

## 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  $\blackboard$  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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# Foundation of Mathematics and History of Mathematics

September 24th (Thu)

## 9:30–10:35

<a href="#">01-01-0001</a>	1 Shigeru Masuda (Res. Workshop of Classical Fluid Dynamics)	Study of the Eulerian Integrals by Legendre . . . . .	15
<a href="#">01-01-0002</a>	2 Shigeru Masuda (Res. Workshop of Classical Fluid Dynamics)	The complete functions by Legendre . . . . .	15
<a href="#">01-01-0003</a>	3 Shigeru Masuda (Res. Workshop of Classical Fluid Dynamics)	Supplements of study of the elliptic functions and Eulerian Integrals by Legendre . . . . .	15
<a href="#">01-01-0016</a>	4 Hideyuki Majima (Ochanomizu Univ.*)	Towards the year 2022, the 314th memorial year of SEKI Takakazu . . . . .	15

## 10:45–11:45 Talk Invited by Section on Foundation and History of Mathematics

<a href="#">01-02-0002</a>	Masahito Takase	Shaping the fountains in Modern Western Mathematics	
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## 11:50–12:00 Mathematics History Team Meeting

## 14:20–16:10

<a href="#">01-01-0010</a>	5 Masaya Suzuki (UL Japan)	Kleene’s ternary logic and fail safe . . . . .	10
<a href="#">01-01-0005</a>	6 Takahiro Seki (Niigata Univ.)	A Gentzen-style formulation for involutive substructural logics with contraposition . . . . .	15
<a href="#">01-01-0013</a>	7 Kenetsu Fujita (Gunma Univ.)	George Boolos’ “The Hardest Logic Puzzel Ever” revisited . . . . .	15
<a href="#">01-01-0015</a>	8 Tatsuya Shimura (Nihon Univ.)	A simple proof of a stronger version of disjunction property . . . . .	15
<a href="#">01-01-0007</a>	9 Yuya Okawa (Chiba Univ.) Taishi Kurahashi (Kobe Univ.)	Generalizations of Bennet’s result on partially conservative sentences . . . . .	15
<a href="#">01-01-0006</a>	10 Taishi Kurahashi (Kobe Univ.) Yuya Okawa (Chiba Univ.)	Sublogics of the interpretability logic <b>IL</b> . . . . .	15
<a href="#">01-01-0004</a>	11 Katsumi Sasaki (Nanzan Univ.)	Sequent systems without derivations with temporal assumptions . . . . .	15

September 25th (Fri)

## 9:30–10:50

<a href="#">01-01-0011</a>	12 Tomoya Machide (Nat. Inst. of Information)	On a formula for systems of Boolean polynomial equations and computational complexity . . . . .	15
<a href="#">01-01-0012</a>	13 Kenshi Miyabe (Meiji Univ.)	The rate of convergence of computable inductions . . . . .	15
<a href="#">01-01-0014</a>	14 Kohtaro Tadaki (Chubu Univ.)	A refinement of quantum information theory by algorithmic randomness III . . . . .	15
<a href="#">01-01-0008</a>	15 Toshimichi Usuba (Waseda Univ.)	On Reinhardt cardinals . . . . .	15
<a href="#">01-01-0009</a>	16 Diego A. Mejía (Shizuoka Univ.)	Lebesgue measure zero modulo ideals . . . . .	15

## 11:00–12:00 Talk Invited by Section on Foundation and History of Mathematics

<a href="#">01-02-0001</a>	Nobu-Yuki Suzuki (Shizuoka Univ.)	The disjunction and existence properties in intermediate predicate logics	
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## 12:10–12:30 Research Section Assembly

# Algebra

September 22nd (Tue)

## 9:40–12:00

02-01-0010

- 1 Takao Watanabe (Osaka Univ.) A gap of the exponents of repetitions of Sturmian words ..... 10  
Suzue Ohnaka  
 (Naruo Senior High School)

02-01-0037

- 2 Yasuhiro Terakado (Academia Sinica)<sup>b</sup> Hecke eigensystems of automorphic forms (mod  $p$ ) of Hodge type and algebraic modular forms ..... 10

02-01-0035

- 3 Toshiki Matsusaka (Nagoya Univ.) Trinity of the Eisenstein series ..... 15

02-01-0013

- 4 Akio Nakagawa (Chiba Univ.) Artin  $L$ -functions of diagonal hypersurfaces and generalized hypergeometric functions over finite fields ..... 15

02-01-0025

- 5 Genki Shibukawa (Kobe Univ.) Some singular values of the elliptic lambda function and incredible cubic identities ..... 10

02-01-0040

- 6 Wataru Takeda (Nagoya Univ.) On a kind of solutions to the Erdős last equation ..... 10

02-01-0015

- 7 Yasufumi Hashimoto Selberg's zeta function for the modular group in the critical strip .... 15  
 (Univ. of Ryukyus)

02-01-0005

- 8 Saburo Saitoh <sup>b</sup> Values of the Riemann zeta function at positive integers by means of the division by zero calculus ..... 10  
 (Inst. of Reproducing Kernels/Gunma Univ.\*)  
Tsutomu Matsuura (Gunma Univ.)  
Hiroshi Okumura

02-01-0041

- 9 Debika Banerjee (IIT-Delhi) On partial sum of Apostol's Möbius function ..... 10  
Yusuke Fujisawa  
Makoto Minamide (Yamaguchi Univ.)  
Yoshio Tanigawa

02-01-0014

- 10 Shigeru Iitaka (Gakushuin Univ.\*) Quasi-Mersenne primes and super-perfect numbers NEO ..... 10  
Hikaru Kajita  
 (Azaminodaiichi Elementary School)

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

02-02-0004

- Shuji Yamamoto (Keio Univ.) Zeta values of totally real number fields and the Shintani generating class

## 15:30–16:30

02-01-0045

- 11 Yugen Takegahara Lattice Burnside rings ..... 15  
 (Muroran Inst. of Tech.)  
Fumihito Oda (Kindai Univ.)

02-01-0022

- 12 Hiroki Shimakura (Tohoku Univ.) On automorphism groups of the holomorphic VOAs associated with Niemeier lattices and the  $-1$ -isometries ..... 10

02-01-0023

- 13 Bernhard Mühlherr (Univ. Giessen) Locally finite continuations and Coxeter groups of infinite ranks ..... 15  
Koji Nuida (Univ. of Tokyo)

## September 23rd (Wed)

**10:00–12:00**

02-01-0029

- 14 Makoto Enokizono (Tokyo Univ. of Sci.) Uniform bases for ideal arrangements ..... 15  
 Tatsuya Horiguchi (Osaka City Univ.)  
 Takahiro Nagaoka (Kyoto Univ.)  
 Akiyoshi Tsuchiya (Univ. of Tokyo)

02-01-0030

- 15 Makoto Enokizono (Tokyo Univ. of Sci.) An additive basis for the cohomology rings of regular nilpotent Hessenberg varieties ..... 10  
 Tatsuya Horiguchi (Osaka City Univ.)  
 Takahiro Nagaoka (Kyoto Univ.)  
 Akiyoshi Tsuchiya (Univ. of Tokyo)

02-01-0018

- 16 Toshiya Yurikusa (Tohoku Univ.) Complete special biserial algebras are  $g$ -tame ..... 15  
 Toshitaka Aoki (Nagoya Univ.)

02-01-0046

- 17 Sota Asai (Osaka Univ.) Wide intervals in lattices of torsion classes ..... 15

02-01-0050

- 18 Satoshi Usui (Tokyo Univ. of Sci.)<sup>b</sup> Comparison between the Yoneda product with the cup product on Tate–Hochschild cohomology for Frobenius algebras ..... 15

02-01-0051

- 19 Kota Murakami (Kyoto Univ.)<sup>b</sup> PBW parametrizations and generalized preprojective algebras ..... 15

02-01-0008

- 20 Mamoru Ueda (Kyoto Univ.) Affine super Yangians and rectangular  $W$ -superalgebras ..... 15

**13:00–14:00 Talk Invited by Algebra Section**

02-02-0003

- Soichi Okada (Nagoya Univ.) Schur's  $Q$ -functions and their generalizations

## September 24th (Thu)

**9:00–12:00**

02-01-0048

- 21 Takayuki Hibi (Osaka Univ.) The regularity and  $h$ -polynomial of Cameron–Walker graphs ..... 15  
Kyouko Kimura (Shizuoka Univ.)  
Kazunori Matsuda (Kitami Inst. of Tech.)  
 Adam Van Tuyl (McMaster Univ.)

02-01-0020

- 22 Akiyoshi Tsuchiya (Univ. of Tokyo) Initial ideals and their depth ..... 10  
Takayuki Hibi (Osaka Univ.)

02-01-0021

- 23 Hidefumi Ohsugi (Kwansei Gakuin Univ.) Nef-partitions arising from unimodular configurations ..... 15  
Akiyoshi Tsuchiya (Univ. of Tokyo)

02-01-0047

- 24 Kohsuke Shibata (Okayama Univ.) Minimal free resolutions of Specht ideals for  $(n-2, 2)$  and  $(d, d, 1)$  ..... 10  
Kohji Yanagawa (Kansai Univ.)

02-01-0002

- 25 Shuhei Tsujie (Hokkaido Univ. of Edu.) A combinatorial reciprocity for lattice points of the complement of Weyl subarrangements of type  $B$  ..... 10  
Masamichi Kuroda (Nippon Bunri Univ.)

02-01-0001

- 26 Jun Horiuchi (Nippon Inst. of Tech.) Some remarks on weak normality in the mixed characteristic case ..... 15  
Kazuma Shimomoto (Nihon Univ.)

