ..... 15  
Takada Yu  
Haruhiko Morito (Tohoku Univ.)  
Yukari Katsura  
(Nat. Inst. for Materials Sci.)

09-01-0032

- 42 Kaname Matsue Bifurcation of blow-up solutions: correspondence between dynamics at  
(Kyushu Univ./Kyushu Univ.) infinity and structures stemming from asymptotic expansions ..... 15

09-01-0041

- 43 Hironari Miyoshi (Saitama Univ.) Stochastic particle processes constituting traveling wave solutions of the  
heat equation ..... 15

09-01-0020

- 44 Kazuyuki Yagasaki (Kyoto Univ.\*) Global linearization of dynamical systems by generalized eigenfunctions  
of the Koopman operators ..... 15

09-01-0023

- 45 Kazuyuki Yagasaki (Kyoto Univ.\*) Feedback control of twisted solutions in the Kuramoto model on nearest  
neighbor graphs ..... 15

09-01-0042

- 46 Kei Nishi (Kyoto Sangyo Univ.) Dynamics of traveling pulses in reaction-diffusion systems subject to  
local external perturbation ..... 15

**14:15–15:15**

09-01-0033

- 47 Tomoharu Suda (Tokyo Univ. of Sci.) A categorical approach to reconstruction of dynamics ..... 15

09-01-0036

- 48 Isamu Ohnishi (Hiroshima Univ.) Emergence of coherent state superpositions of quantum cat states in  
driven-dissipative Kerr cavities: Multi-mode steady-state analysis of  
the quantized Lugiato–Lefever equation ..... 15

09-01-0037

- 49 Isamu Ohnishi (Hiroshima Univ.) Lie algebra frameworks to reflexive Banach spaces: Decoupling and  
normal forms for quadratic nonlinear systems in infinite dimensions  
..... 15

09-01-0038

- 50 Isamu Ohnishi (Hiroshima Univ.) Quantum many-body hysteresis described by Dirac–KG–Yukawa quan-  
tum field and its application ..... 15

**15:30–16:30 Talk Invited by Applied Mathematics Section**

09-02-0001

- Asuka Takatsu (Univ. of Tokyo)<sup>b</sup> Geometry on the space of probability measures

# Topology

March 23rd (Mon)

## 9:30–11:15

- [10-01-0034](#)  
1 Tomoya Yoshikawa (Okayama Univ.) Orientation double covers of non-orientable Lefschetz fibrations ..... 15
- [10-01-0031](#)  
2 Noriyuki Hamada (Kyushu Univ.) Lefschetz fibrations with arbitrary signature ..... 15  
R. İnanç Baykur (UMass Amherst)
- [10-01-0032](#)  
3 Noriyuki Hamada (Kyushu Univ.) Exotic 4-manifolds with signature zero ..... 15  
R. İnanç Baykur (UMass Amherst)
- [10-01-0023](#)  
4 Tsukasa Isoshima (Keio Univ.) Trisections and Lefschetz fibrations with  $(-n)$ -sections ..... 15  
Reo Yabuguchi (Okayama Univ.)
- [10-01-0028](#)  
5 Yuichi Yamada Seifert manifolds in 4-manifolds constructed by pairs of surgeries along  
(Univ. of Electro-Comm.) torus knots ..... 10  
Motoo Tange (Univ. of Tsukuba)
- [10-01-0042](#)  
6 Motoo Tange (Univ. of Tsukuba) Cork equivalences ..... 10

## 14:15–15:15

- [10-01-0001](#)  
7 Tatsumasa Suzuki (Meiji Univ.) The pretzel knot  $P(4, -3, 5)$  is not squeezed ..... 15  
Nobuo Iida  
(Tokyo Woman's Christian Univ.)
- [10-01-0026](#)  
8 Kazuhiro Ichihara (Nihon Univ.) Euclidean lengths and the Culler–Shalen norms of slopes ..... 10
- [10-01-0037](#)  
9 Ken'ichi Yoshida (Hiroshima Univ.) On hyperbolicity of weaves ..... 15

## 15:30–16:30 Talk Invited by Topology Section

- [10-02-0001](#)  
Yuya Murakami (RIKEN) Quantum modularity for quantum invariants

March 24th (Tue)