<a href="#">02-01-0049</a>	27 Hiroki Matsui (Univ. of Tokyo)	Construction of spectra of triangulated categories and their applications to commutative algebra . . . . .	15
<a href="#">02-01-0043</a>	28 Takeshi Yoshizawa (Toyota Nat. Coll. of Tech.)	On the generalized torsion theory associated with a Serre subcategory . . . . .	10
<a href="#">02-01-0036</a>	29 Masaki Matsuno (Shizuoka Univ.)	The classification of twisted superpotentials of 3-dimensional quadratic AS-regular algebras whose point schemes are elliptic curves . . . . .	15
<a href="#">02-01-0042</a>	30 Haigang Hu (Shizuoka Univ.)	Classification of noncommutative conics associated to symmetric regular superpotentials . . . . .	15
<a href="#">02-01-0032</a>	31 Norihiro Hanihara (Nagoya Univ.)	Quasi-equivalence of DG orbit categories . . . . .	15
<a href="#">02-01-0039</a>	32 <u>Yoshiharu Shibata</u> (Yamaguchi Univ.) Yosuke Kuratomi (Yamaguchi Univ.)	On image summand coinvariant modules . . . . .	10

**14:15–14:30 Research Section Assembly****14:30–14:45 Presentation Ceremony for the 2020 MSJ Algebra Prize****14:50–15:50 Award Lecture for the 2020 MSJ Algebra Prize**

<a href="#">02-02-0002</a>	Ryo Takahashi (Nagoya Univ.)	Generation in module categories and derived categories of commutative rings	
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**16:00–17:00 Award Lecture for the 2020 MSJ Algebra Prize**

<a href="#">02-02-0001</a>	Takuzo Okada (Saga Univ.)	Birational Mori fiber structures of Fano varieties and its application to rationality problems	
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## September 25th (Fri)

**9:50–12:00**

<a href="#">02-01-0004</a>	33 Kaori Suzuki (Yokohama Nat. Univ.)	On codim 4 Fano 3-folds with large Fano index . . . . .	15
<a href="#">02-01-0016</a>	34 Yuto Yamamoto (IBS-CGP)	Periods of tropical Calabi–Yau hypersurfaces . . . . .	15
<a href="#">02-01-0017</a>	35 Yusuke Suyama (Osaka Univ.)	Fano generalized Bott manifolds . . . . .	10
<a href="#">02-01-0019</a>	36 Yusuke Suyama (Osaka Univ.)	Classification of toric log del Pezzo surfaces with few singular points . . . . .	10
<a href="#">02-01-0044</a>	37 Hideo Kojima (Niigata Univ.)	Structure of open rational surfaces of logarithmic Kodaira dimension $\leq 1$ . . . . .	15
<a href="#">02-01-0052</a>	38 Norihiko Minami (Nagoya Inst. of Tech.)	Sufficient criteria for some hierarchies stronger than Higher Uniruledness = Lower Unirationality, applied to smooth (weighted) complete intersections . . . . .	15
<a href="#">02-01-0033</a>	39 Akihiro Higashitani (Osaka Univ.)	Two polytopes arising from posets and combinatorial mutations . . . . .	15
<a href="#">02-01-0034</a>	40 Naoki Fujita (Univ. of Tokyo) <u>Akihiro Higashitani</u> (Osaka Univ.)	Newton–Okounkov bodies of flag varieties and combinatorial mutations . . . . .	15

**14:15–16:15**

02-01-0006

41 Yoshifumi Kato (Meijo Univ.) Curvature matrix of the universal bundle of the Grassmann variety ..... 15

02-01-0007

42 Yoshifumi Kato (Meijo Univ.) An observation on Schubert polynomials ..... 15

02-01-0009

43 Yoshifumi Kato (Meijo Univ.) Explicit integral formulas related to flag varieties ..... 15

02-01-0011

44 Kotaro Kawatani (Yamato Univ./Osaka Pref. Univ.) Stability conditions on a principle ideal domain ..... 15

02-01-0024

45 Koji Nuida (Univ. of Tokyo) An elementary linear-algebraic proof without heavy computation for the group law on elliptic curves ..... 10

02-01-0012

46 Tomohiro Iwami (Kyushu Inst. of Tech.)<sup>b</sup> Miyaoka–Yau type inequality driven by certain symmetric 2-forms on extremal neighborhood regarding to the associated 3rd Chern classes ..... 15

02-01-0031

47 Takeshi Usa (Univ. of Hyogo) A family of canonical curves with genus 5 and the degeneration of syzygies ..... 15

# Geometry

September 22nd (Tue)

## 10:00–12:00

- 03-01-0004  
1 Yuya Takeuchi (Osaka Univ.) A constraint on Chern classes of strictly pseudoconvex CR manifolds ..... 15
- 03-01-0005  
2 Yuya Takeuchi (Osaka Univ.) Stability of the existence of a pseudo-Einstein contact form ..... 15
- 03-01-0022  
3 Tsukasa Takeuchi (Tokyo Univ. of Sci.) Examples of 4 or 6-dimensional symplectic-Haantjes manifolds and about a relationship with recursion operators ..... 10
- 03-01-0019  
4 Koki Matsuzaka (Hokkaido Univ.) Toric construction of moduli space of quasi maps from  $\mathbb{P}^1$  with two marked points to  $\mathbb{P}^1 \times \mathbb{P}^1$  ..... 10
- 03-01-0013  
5 Kotaro Kawai (Gakushuin Univ.)  
Hikaru Yamamoto (Tokyo Univ. of Sci.) Deformation theory of deformed Hermitian Yang–Mills connections and deformed Donaldson–Thomas connections ..... 15
- 03-01-0011  
6 Yuichi Ike (Fujitsu Laboratories Ltd.)  
Tomohiro Asano (Univ. of Tokyo) Microlocal theory of sheaves and displacement energy ..... 15
- 03-01-0017  
7 Morimichi Kawasaki (Kyoto Univ.)  
Ryuma Orita (Niigata Univ.) Pseudoheavy subsets of symplectic manifolds ..... 10
- 03-01-0009  
8 Dounnu Sasaki (Waseda Univ.) Denseness property of geodesic currents on a cusped hyperbolic surface ..... 15

## 16:00–17:00 Talk Invited by Geometry Section

- 03-02-0001  
Hikaru Yamamoto (Tokyo Univ. of Sci.) Special Lagrangian submanifolds, mean curvature flows and their mirrors

September 23rd (Wed)

## 10:00–12:00

- 03-01-0002  
9 Takuma Tomihisa (Waseda Univ.)  
Yasushi Homma (Waseda Univ.) Spectra of the Rarita–Schwinger operator on some symmetric spaces ..... 10
- 03-01-0025  
10 Akinori Gondo (Hiroshima Univ.) Weakly reflective homogeneous hypersurfaces in noncompact symmetric spaces ..... 15
- 03-01-0016  
11 Masahiro Kawamata (Hiroshima Univ.)  
Hiroshi Tamaru (Osaka City Univ.) Left-invariant Ricci soliton metrics on some almost abelian Lie groups ..... 15
- 03-01-0006  
12 Hiroshi Sawai  
(Numazu Nat. Coll. of Tech.) On the structure theorem for Vaisman solvmanifolds ..... 15
- 03-01-0020  
13 Yuji Kondo (Hiroshima Univ.)  
Hiroshi Tamaru (Osaka City Univ.) A classification of left-invariant Lorentzian metrics on some nilpotent Lie groups ..... 15
- 03-01-0023  
14 Yasuki Tada (Hiroshima Univ.)  
Hiroshi Tamaru (Osaka City Univ.) On poles of quandles and quotients of Alexander quandles by poles ..... 15
- 03-01-0014  
15 Yu Kawakami (Kanazawa Univ.)  
Atsufumi Honda  
(Yokohama Nat. Univ.)  
Miyuki Koiso (Kyushu Univ.)  
Syunsuke Tori (Wajima High School) Heinz-type mean curvature estimates in Lorentz–Minkowski space ..... 15

**13:15–14:15 Award Lecture for the 2020 MSJ Geometry Prize**

10-02-0002

Mikiya Masuda (Osaka City Univ.)<sup>b</sup> Cohomological rigidity problem in toric topology

September 24th (Thu)

**9:45–12:00**

03-01-0021

16 Yusuke Shinoda (Okayama Univ.) On sufficient conditions to extend Huber's finite connectivity theorem  
Kei Kondo (Okayama Univ.) to higher dimensions ..... 15

03-01-0007

17 Tadashi Fujioka (Kyoto Univ.) A fibration theorem for collapsing sequences of Alexandrov spaces ..... 15

03-01-0018

18 Masayuki Aino (RIKEN)<sup>b</sup> Eigenvalue of Laplacian and Gromov–Hausdorff convergence to the  
product of spheres ..... 15

03-01-0015

19 Takumi Gomyou (Nagoya Univ.) Optimal embedding and maximization of the first eigenvalue of a finite  
graph ..... 15

Toshimasa Kobayashi (Setsunan Univ.)

Takefumi Kondo (Kagoshima Univ.)

Shin Nayatani (Nagoya Univ.)

03-01-0012

20 Taiki Yamada The lower bound of the eigenvalue of the Laplacian on simplicial com-  
(Res. Inst. for Humanity and Nature) plex by the Ricci curvature ..... 15

03-01-0024

21 Tetsu Toyoda (Kogakuin Univ.) A non-geodesic analogue of Reshetnyak's majorization theorem ..... 15

03-01-0010

22 Motoko Kato (Ehime Univ.) On acylindrical hyperbolicity of some Artin groups ..... 15  
Shin-ichi Oguni (Ehime Univ.)

03-01-0003

23 Yoshito Ishiki (Univ. of Tsukuba) An interpolation of metrics and spaces of metrics ..... 15**16:00–17:00 Talk Invited by Geometry Section**

03-02-0002

Atsushi Kanazawa (Kyoto Univ.)<sup>b</sup> Stability spaces and Weil–Petersson geometry



# Complex Analysis

September 22nd (Tue)

## 9:00–10:30

04-01-0001

- 1 Saburo Saitoh (Inst. of Reproducing Kernels/Gunma Univ.\*) Okumura's disc series can beyond the crucial point of Däumler–Puha's horn torus models for the Riemann sphere ..... 15

04-01-0017

- 2 Hiroki Fujino (Nagoya Univ.)  
Shintaro Akamine (Nihon Univ.) Correspondence between boundary value problems for harmonic mappings, minimal surfaces, and maximal surfaces ..... 15

04-01-0019

- 3 Gou Nakamura (Aichi Inst. of Tech.)<sup>b</sup> Automorphism groups of compact non-orientable surfaces of genus 6 with extremal metric discs ..... 15

04-01-0020

- 4 Ege Fujikawa (Tokyo Tech)<sup>b</sup> Asymptotically conformal invariance of the essential length spectrum on a Riemann surface ..... 15

04-01-0014

- 5 Katsuhiko Matsuzaki (Waseda Univ.)  
Huaying Wei (Jiangsu Normal Univ.) Strongly symmetric homeomorphisms on the real line with uniform continuity ..... 15

04-01-0015

- 6 Takayuki Watanabe (Kyoto Univ.)  
Hiroki Sumi (Kyoto Univ.) The dichotomy of Markov random dynamical systems of rational maps ..... 15

## 11:00–12:00 Award Lecture for the 2019 MSJ Analysis Prize

04-02-0001

- Hiroki Sumi (Kyoto Univ.) Various randomness-induced phenomena in random holomorphic dynamical systems and their mechanisms

## 14:15–15:55

04-01-0012

- 7 Takanori Ayano (Osaka City Univ.)  
Victor M. Buchstaber (Steklov Inst. of Math.) A refinement for the Hurwitz integrality of the series expansion of the two-dimensional sigma functions ..... 15

04-01-0016

- 8 Makoto Abe (Hiroshima Univ.)  
Tadashi Shima (Hiroshima Univ.)  
Shun Sugiyama (NEC Comm. Systems, Ltd.) Intermediate pseudoconvexity for unramified Riemann domains over  $\mathbb{C}^n$  ..... 10

04-01-0002

- 9 Yuta Kusakabe (Osaka Univ.)<sup>b</sup> Oka properties of complements of polynomially convex sets ..... 15

04-01-0003

- 10 Masataka Iwai (Osaka City Univ.)  
Sho Ejiri (Osaka Univ.)  
Shin-ichi Matsumura (Tohoku Univ.) On asymptotic base loci of relative anti-canonical divisors ..... 15

04-01-0005

- 11 Shinichi Tajima (Niigata Univ.\*)  
Katsusuke Nabeshima (Tokushima Univ.) Computing regular meromorphic differential forms via Saito's logarithmic residues ..... 15

04-01-0006

- 12 Shinichi Tajima (Niigata Univ.\*)  
Katsusuke Nabeshima (Tokushima Univ.) An implementation of the Suwa method for computing versal unfoldings of codimension one complex analytic singular foliations ..... 15

04-01-0013

- 13 Katsunori Iwasaki (Hokkaido Univ.)  
Yuta Takada (Hokkaido Univ.) From hypergeometric groups to Siegel disks on K3 surfaces ..... 15

## 16:00–17:00 Talk Invited by Complex Analysis Section

04-02-0002

- Yohei Komori (Waseda Univ.) On the growth rate of hyperbolic Coxeter groups

September 23rd (Wed)

**9:00–10:20**

04-01-0004

- 14 Tatsuhiro Honda (Senshu Univ.) Bohr's phenomenon on a complex Banach space ..... 15  
 Hidetaka Hamada  
 (Kyushu Sangyo Univ.)  
 Yusuke Mizota (Kyushu Sangyo Univ.)

04-01-0007

- 15 Ian Graham (Univ. of Toronto) Loewner chains and nonlinear resolvents of the Carathéodory family on  
Hidetaka Hamada the unit ball in  $\mathbb{C}^n$  ..... 15  
 (Kyushu Sangyo Univ.)  
 Gabriela Kohr (Babeş-Bolyai Univ.)

04-01-0008

- 16 Ian Graham (Univ. of Toronto)  $g$ -Loewner chains, Bloch functions and extension operators in complex  
Hidetaka Hamada Banach spaces ..... 15  
 (Kyushu Sangyo Univ.)  
 Gabriela Kohr (Babeş-Bolyai Univ.)  
 Mirela Kohr (Babeş-Bolyai Univ.)

04-01-0009

- 17 Hidetaka Hamada Support points for families of univalent mappings on bounded symmetric  
 (Kyushu Sangyo Univ.) domains ..... 15  
 Gabriela Kohr (Babeş-Bolyai Univ.)

04-01-0010

- 18 Hidetaka Hamada Closed range composition operators on the Bloch space of bounded  
 (Kyushu Sangyo Univ.) symmetric domains ..... 10

04-01-0011

- 19 Hidetaka Hamada Spiralshapelike mappings in several complex variables ..... 10  
 (Kyushu Sangyo Univ.)  
 Mihai Iancu (Babeş-Bolyai Univ.)  
 Gabriela Kohr (Babeş-Bolyai Univ.)

**11:00–12:00 Talk Invited by Complex Analysis Section**

04-02-0004

- Shin-ichi Matsumura (Tohoku Univ.)<sup>b</sup> Structure theorems on projective manifolds with non-negative curvature

## Functional Equations

September 22nd (Tue)

### 9:30–11:30

- 05-01-0048  
1 Hiroto Inoue (Kyushu Univ.) Matrix-valued Bratu equation associated with the symmetric domain of type BDI ..... 15
- 05-01-0011  
2 Masatoshi Suzuki (Tokyo Tech) On a system of partial differential equations and entire functions of Hermite–Biehler class. II ..... 10
- 05-01-0041  
3 Atsuhide Ishida (Tokyo Univ. of Sci.) On minimal velocity estimate in fractional relativistic mechanics ..... 10
- 05-01-0032  
4 Hiroyuki Usami (Gifu Univ.) Asymptotic forms of solutions of perturbed half-linear equations ..... 15  
Luey Sokea (Gifu Univ.)
- 05-01-0001  
5 Tetsutaro Shibata (Hiroshima Univ.) Asymptotic expansion of oscillatory bifurcation curves of ODEs with nonlinear diffusion ..... 15
- 05-01-0004  
6 Ryuji Kajikiya (Saga Univ.) Existence of symmetric and asymmetric nodal solutions for the Moore–Nehari equation. .... 15
- 05-01-0027  
7 Tatsuki Mori (Musashino Univ.) On the secondary bifurcation curves of a nonlocal Allen–Cahn–Nagumo equation ..... 10  
Kousuke Kuto (Waseda Univ.)  
Tohru tsujikawa (Meiji Univ.)  
Shoji Yotsutani (Ryukoku Univ.\*)

### 14:15–16:15

- 05-01-0014  
8 Toshio Horiuchi (Ibaraki Univ.) Hardy’s inequalities with non-doubling weights and sharp remainders ..... 15
- 05-01-0044  
9 Naoki Hamamoto (Osaka City Univ.) The best constant in Rellich–Hardy inequality for curl-free fields ..... 12  
Futoshi Takahashi (Osaka City Univ.)
- 05-01-0020  
10 Takanobu Hara (Hokkaido Univ.) Quasilinear elliptic equations with sub-natural growth terms in bounded domains ..... 10
- 05-01-0005  
11 Alessio Pomponio (Politecnico di Bari) Ground state solutions for quasilinear scalar field equations arising in nonlinear optics ..... 15  
Tatsuya Watanabe  
(Kyoto Sangyo Univ.)
- 05-01-0015  
12 Yohei Sato (Saitama Univ.) Nonlinear scalar field equations with Berestycki–Lions’ nonlinearity on large domains ..... 15  
Masataka Shibata (Tokyo Tech)
- 05-01-0017  
13 Yasuhiro Fujita (Univ. of Toyama) Propagation of singularities in a Hamilton–Jacobi equation with the initial data of the Takagi function ..... 15  
Nao Hamamuki (Hokkaido Univ.)  
Norikazu Yanaguchi (Univ. of Toyama)
- 05-01-0028  
14 Kazuhiro Takimoto (Hiroshima Univ.) Bernstein type theorem for the parabolic 2-Hessian equation under weaker conditions ..... 15

### 16:30–17:30 Award Lecture for the 2019 MSJ Analysis Prize

- 05-02-0004  
Hidetaka Sakai (Univ. of Tokyo)<sup>b</sup> The world of the Painlevé equations

## September 23rd (Wed)

**9:30–11:30**

05-01-0025

15 Ryu Fujiwara (Meiji Univ.) Existence of discontinuous stationary solutions of a nonlocal Allen–Cahn equation . . . . . 15

05-01-0035

16 Yuta Ishii (Tokyo Metro. Univ.) Existence of multi-peak stationary solutions to the Schnakenberg model  
Kazuhiro Kurata (Tokyo Metro. Univ.) on metric graphs . . . . . 15

05-01-0036

17 Yuta Ishii (Tokyo Metro. Univ.) Stability analysis of multi-peak stationary solutions to the Schnakenberg model on metric graphs . . . . . 15

05-01-0002

18 Yasuhito Miyamoto (Univ. of Tokyo) A doubly critical semilinear heat equation in the  $L^1$  space . . . . . 10

05-01-0003

19 Marius Ghergu (UCD) Radial single point rupture solutions for a general MEMS model . . . . . 10  
Yasuhito Miyamoto (Univ. of Tokyo)

05-01-0046

20 Asato Mukai (Univ. of Tokyo) Refined construction of type II blow-up solutions for a semilinear heat equation with Joseph–Lundgren supercritical nonlinearity . . . . . 12  
Yukihiro Seki (Osaka City Univ.)