## 9:30–11:00

- [10-01-0003](#)  
10 Yoshihito Ogasawara Topology as Language of epistemology ..... 10  
(Shibaura Inst. of Tech./Miyoshigokinkogyo Co. Ltd.)
- [10-01-0022](#)  
11 Yuto Nakajima (Doshisha Univ.) On the topology of the limit set of non-autonomous IFS ..... 15  
Takayuki Watanabe (Chubu Univ.)
- [10-01-0005](#)  
12 Yukinobu Yajima (Kanagawa Univ.) Perfect pre-images of  $aD$ -spaces ..... 15  
Yasushi Hirata (Kanagawa Univ.)
- [10-01-0035](#)  
13 Shuntaro Tomizawa (Univ. of Tokyo) Heterodimensional cycles derived from homoclinic tangencies via Hopf  
bifurcations ..... 15
- [10-01-0016](#)  
14 Jun O'Hara (Chiba Univ.) Identification of generic finite metric spaces by  $q$ -spectra ..... 15



## March 25th (Wed)

**9:30–11:15**

<a href="#">10-01-0008</a>	15 Masaki Tahō (Univ. of Tokyo)	Infinitely many tangent functors on diffeological spaces . . . . .	15
<a href="#">10-01-0006</a>	16 Kohei Tanaka (Shinshu Univ.)	The fundamental category of a poset-stratified space . . . . .	15
<a href="#">10-01-0014</a>	17 Ryo Horiuchi (Bukkyo Univ.)	On the stratification of combinatorial spectra . . . . .	15
<a href="#">10-01-0024</a>	18 Syunji Moriya (Univ. of Aizu)	Embedding calculus and Vassiliev spectral sequence . . . . .	15
<a href="#">10-01-0029</a>	19 Syunji Moriya (Univ. of Aizu)	Sinha’s spectral sequence for long knots in codimension one and non-formality of the little 2-disks operad . . . . .	15

**14:30–16:15**

<a href="#">10-01-0011</a>	20 Naoki Kitazawa (Osaka Metro. Univ.)	Construction of Morse–Bott functions on 3-dimensional compact and connected manifolds with prescribed level sets . . . . .	15
<a href="#">10-01-0012</a>	21 Naoki Kitazawa (Osaka Metro. Univ.)	On a classification of Morse functions on $S^3$ or connected sums of copies of $S^2 \times S^1$ and lens spaces . . . . .	10
<a href="#">10-01-0015</a>	22 Naoki Kitazawa (Osaka Metro. Univ.)	Real algebraic functions with prescribed Reeb graphs . . . . .	10
<a href="#">10-01-0038</a>	23 Runa Shimada (Kobe Univ.)	Geometric properties under deformations of singularities . . . . .	15
<a href="#">10-01-0002</a>	24 So Yamagata (Fukuoka Univ.) Takuya Saito (Hokkaido Univ.)	Categorification of the characteristic polynomial of a matroid . . . . .	10
<a href="#">10-01-0010</a>	25 Emiko Yorisaki (Tokyo Metro. Univ.) Shinzo Bannai (Okayama Univ. of Sci.) Hiro-o Tokunaga (Tokyo Metro. Univ.)	The realization spaces of certain conic-line arrangements of degree 7 . . . . .	15

**16:30–17:30 Talk Invited by Topology Section**

<a href="#">10-02-0002</a>	Florent Schaffhauser (Heidelberg Univ.)	Moduli of vector bundles over real algebraic curves
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## March 26th (Thu)

**9:30–11:00**

<a href="#">10-01-0020</a>	26 Nariya Kawazumi (Univ. of Tokyo)	A noncommutative Johnson lifting related to $\mathbb{K}$ -framings and spin structures on surfaces . . . . .	15
<a href="#">10-01-0027</a>	27 Aoi Wakuda (Univ. of Tokyo)	Separability criteria of loops on orientable surfaces via the TWG bracket . . . . .	15
<a href="#">10-01-0033</a>	28 Takuya Sakasai (Univ. of Tokyo)	On the dihedral invariant Lie subalgebra of the derivation Lie algebra of the free associative algebra . . . . .	10
<a href="#">10-01-0007</a>	29 Toyo Taniguchi (Univ. of Tokyo)	Drinfeld associators and Kashiwara–Vergne associators in higher genera . . . . .	15
<a href="#">10-01-0017</a>	30 Masatoshi Sato (Tokyo Denki Univ.) Yusuke Kuno (Tsuda Coll.)	On the 2-loop part of the Johnson cokernel . . . . .	15

**14:15–16:45**

10-01-0030

- 31 Shin Satoh (Kobe Univ.) Polynomial generalization of the  $v_{2,1}$ - and  $v_{2,2}$ -invariants for long virtual knots ..... 10  
Kodai Wada (Kobe Univ.)