05-01-0012

21 Isamu Ohnishi (Hiroshima Univ.) Characterization to behavior of solutions in semi-linear parabolic PDEs with a certain additional term . . . . . 15

**13:00–14:00 Talk Invited by Functional Equations Section**

05-02-0001

Sohei Ashida (Gakushuin Univ.) Accurate lower bounds for eigenvalues of electronic Hamiltonians

## September 24th (Thu)

**9:30–11:30**

05-01-0033

22 Jumpei Inoue (Waseda Univ.) On the optimal distribution and the existence of an  $L^1$ -unbounded  
Kousuke Kuto (Waseda Univ.) sequence of steady states for the diffusive logistic equation . . . . . 15

05-01-0043

23 Yoshie Sugiyama (Osaka Univ.) On Hölder continuity of solutions to non-linear diffusion equation with  
Masanari Miura (Yamato Univ.) derivative external forces . . . . . 15  
Seungwon Jeong (Seoul Nat. Univ.)

05-01-0030

24 Yutaro Chiyo (Tokyo Univ. of Sci.) Does the repulsion term really derive boundedness in a chemotaxis  
Masaaki Mizukami system? . . . . . 15  
(Tokyo Univ. of Sci.)  
Tomomi Yokota (Tokyo Univ. of Sci.)

05-01-0026

25 Sachiko Ishida (Chiba Univ.) Stabilization of weak solution to parabolic equations with  $L^1$ -conservation  
Tomomi Yokota (Tokyo Univ. of Sci.) law. . . . . 15

05-01-0019

26 Takayoshi Ogawa (Tohoku Univ.) Zero relaxation limit for the Keller–Segel equation to the drift-diffusion  
Masaki Kurokiba system . . . . . 15  
(Muroran Inst. of Tech.)

05-01-0031

27 Yuya Tanaka (Tokyo Univ. of Sci.) Does blow-up occur in a Keller–Segel system not only with logistic  
Tomomi Yokota (Tokyo Univ. of Sci.) source but also with weak chemotactic sensitivity? . . . . . 15

05-01-0042

28 Kentarou Fujie (Tohoku Univ.) Comparison methods for a Keller–Segel-type model . . . . . 10  
Jie Jiang (WIPM)

**12:15–12:35 Presentation Ceremony for the 2020 MSJ Analysis Prize****14:15–16:15**

05-01-0040

29 Masamitsu Suzuki (Univ. of Tokyo) Local existence and nonexistence for fractional in time weakly coupled reaction-diffusion systems ..... 10

05-01-0037

30 Tsukasa Iwabuchi (Tohoku Univ.) Analyticity and large time behavior for the Burgers equation with the critical dissipation ..... 10

05-01-0039

31 Noboru Chikami (Nagoya Inst. of Tech.) Behavior of solutions to the energy critical Hardy–Hénon parabolic equation ..... 10  
Masahiro Ikeda (RIKEN/Keio Univ.)  
Koichi Taniguchi (Nagoya Univ.)

05-01-0008

32 Yoshinori Nishii (Osaka Univ.) Energy decay for small solutions to semilinear wave equations with weakly dissipative structure ..... 12  
Hideaki Sunagawa (Osaka City Univ.)  
Hiroki Terashita

05-01-0038

33 Yusuke Sugiyama (Univ. of Shiga Pref.) Finite time blow-up for parameterized 1D quasilinear wave equations ..... 10

05-01-0018

34 Mamoru Okamoto (Osaka Univ.) On the ill-posedness of the Cauchy problem for the nonlinear wave equation ..... 10  
Justin Forlano (Heriot-Watt Univ.)

05-01-0016

35 Takashi Suzuki (Osaka Univ.) Minkowski metric and interface vanishing of non-stationary Maxwell equation ..... 5

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

05-02-0003

Kousuke Kuto (Waseda Univ.) Cross-diffusion limit in the stationary SKT model

September 25th (Fri)

**9:30–11:30**

05-01-0013

36 Hiromichi Itou (Tokyo Univ. of Sci.) On flat-punch indentation problems within the context of linearized viscoelasticity ..... 15  
Victor A. Kovtunenکو (Univ. of Graz/Lavrentyev Inst. of Hydrodynamics)  
Kumbakonam R. Rajagopal (Texas A&M Univ.)

05-01-0023

37 Tetu Makino (Yamaguchi Univ.\*) On the existence of g-modes in adiabatic non-radial oscillations of gaseous stars ..... 15

05-01-0029

38 Takuya Sato (Tohoku Univ.)<sup>b</sup>  $L^2$ -decay for the one dimensional dissipative nonlinear Schrödinger equation in a critical exponent ..... 15  
Takayoshi Ogawa (Tohoku Univ.)

05-01-0010

39 Chunhua Li (Yanbian Univ.) Large time asymptotics for a cubic nonlinear Schrödinger system in one space dimension, II ..... 12  
Yoshinori Nishii (Osaka Univ.)  
Yuji Sagawa  
Hideaki Sunagawa (Osaka City Univ.)

05-01-0049

40 Masaru Hamano (Saitama Univ.) For equivalence of conditions on initial data to the nonlinear Schrödinger equation with an inverse power potential ..... 10  
Masahiro Ikeda (RIKEN/Keio Univ.)

05-01-0034

41 Tomoyuki Tanaka (Nagoya Univ.) Well-posedness for the fourth-order Schrödinger equation with third order derivative nonlinearities ..... 15  
Hiroyuki Hirayama (Univ. of Miyazaki)  
Masahiro Ikeda (RIKEN/Keio Univ.)

05-01-0045

42 Yohei Yamazaki (Hiroshima Univ.) Center stable manifolds around line solitary waves of the Zakharov–Kuznetsov equation with critical speed ..... 10

**14:15–16:15**

05-01-0009

43 Yuuki Shimizu (Kyoto Univ.) A current-valued solution of the Euler equations on surfaces and its applications ..... 15

05-01-0006

44 Kohei Nakao (Nagano Univ.) On time-periodic solutions to the Boussinesq equations in exterior domains ..... 10

05-01-0047

45 Takahiro Okabe (Osaka Univ.) Annihilation of slow-decay factors of the Navier–Stokes flow by the external force ..... 12

05-01-0007

46 Itsuko Hashimoto Existence of radially symmetric stationary solutions for the compressible Navier–Stokes equation ..... 10  
(Kanazawa Univ./Osaka City Univ.)  
Akitaka Matsumura (Osaka Univ.)

05-01-0021

47 Masahiro Suzuki (Nagoya Inst. of Tech.) Stationary solutions to the Euler–Poisson equations in a perturbed half-space ..... 15  
Masahiro Takayama (Keio Univ.)

05-01-0022

48 Masahiro Suzuki (Nagoya Inst. of Tech.) Stationary solutions to the Navier–Stokes equations in a perturbed half-space ..... 15  
Katherine Zhiyuan Zhang  
(Brown Univ.)

05-01-0024

49 Yusuke Ishigaki (Tokyo Tech) Diffusion wave phenomena and  $L^p$  decay estimates of solutions of compressible viscoelastic system ..... 15

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

05-02-0002

Jun-ichi Segata (Kyushu Univ.) Long time behavior of solution to the nonlinear Schrödinger equation with delta potential

# Real Analysis

September 24th (Thu)

## 10:00–11:55

- 06-01-0013  
1 Neal Bez (Saitama Univ.) Inverse Brascamp–Lieb inequalities via the heat equation ..... 15  
Shohei Nakamura (Saitama Univ.)
- 06-01-0008  
2 Aoi Honda (Kyushu Inst. of Tech.) Generalization of  $k$ -order additive monotone measure for nondiscrete  
Ryoji Fukuda (Oita Univ.) space ..... 15  
Yoshiaki Okazaki  
(Fuzzy Logic Systems Inst.)
- 06-01-0017  
3 Sachiko Atsushiba Fixed points and convergence of orbits of nonexpansive semigroups ... 15  
(Tokyo Woman's Christian Univ.)
- 06-01-0002  
4 Yukino Tomizawa Uniform convexity of complete Busemann spaces ..... 15  
(Niigata Inst. of Tech.)
- 06-01-0022  
5 Masahiro Ikeda (RIKEN/Keio Univ.)<sup>b</sup> Composition operators on reproducing kernel Hilbert spaces with ana-  
Isao Ishikawa (Ehime Univ.) lytic positive definite functions ..... 10  
Yoshihiro Sawano (Chuo Univ.)
- 06-01-0005  
6 Naoya Hatano (Chuo Univ./RIKEN) Boundedness of composition operators on Morrey spaces ..... 15  
Masahiro Ikeda (RIKEN)  
Isao Ishikawa (Ehime Univ.)  
Yoshihiro Sawano (Chuo Univ.)
- 06-01-0016  
7 Yoichi Miyazaki (Nihon Univ.) A proof of the Gagliardo–Nirenberg inequality with BMO term via  
Muramatu's integral formula ..... 15

## 14:15–14:45

- 06-01-0012  
8 Ryota Kawasumi Weak-weak boundedness of commutators of generalized fractional inte-  
gral operators with functions in Campanato spaces ..... 15
- 06-01-0010  
9 Ryota Kawasumi Generalized fractional integral and maximal operators on Orlicz–Morrey  
Eiichi Nakai (Ibaraki Univ.) and weak Orlicz–Morrey spaces ..... 15  
Minglei Shi (Ibaraki Univ.)

## 15:00–16:00 Talk Invited by Real Analysis Section

- 06-02-0002  
Gaku Sadasue (Osaka Kyoiku Univ.) Martingale spaces and fractional integrals

September 25th (Fri)

## 9:45–12:00

- 06-01-0007  
10 Chiharu Kosugi (Japan Women's Univ.) Uniqueness of weak solutions to initial and boundary value problems  
Toyohiko Aiki (Japan Women's Univ.) representing motion of the elastic material on plane ..... 15
- 06-01-0015  
11 Makoto Okumura (Osaka Univ.) A structure-preserving scheme for the Cahn–Hilliard equation with  
dynamic boundary conditions which has the total mass conservation  
..... 15
- 06-01-0021  
12 Masaaki Mizukami Uniform-in-time estimates for solutions of a chemotaxis-competition  
(Tokyo Univ. of Sci.) model and those of the Lotka–Volterra competition model ..... 15

06-01-0018

- 13 Yutaka Tsuzuki (Hiroshima Shudo Univ.) Existence for initial–boundary value problems for Vlasov–Poisson equations with angle error in magnetic field ..... 15

06-01-0009

- 14 Shodai Kubota (Chiba Univ.) Ken Shirakawa (Chiba Univ.) Optimal control problems for multidimensional systems of Kobayashi–Warren–Carter type ..... 15

06-01-0011

- 15 Takeshi Fukao (Kyoto Univ. of Edu.) Pierluigi Colli (Univ. of Pavia) Vanishing diffusion in a dynamic boundary condition for the Cahn–Hilliard equation ..... 15

06-01-0014

- 16 Ken Shirakawa (Chiba Univ.) Hiroshi Watanabe (Oita Univ.) Sufficient condition for the existence of one-dimensional crystalline solution of the Kobayashi–Warren–Carter type system ..... 15

06-01-0004

- 17 Noriaki Yamazaki (Kanagawa Univ.) Nobuyuki Kenmochi (Chiba Univ.\*) Ken Shirakawa (Chiba Univ.) Control of parameter-dependent evolution equations governed by time-dependent subdifferentials ..... 15

**14:15–15:15**

06-01-0019

- 18 Kota Kumazaki (Nagasaki Univ.)<sup>b</sup> Large time behavior of a solution of a one-dimensional free boundary problem describing water swelling ..... 15

06-01-0020

- 19 Shun Uchida (Oita Univ.) Solvability of doubly nonlinear parabolic equations with  $p$ -Laplacian ..... 15

06-01-0006

- 20 Hiroshi Watanabe (Oita Univ.) Traveling waves with multiple points of discontinuities to scalar parabolic-hyperbolic conservation laws ..... 15

06-01-0003

- 21 Toshitaka Matsumoto (Shizuoka Univ.) Hirokazu Oka (Ibaraki Univ.) Naoki Tanaka (Shizuoka Univ.) Well-posedness and approximation solvability for evolution equations governed by quasilinear operators satisfying Carathéodory’s conditions ..... 15

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

06-02-0001

- Keisuke Takasao (Kyoto Univ./Kyoto Univ.) On the existence of the weak solution for the mean curvature flow with forcing term via the phase field method



# Functional Analysis

September 22nd (Tue)

## 10:00–11:45

07-01-0005

- 1 Hiroshi Inoue (Daiichi Univ. of Pharm.) Non-self-adjoint hamiltonians defined by biorthogonal sequences and sesquilinear forms ..... 15

07-01-0016

- 2 Amane Kiyose On the Mourre estimates for Floquet Hamiltonians ..... 15  
Tadayoshi Adachi (Kyoto Univ.)

07-01-0002

- 3 Kyohei Itakura (Ritsumeikan Univ.) Stationary scattering theory for repulsive Hamiltonians ..... 15

07-01-0015

- 4 Toshimitsu Takaesu (Gunma Univ.) Scaling limits with a removal of ultraviolet cutoffs for the system of semi-relativistic particles coupled to a Klein–Gordon field ..... 15

07-01-0006

- 5 Yoritaka Iwata (Kansai Univ.) Application of abstract Miura transform to higher order abstract evolution equations ..... 15

07-01-0001

- 6 Shuji Watanabe (Gunma Univ.) An operator-theoretical treatment of the specific heat of a superconductor in the BCS-Bogoliubov model of superconductivity ..... 15

## 14:15–15:15 Award Lecture for the 2019 MSJ Analysis Prize

07-02-0004

- Fumio Hiroshima (Kyushu Univ.) Renormalization and the ground state by functional integrations

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

07-02-0003

- Fumihiko Nakano (Tohoku Univ.)<sup>b</sup> Scaling limit of the eigenvalues and eigenfunctions of 1-dimensional random Schrödinger operators

September 23rd (Wed)

## 10:30–11:45

07-01-0007

- 7 Koei Kawamura (Kyoto Univ.)<sup>b</sup> Decomposition of spherical representations and an addition theorem for multivariate hypergeometric polynomials ..... 15

07-01-0003

- 8 Hideto Nakashima (Nagoya Univ.) On Capelli-type identities of rings of invariant differential operators on generalized Vinberg cones ..... 15

07-01-0004

- 9 Nobukazu Shimeno An extension of Pizzetti's formula in Dunkl analysis ..... 15  
(Kwansei Gakuin Univ.)  
Naoya Tani (Kwansei Gakuin Univ.)

07-01-0012

- 10 Nobukazu Shimeno Hypergeometric Fourier transform associated with a root system of type  $BC$  ..... 15  
(Kwansei Gakuin Univ.)  
Tatsuo Honda  
Hiroshi Oda (Takushoku Univ.)

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

07-02-0002

- Ryosuke Nakahama (Kyushu Univ.) Construction of intertwining operators for restriction of holomorphic discrete series representations

September 24th (Thu)

**10:00–12:00**

07-01-0008

- 11 Kiyoki Tanaka (Daido Univ.) Essential norm estimates for little Hankel operators on Bergman spaces  
 Satoshi Yamaji  
 (Kobe City Coll. of Tech.) ..... 15

07-01-0010

- 12 Yasuo Iida (Kanazawa Med. Univ.) Bounded subsets of the Zygmund  $F$ -algebra ..... 15

07-01-0014

- 13 Sei-Ichiro Ueki (Tokai Univ.) Isometries of the Novinger–Oberlin type Privalov space ..... 10

07-01-0017

- 14 Shiho Oi (Niigata Univ.) Surjective linear isometries on algebras of Lipschitz maps with the values in the matrix algebra ..... 15

07-01-0019

- 15 Norio Niwa (Nihon Univ.) Surjective isometries on a Banach space of analytic functions on the open unit disc, II ..... 15  
 Takeshi Miura (Niigata Univ.)

07-01-0013

- 16 Takeshi Miura (Niigata Univ.) On surjective isometries on Lipschitz space of analytic functions ..... 15

07-01-0009

- 17 Hironao Koshimizu Surjective isometries on uniform algebra valued  $C^1$  space ..... 15  
 (Yonago Nat. Coll. of Tech.)  
 Takeshi Miura (Niigata Univ.)

**14:15–15:10**

07-01-0020

- 18 Hiroyasu Hamada  $C^*$ -algebras generated by multiplication operators and composition operators by functions with self-similar branches ..... 15  
 (Sasebo Nat. Coll. of Tech.)

07-01-0018

- 19 Masaru Nagisa (Chiba Univ.) Subspaces generated by orthonormal vectors of some Schmidt ranks ... 15  
 Hiroyuki Osaka (Ritsumeikan Univ.)  
 Priyabrata Bag  
 (Narsee Monjee Inst. of Management Stud.)  
 Santanu Dey  
 (Indian Inst. of Tech. Bombay)

07-01-0011

- 20 Yuki Seo (Osaka Kyoiku Univ.) Norm inequalities of  $n$ -variable matrix geometric means ..... 15

**15:20–16:20 Talk Invited by Functional Analysis Section**

07-02-0001

- Keiichi Watanabe (Niigata Univ.)<sup>b</sup> On Möbius gyrovector spaces and a class of continuous mappings between them

## Statistics and Probability

September 22nd (Tue)