10-01-0019

- 32 Naoko Kamada (Nagoya City Univ.) Doubling of welded knots ..... 10  
Seiichi Kamada (Univ. of Osaka)

10-01-0025

- 33 Akiko Shima (Tokai Univ.) Linear 4-charts with three crossings ..... 15  
Teruo Nagase (Tokai Univ.\*)

10-01-0018

- 34 Jumpei Yasuda (Osaka Metro. Univ.) On knot quandles of Suciú's ribbon knots ..... 10

10-01-0040

- 35 Kokoro Tanaka (Tokyo Gakugei Univ.) On the monodromies of Suciú's  $n$ -knots ..... 10  
Takuya Sakasai (Univ. of Tokyo)

10-01-0039

- 36 Kengo Kawamura (Osaka Sangyo Univ.) On skein relations of a cocycle invariant for  $p$ -colored links ..... 10  
Atsushi Ishii (Univ. of Tsukuba)  
Kanako Oshiro (Sophia Univ.)

10-01-0021

- 37 Ayu Suzuki (Japan Women's Univ.) On embedding of homogeneous quandles and its examples ..... 15

10-01-0004

- 38 Sam Nelson (Claremont McKenna Coll.) The forbidden quiver of a link ..... 15

10-01-0009

- 39 Sam Nelson (Claremont McKenna Coll.) Categorification of biquandle arrow weights using quivers ..... 10  
Migiwa Sakurai  
 (Shibaura Inst. of Tech.)

10-01-0041

- 40 Masaki Ogawa (Tohoku Univ.) On Khovanov homology of link in  $\mathbb{R}P^3$  and  $S^3$  ..... 15

# Infinite Analysis

March 25th (Wed)

## 10:30–11:45

- [11-01-0001](#)  
1 Ryota Akagi (Nagoya Univ.) Generalization of  $c$ -,  $g$ -vectors to real entries in cluster algebras and its finite type classification via Coxeter diagrams ..... 15
- [11-01-0008](#)  
2 Ryota Akagi (Nagoya Univ.) Sign coherence and its structure of real  $c$ -vectors associated with cluster-cyclic matrices of rank 3 ..... 15
- [11-01-0006](#)  
3 Ayaka Murakami (Ochanomizu Univ.)  $q$ -Heun equation and its  $q$ -integral transformation ..... 15  
Kouich Takemura (Ochanomizu Univ.)
- [11-01-0015](#)  
4 Kanam Park A  $q$ -middle convolution and the  $q$ -Painlevé equation of type  $E_6^{(1)}$  ..... 15  
(Toba Nat. Coll. of Maritime Tech.)

## 14:15–15:45

- [11-01-0004](#)  
5 Takahiko Nobukawa (Kogakkan Univ.) A rank 3 linear  $q$ -difference equation with affine Weyl group symmetry of type  $E_8^{(1)}$  ..... 15
- [11-01-0011](#)  
6 Taikei Fujii (Kobe Univ.) On the connection between Grothendieck polynomials and  $q$ -hypergeometric series ..... 15  
Tatsushi Shimazaki (Kobe Univ.)
- [11-01-0012](#)  
7 Yuichi Ueno (Kogakkan Univ.) Quantization of higher order Painlevé systems ..... 15
- [11-01-0014](#)  
8 Ryo Okawa (Kyoto Univ.) Whittaker functions on affine Laumon spaces ..... 15  
Jun'ichi Shiraishi (Univ. of Tokyo)
- [11-01-0013](#)  
9 Alexander Stokes (Waseda Univ.) Monodromy of monodromy surfaces ..... 15

## 16:00–17:00 Talk Invited by Infinite Analysis Special Session

- [11-02-0001](#)  
Shunya Adachi (Utsunomiya Univ.) On Katz theoretic integral transformations

March 26th (Thu)

## 10:30–11:45

- [11-01-0009](#)  
10 Nobutaka Nakazono Exact solutions to an autonomous dKdV equation via Painlevé-type ordinary difference equations ..... 15  
(Tokyo Univ. of Agri. and Tech.)
- [11-01-0007](#)  
11 Genki Shibukawa Little  $\mu$ -function, the Rogers–Ramanujan continued fraction and Schur's  $q$ -Fibonacci numbers ..... 15  
(Kitami Inst. of Tech.)  
Satoshi Tsuchimi (Kindai Univ.)
- [11-01-0002](#)  
12 Sota Miyazawa A novel correspondence between paths for a crystal base of  $U_q(\widehat{\mathfrak{sl}}_2)$  and Young diagrams ..... 15  
(Nat. Defense Acad. of Japan)  
Taichiro Takagi  
(Nat. Defense Acad. of Japan)
- [11-01-0005](#)  
13 Masato Kobayashi (Kanagawa Univ.) Decompositions of crystal graphs by skeleton RSK ..... 15

## 14:15–15:15 Talk Invited by Infinite Analysis Special Session

- [11-02-0002](#)  
Shinsuke Iwao (Keio Univ.) Solving the Bethe equations for periodic TASEP and proving completeness