### 9:00–12:00

- 08-01-0006  
1 Yuki Tokushige (Kyoto Univ.)<sup>b</sup> Biased RWs on random trees ..... 15
- 08-01-0015  
2 Yuto Nakajima (Kyoto Univ.) Dimensions of slices through the Sierpiński gasket ..... 15
- 08-01-0009  
3 Shoto Osaka (Yokohama Nat. Univ.) On the rate of convergence for Takagi class functions ..... 15  
Masato Takei (Yokohama Nat. Univ.)
- 08-01-0016  
4 Johannes Jaerisch (Nagoya Univ.) Mixed Birkhoff spectra of one-dimensional Markov maps ..... 15  
Hiroki Takahasi (Keio Univ.)
- 08-01-0007  
5 Kiyoi Hoshino (Osaka Pref. Univ.) On a Riemann approximation of the stochastic integral ..... 15
- 08-01-0023  
6 Mitsumasa Ikeda (Osaka Univ.) A new discretization scheme for one dimensional stochastic differential equations using time change method ..... 15
- 08-01-0008  
7 Yushi Hamaguchi (Kyoto Univ.) Time-inconsistent stochastic recursive control and backward stochastic Volterra integral equations ..... 15
- 08-01-0018  
8 Naoyuki Ichihara Phase transitions arising in stochastic ergodic control with bounded inward drift ..... 15  
(Aoyama Gakuin Univ.)
- 08-01-0031  
9 Katsuya Kojo On the determinism of multivariate symmetric stable distributions whose spectral measures are constructed by point masses ..... 10  
(Nat. Inst. of Tech., Niihama Coll.)
- 08-01-0014  
10 Jorge González Cázares<sup>b</sup> The density of a stable process and its maximum ..... 15  
(Warwick Univ./The Alan Turing Inst.)  
Higa Aruturo Kohatsu  
(Ritsumeikan Univ.)  
Aleksandar Mijatović  
(Warwick Univ./The Alan Turing Inst.)
- 08-01-0010  
11 Yuta Arai (Chiba Univ.) The KPZ fixed point for discrete time geometric TASEP ..... 15
- 08-01-0034  
12 Hiroshi Kawabi (Keio Univ.)<sup>b</sup> Uniqueness of Dirichlet forms related to stochastic quantization under exponential/trigonometric interactions on the two-dimensional torus .. 15  
Sergio Albeverio (Univ. of Bonn)  
Stefan-Radu Mihalache (BaFin)  
Michael Röckner (Bielefeld Univ.)

### 14:20–15:20 Talk Invited by Statistics and Probability Section

- 08-02-0003  
Yoshihiro Abe (Chiba Univ.) Covering problems for random walks

### 15:40–16:40 Talk Invited by Statistics and Probability Section

- 08-02-0004  
Makoto Katori (Chuo Univ.) Elliptic extensions of determinantal point processes

September 23rd (Wed)

### 9:00–11:15

- 08-01-0027  
13 Toshiharu Fujita On policy for Markov decision process with converging branch system ..... 10  
(Kyushu Inst. of Tech.)

08-01-0029			
14	<u>Shoko Chisaki</u> (Osaka Inst. of Tech.) Nobuko Miyamoto (Tokyo Univ. of Sci.) Ryoh Fuji-Hara (Univ. of Tsukuba*)	Uniform dropout designs with applications	15
08-01-0026			
15	<u>Xiao-Nan Lu</u> (Univ. of Yamanashi) Miwako Mishima (Gifu Univ.) Nobuko Miyamoto (Tokyo Univ. of Sci.) Masakazu Jimbo (Chubu Univ.)	Circulant almost orthogonal arrays and perfect binary sequences	15
08-01-0022			
16	<u>Kazuki Matsubara</u> (Chuo Gakuin Univ.) Sanpei Kageyama (Hiroshima Univ.*)	The existence of perpendicular multi-arrays	15
08-01-0030			
17	<u>Naoto Shimaru</u> (Okayama Univ. of Sci.) Toshifumi Nagayoshi (Okayama Univ. of Sci.) Hiroki Sato (Okayama Univ. of Sci.)	On the $\chi^2$ statistics of leading digits of irrational rotations with a large first or second partial quotient	10
08-01-0017			
18	<u>Koshiro Yonenaga</u> (Hokkaido Univ.) Akio Suzukawa (Hokkaido Univ.)	On exact distributions of the linear discriminant function in a Bayesian setting	15
08-01-0024			
19	<u>Ayaka Yagi</u> (Tokyo Univ. of Sci.) Mizuki Onozawa (Showa Elementary School) Takashi Seo (Tokyo Univ. of Sci.)	A new test statistic for two mean vectors with two-step monotone missing data	15
08-01-0005			
20	Yoshihide Kakizawa (Hokkaido Univ.)	Multivariate BS type distribution and its application to nonparametric density estimation	15
08-01-0003			
21	Gaku Igarashi (Univ. of Tsukuba)	A test on discontinuity of densities using nonparametric beta kernel density ratio estimation	15

## 11:30–12:00 Research Section Assembly

September 24th (Thu)

### 9:00–11:50

08-01-0013			
22	Yuichi Goto (Waseda Univ.)	Distribution free tests for structural break of counting processes	15
08-01-0033			
23	Yujie Xue (Waseda Univ.)	The pros of cons on the combination of linear quantile regression and LASSO with long-memory disturbances	15
08-01-0028			
24	<u>Yan Liu</u> (Waseda Univ.) Akitoshi Kimura (Waseda Univ.) Masanobu Taniguchi (Waseda Univ.) Hernando Ombao (King Abdullah Univ. of Sci. Tech.)	Topological analysis for local Granger causality	15
08-01-0020			
25	<u>Fumiya Akashi</u> (Univ. of Tokyo) Holger Dette (Ruhr-Univ. Bochum)	Robust regression on hyper-spheres with unspecified heteroscedastic errors	15
08-01-0021			
26	<u>Fumiya Akashi</u> (Univ. of Tokyo) Junichi Hirukawa (Niigata Univ.) Konstantinos Fokianos (Lancaster Univ.)	Inference for heavy-tailed time varying processes by self-weighting	15

- 08-01-0019  
27 Atina Husnaqilati (Tohoku Univ.) Component retention to microarray datasets and Marčhenko–Pastur setting ..... 15  
Yohji Akama (Tohoku Univ.)
- 08-01-0001  
28 Koji Tsukuda (Kyushu Univ.) High-dimensional limit theorem associated with trace of four Wishart matrices and its application ..... 15  
Shun Matsuura (Keio Univ.)
- 08-01-0025  
29 Aki Ishii (Tokyo Univ. of Sci.) A test procedure for high-dimensional eigenvectors ..... 15  
Kazuyoshi Yata (Univ. of Tsukuba)  
Makoto Aoshima (Univ. of Tsukuba)
- 08-01-0012  
30 Yugo Nakayama (Kyoto Univ.) Clustering by kernel principal component analysis for high-dimensional data ..... 15  
Kazuyoshi Yata (Univ. of Tsukuba)  
Makoto Aoshima (Univ. of Tsukuba)
- 08-01-0032  
31 Noboru Nomura (Kochi Univ.) Evaluation of derivatives in the calculation of orthant probabilities with orthogonal projection ..... 15
- 14:20–15:20 Talk Invited by Statistics and Probability Section**
- 08-02-0001  
Yuta Koike (Univ. of Tokyo) Recent progress in high-dimensional central limit theorems
- 15:40–16:40 Talk Invited by Statistics and Probability Section**
- 08-02-0002  
Kou Fujimori (Shinshu Univ.) The Dantzig selector for statistical models of stochastic processes in high-dimensional and sparse settings

## Applied Mathematics

September 22nd (Tue)

### 9:50–11:45

09-01-0029

- 1 Tatsuya Tsurii (Osaka Univ. of Human Sci.)  
Naoharu Ito (Nara Univ. of Edu.)  
Toyoki Matsuyama (Nara Univ. of Edu.)
- Periodicity of  $n$ -state Fourier walks on complete graphs with self-loops ..... 10

09-01-0052

- 2 Ayaka Ishikawa (Yokohama Nat. Univ.)
- A family of quantum walks on finite graphs ..... 15

09-01-0001

- 3 Kaname Matsue (Kyushu Univ.)  
Etsuo Segawa (Yokohama Nat. Univ.)
- An interpolation between unitary quantum walk and open quantum random walk ..... 15

09-01-0012

- 4 Iwao Sato (Oyama Nat. Coll. of Tech.)  
Norio Konno (Yokohama Nat. Univ.)  
Hideo Mitsunashi (Hosei Univ.)  
Hideaki Morita (Muroan Inst. of Tech.)
- The trace formula with respect to the Grover matrix of a graph ..... 15

09-01-0033

- 5 Hideaki Morita (Muroan Inst. of Tech.)
- On the Hashimoto expression for graph zeta functions ..... 15

09-01-0041

- 6 Masato Kobayashi (Kanagawa Univ.)<sup>b</sup>
- $q$ -determinant,  $q$ -Vandermonde and signed bigrassmannian polynomials ..... 15

09-01-0034

- 7 Yasuhide Numata (Shinshu Univ.)  
Akiko Yazawa (Shinshu Univ.)
- The eigenvalues of a matrix defined by the complete graph with selfloops ..... 15

### 14:15–15:30

09-01-0057

- 8 Masahiro Hachimori (Univ. of Tsukuba)
- Nonpure simplicial complexes and sequential partitionability ..... 15

09-01-0045

- 9 Mitsuhiro Miyazaki (Kyoto Univ. of Edu.)
- On the Gorenstein property of the Ehrhart rings of some types of stable set polytopes of a graph ..... 15

09-01-0037

- 10 Hiroki Kajiura (Hiroshima Univ.)  
Makoto Matsumoto (Hiroshima Univ.)  
Takayuki Okuda (Hiroshima Univ.)
- Integration error bounds for a finite subset of commutative association schemes and a generalization of difference sets. .... 15

09-01-0038

- 11 Hiroki Kajiura (Hiroshima Univ.)
- A generalization of difference sets to association schemes and 2-designs ..... 15

09-01-0043

- 12 Shohei Satake (Kumamoto Univ.)
- Near-homogeneous tournaments from almost difference sets ..... 15

### 15:45–16:45 Talk Invited by Applied Mathematics Section

09-02-0003

- Masanori Sawa (Kobe Univ.)
- The construction theory of cubature formulas with applications to numerical analysis and statistics

September 23rd (Wed)

### 9:50–12:00

09-01-0002

- 13 Kiyoshi Ando (Nat. Inst. of Information)
- Contractible edges in  $k$ -connected graphs with minimum degree greater than or equal to  $\lfloor \frac{3k-1}{2} \rfloor$  ..... 15

09-01-0005		
14	<u>Shinya Fujita</u> (Yokohama City Univ.) Sergey Kitaev (Univ. of Strathclyde) Shizuka Sato (Yokohama City Univ.) Li-Da Tong (Nat. Sun Yat-sen Univ.)	On properly ordered coloring of vertices in a vertex-weighted graph ..... 10
09-01-0042		
15	Ronald J. Gould (Emory Univ.) <u>Kazuhide Hirohata</u> (Ibaraki Nat. Coll. of Tech.) Ariel Keller Rorabaugh (Univ. of Tennessee)	Vertex-disjoint chorded cycles and degree sum condition ..... 10
09-01-0027		
16	Naoki Matsumoto (Keio Univ.)	On the difference between game chromatic number and chromatic number of graphs ..... 10
09-01-0014		
17	Kenta Noguchi (Tokyo Univ. of Sci.)	Proper orientation number of planar graphs ..... 10
09-01-0015		
18	<u>Shunichi Maezawa</u> (Yokohama Nat. Univ.) Kenta Ozeki (Yokohama Nat. Univ.)	A forbidden pair for the existence of spanning $k$ -trees in graphs ..... 15
09-01-0026		
19	<u>Toshiki Abe</u> (Yokohama Nat. Univ.) Kenta Ozeki (Yokohama Nat. Univ.) Seog-Jin Kim (Konkuk Univ.)	Alon–Tarsi number of $K_5$ -minor-free graphs ..... 15
09-01-0024		
20	<u>Atsuhiko Nakamoto</u> (Yokohama Nat. Univ.) Fumiya Hidaka (Yokohama Nat. Univ.)	Quadrangulations of a polygon with spirality ..... 15
09-01-0051		
21	<u>Atsuhiko Nakamoto</u> (Yokohama Nat. Univ.) Daiki Ikegami (Yokohama Nat. Univ.)	The number of diagonal flips in triangulations on closed surfaces ..... 15

September 24th (Thu)

**9:00–12:00**

09-01-0010		
22	<u>Ipppei Obayashi</u> (RIKEN/Tohoku Univ.) Michio Yoshiwaki (RIKEN/Osaka City Univ./Kyoto Univ.)	Field choice problem on persistent homology ..... 15
09-01-0007		
23	Yasuaki Hiraoka (Kyoto Univ./RIKEN) <u>Michio Yoshiwaki</u> (RIKEN/Kyoto Univ./Osaka City Univ.)	Algebraic stability theorem for zigzag persistence modules ..... 15
09-01-0009		
24	Emerson Gaw Escobar (RIKEN/Kyoto Univ.) Killian F. Meehan (Kyoto Univ.) <u>Michio Yoshiwaki</u> (RIKEN/Osaka City Univ./Kyoto Univ.)	Every pair of $\Lambda$ -interleavings are $\tilde{\Lambda}$ -interleaved ..... 15
09-01-0018		
25	<u>Ken Nakashima</u> (RIKEN) Hideto Asashiba (Shizuoka Univ.) Emerson Gaw Escobar (RIKEN/Kyoto Univ.) Michio Yoshiwaki (RIKEN/Kyoto Univ./Osaka City Univ.)	On approximation of 2D persistence modules by interval-decomposables ..... 15

09-01-0048		
26	<u>Tatsuki Shimizu</u> (Kyoto Univ.) Yasuaki Hiraoka (Kyoto Univ.)	Limit theorems in the decomposition theory of multi-parameter persistent homology ..... 15
09-01-0049		
27	<u>Jun Miyanaga</u> (Kyoto Univ.) Yasuaki Hiraoka (Kyoto Univ.) Shu Kanazawa (Kyoto Univ.) Kenkichi Tsunoda (Osaka Univ.)	Large deviation principle for persistence diagrams of random cubical complex processes ..... 15
09-01-0006		
28	<u>Shu Kanazawa</u> (Kyoto Univ.)	Law of large numbers for Betti numbers of random simplicial complexes ..... 15
09-01-0032		
29	<u>Tatsuya Mikami</u> (Kyoto Univ.)	First passage percolation on crystal lattices ..... 15
09-01-0019		
30	<u>Emerson Gaw Escolar</u> (RIKEN/Kyoto Univ.) Yasuaki Hiraoka (Kyoto Univ.) Mitsuru Igami (Yale Univ.) Yasin Ozcan (MIT Sloan/FTI Consulting)	Mapping firms' locations in technological space: A topological analysis of patent statistics ..... 15
09-01-0025		
31	<u>Tomoki Uda</u> (Tohoku Univ.)	Interleaving distance on merge trees of grid data sublevelsets on different grid topologies ..... 12
09-01-0050		
32	<u>Masashi Wakaiki</u> (Kobe Univ.)	Robustness of strong stability with respect to sampling ..... 15
<b>14:15–16:30</b>		
09-01-0008		
33	<u>Fuminori Sakaguchi</u> (Univ. of Fukui)	A possibility of wider application of an algorithm for solving ODEs by means only of four arithmetical operations among integers ..... 15
09-01-0046		
34	<u>Kazunori Matsui</u> (Kanazawa Univ.)	Projection methods for the Navier–Stokes equation with boundary conditions of Dirichlet type on the pressure ..... 15
09-01-0017		
35	<u>Xuefeng Liu</u> (Niigata Univ.)	Pointwise error estimation for finite element solution to boundary value problems with $O(h^2)$ convergence rate ..... 15
09-01-0021		
36	<u>Takuya Tsuchiya</u> (Ehime Univ.) Takahito Kashiwabara (Univ. of Tokyo)	A robust discontinuous Galerkin scheme on anisotropic meshes ..... 15
09-01-0047		
37	<u>Hidenori Ogata</u> (Univ. of Electro-Comm.)	Method of fundamental solutions for the problem of doubly-periodic potential flow ..... 15
09-01-0022		
38	<u>Hideki Murakawa</u> (Ryukoku Univ.) Rafael Bairo (Imperial Coll. London) José A. Carrillo (Univ. of Oxford) Markus Schmidtchen (Sorbonne Univ.)	Energy-dissipating finite-volume scheme for nonlinear nonlocal Fokker–Planck type equations ..... 15
09-01-0020		
39	<u>Yoshitaka Watanabe</u> (Kyushu Univ.) Takehiko Kinoshita (Kyushu Univ.) Mitsuhiro T. Nakao (Waseda Univ.)	An efficient approach for verifying the existence of inverse of linear operators in Hilbert spaces and its applications ..... 15
09-01-0028		
40	<u>Takehiko Kinoshita</u> (Kyushu Univ.) Kouji Hashimoto (Nakamura Gakuen Univ.) Mitsuhiro T. Nakao (Waseda Univ.)	On the decreaseable effect of wrapping effect using a priori estimates separating initial values in the verification problem for parabolic equations ..... 15
<b>16:45–17:45</b>	<b>Talk Invited by Applied Mathematics Section</b>	
09-02-0002		
	<u>Katsuhisa Ozaki</u> (Shibaura Inst. of Tech.)	Error-free transformation for matrix multiplication: Basic, applications, and future



## September 25th (Fri)

**9:00–11:45**

09-01-0030

- 41 Nobito Yamamoto  
(Univ. of Electro-Comm.)  
Koki Nitta (Univ. of Electro-Comm.) Construction of local Lyapunov functions around non hyperbolic equilibria by verified computation ..... 15

09-01-0059

- 42 Shinya Uchiuni (Gakushuin Univ.) Guaranteed bounds for the eigenvalues of Laplacian in curved domains ..... 15

09-01-0039

- 43 Akitoshi Takayasu (Univ. of Tsukuba)  
Jonathan Jaquette (Boston Univ.) Homoclinics and global existence of solutions to a quadratic nonlinear Schrödinger equation ..... 15

09-01-0055

- 44 Tetsuya Ishiwata  
(Shibaura Inst. of Tech.)  
Keisuke Abiko (Shibaura Inst. of Tech.) Positively preserving scheme for stochastic differential equations ..... 10

09-01-0053

- 45 Tetsuya Ishiwata  
(Shibaura Inst. of Tech.)  
Jumpei Nagase (Shibaura Inst. of Tech.) Connection structure of deep neural networks and expressive power of finite dimensional models ..... 10

09-01-0054

- 46 Shunpei Terakawa (Kobe Univ.)  
Takashi Matsubara (Osaka Univ.)  
Takaharu Yaguchi (Kobe Univ.) Learnability of numerical integrators for neural ordinary differential equations ..... 15

09-01-0016

- 47 Takashi Sakajo (Kyoto Univ.) Vortex equilibria on the surface of a torus ..... 15

09-01-0044

- 48 Ayuki Sekisaka (Meiji Univ.)<sup>b</sup> The Jeans instability and dynamics in the nebula model of compressive viscous gases ..... 15

09-01-0061

- 49 Yukihiko Nakata  
(Aoyama Gakuin Univ.)  
Gabriella Vas (Univ. Szeged) A distributed delay differential equation with a step-type nonlinearity ..... 15

09-01-0058

- 50 Tetsuya Ishiwata  
(Shibaura Inst. of Tech.)<sup>b</sup> Stability of periodic solutions to 2 dimensional delay differential equation ..... 10  
Alexey Eremin  
(Saint Petersburg State Univ.)  
Emiko Ishiwata (Tokyo Univ. of Sci.)  
Yukihiko Nakata  
(Aoyama Gakuin Univ.)

09-01-0013

- 51 Mikio Murata (Tokyo Univ. of Agri. and Tech.) Analysis of Turing instability in max function type diffusion cellular automata ..... 15

**14:15–15:15**

09-01-0031

- 52 Itsuki Watanabe (Waseda Univ.) Limit theorems for a space-homogeneous nonlocal diffusion with nonlinear reactions ..... 15

09-01-0060

- 53 Ken-Ichi Nakamura (Kanazawa Univ.)  
Masahiro Hiyoshi (Kanazawa Univ.)  
Takafumi Yamazaki (Kanazawa Univ.) Speed of traveling waves for discrete bistable Lotka–Volterra competition system ..... 15

09-01-0040

- 54 Yasumasa Nishiura (Hokkaido Univ.)\*  
Shuangquan Xie (Tohoku Univ.)  
Theodore Kolokolnikov  
(Dalhousie Univ.) Complex oscillatory motion of multiple spikes for a three-component Schnakenberg model ..... 15

09-01-0035

55	Masaharu Nagayama (Hokkaido Univ.)	Mathematical modeling for a self-inverted reciprocation of a self-propelled	
	Yusuke Satoh (Hokkaido Univ.)	material .....	15
	Satoshi Nakata (Hiroshima Univ.)		

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

09-02-0001

	Sungrim Seirin Lee (Hiroshima Univ.)	Pattern formation in life sciences and reaction-diffusion equation	
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# Topology

September 22nd (Tue)

## 10:00–12:00

10-01-0020

1 Ryo Hanaki (Gifu Univ.) On fertility of knot shadows ..... 10

10-01-0008

2 Naoko Kamada (Nagoya City Univ.) Almost classical virtual links ..... 10

10-01-0024

3 Yoshiyuki Ohyama  
(Tokyo Woman's Christian Univ.) A construction of infinitely many virtual knots with properties of  
Kishino's knot ..... 10

Migiwa Sakurai

(Shibaura Inst. of Tech.)

10-01-0012

4 Haruko Miyazawa (Tsuda Coll.) The Dabkowski–Sahi invariant and 4-moves for links ..... 10

Kodai Wada (Osaka Univ.)

Akira Yasuhara (Waseda Univ.)

10-01-0018

5 Atsuhiko Mizusawa (Waseda Univ.) An algorithm which determine whether given two 4-component links  
Yuka Kotorii (RIKEN/Osaka Univ.) are link-homotopic ..... 15

10-01-0021

6 Ippei Ishii  
Takuji Nakamura (Univ. of Yamanashi) A coloring invariant of 3-manifolds derived from flow spines and virtual  
Toshio Saito (Joetsu Univ. of Edu.) knot diagrams ..... 10

10-01-0003

7 Kazuhiro Ichihara (Nihon Univ.) Two-bridge knots admit no purely cosmetic surgeries ..... 15

Toshio Saito (Joetsu Univ. of Edu.)

In Dae Jong (Kindai Univ.)

Thomas W. Mattman

(California State Univ., Chico)

10-01-0023

8 Yasuharu Nakae (Akita Univ.) Dehn surgeries on genus one fibered knots and left-orderability of fun-  
Kazuhiro Ichihara (Nihon Univ.) damental groups ..... 15

10-01-0002

9 Takefumi Nosaka (Tokyo Tech) Cellular chain complexes of universal covers of some 3-manifolds ..... 10

10-01-0006

10 Takefumi Nosaka (Tokyo Tech) An  $SL_2(\mathbb{R})$ -Casson invariant and Reidemeister torsions ..... 15

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

10-02-0001

Takayuki Morifuji (Keio Univ.) Twisted Alexander polynomials of hyperbolic knots and links

September 23rd (Wed)

## 10:00–11:40

10-01-0009

11 Genki Omori (Tokyo Univ. of Sci.) Dehn twist-crosscap slide presentations for involutions on non-orientable  
Naoki Sakata (Saitama Univ.) surfaces of genus 4 and 5 ..... 15

10-01-0005

12 Yuta Nozaki (Hiroshima Univ.) Abelian quotients of the  $Y$ -filtration on the homology cylinders via the  
Masatoshi Sato (Tokyo Denki Univ.) LMO functor ..... 15

Masaaki Suzuki (Meiji Univ.)

10-01-0004

13 Masaki Taniguchi (RIKEN)<sup>b</sup> Codimension-1 embeddings of 3-manifolds and Yang–Mills gauge theory  
..... 15

10-01-0027

14 Nobutaka Asano (Tohoku Univ.) Vertical 3-manifolds in simplified genus 2 trisections of 4-manifolds ... 15

<a href="#">10-01-0019</a>	15	Kengo Kawamura (Kogakuin Univ.)	Spinning construction of immersed 2-knot and its irreducibility . . . . .	10
<a href="#">10-01-0026</a>	16	Tetsuya Abe (Ritsumeikan Univ.) <sup>b</sup> Keiji Tagami (Nat. Fisheries Univ.)	Table of annulus presentations of knots . . . . .	10
<a href="#">10-01-0013</a>	17	Seiichi Kamada (Osaka Univ.) Benjamin Bode (Osaka Univ./JSPS)	On knotted surfaces as vanishing sets of polynomials . . . . .	10
<a href="#">10-01-0014</a>	18	Seiichi Kamada (Osaka Univ.) Andrew Bartholomew (Univ. Sussex) Roger Fenn (Univ. Sussex) Naoko Kamada (Nagoya City Univ.)	On doodles and commutator identities . . . . .	10

**13:15–14:15 Award Lecture for the 2020 MSJ Geometry Prize**

<a href="#">10-02-0002</a>		Mikiya Masuda (Osaka City Univ.) <sup>b</sup>	Cohomological rigidity problem in toric topology	
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September 24th (Thu)

**10:00–11:55**

<a href="#">10-01-0001</a>	19	Takamichi Sato (Waseda Univ.)	Isomorphism between the stabilizers of finite sets of numbers in the R. Thompson group $F$ . . . . .	15
<a href="#">10-01-0011</a>	20	Hirofumi Kondo (Ninomiya High School)	A Nullstellensatz for ideals of $C^\infty$ functions in dimension 2 . . . . .	15
<a href="#">10-01-0015</a>	21	Katsuhisa Koshino (Kanagawa Univ.)	The topological type of a function space on a metric measure space with the $L^p$ norm . . . . .	15
<a href="#">10-01-0007</a>	22	Naoki Kitazawa (Kyushu Univ.)	Infinitely many 7-dimensional closed and simply-connected manifolds via construction of explicit fold maps into the 4-dimensional Euclidean space . . . . .	15
<a href="#">10-01-0010</a>	23	Shuhei Maruyama (Nagoya Univ.)	Poincaré’s rotation number and quasi-morphisms on symplectomorphism groups of the disk . . . . .	10
<a href="#">10-01-0017</a>	24	Takahiro Matsuyuki (Univ. of Tokyo)	Obstruction class for higher homotopy algebra models and Milnor–Wood inequality . . . . .	15
<a href="#">10-01-0022</a>	25	Hiraku Nozawa (Ritsumeikan Univ.) <sup>b</sup>	Haefliger cohomology of complete Riemannian foliations . . . . .	15
<a href="#">10-01-0025</a>	26	Hirofumi Nakai (Tokyo City Univ.) Zen-ichi Yosimura (Nagoya Inst. of Tech.*)	Real Johnson–Wilson homology groups of spectra with a few cells . . . .	15

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

<a href="#">10-02-0003</a>		Alexander Berglund (Stockholm Univ.) <sup>b</sup>	Characteristic classes of manifold bundles and graph homology	
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# Infinite Analysis

September 22nd (Tue)

## 9:30–12:00

- [11-01-0001](#)  
1 Masataka Kanki (Kansai Univ.) The algebraic entropies of some multi-term recurrences ..... 15
- [11-01-0004](#)  
2 Nobutaka Nakazono (Tokyo Univ. of Agri. and Tech.) Consistency around a cuboctahedron property ..... 15  
Nalini Joshi (Univ. of Sydney)
- [11-01-0002](#)  
3 Yousuke Ohyama (Tokushima Univ.) Asymptotic analysis of the third  $q$ -Painlevé equation ..... 15
- [11-01-0008](#)  
4 Yuuki Tadokoro (Nat. Inst. of Tech., Kisarazu Coll.) Nonlinear  $O(3)$  sigma model in discrete complex analysis ..... 15  
Masayoshi Sekiguchi (Nat. Inst. of Tech., Kisarazu Coll.)  
Masaru Kamata (Nat. Inst. of Tech., Kisarazu Coll.\*)
- [11-01-0006](#)  
5 Koichi Hiraide (Ehime Univ.) Stokes-like phenomena which appear in the dynamics of complex Henon maps ..... 15  
Chihiro Matsuoka (Osaka City Univ.)
- [11-01-0010](#)  
6 Masashi Hamanaka (Nagoya Univ.) Soliton solutions of noncommutative anti-self-dual Yang–Mills equations ..... 15  
Claire Gilson (Univ. of Glasgow)  
Shan-Chi Huang (Nagoya Univ.)  
Jonathan Nimmo (Univ. of Glasgow)
- [11-01-0011](#)  
7 Masashi Hamanaka (Nagoya Univ.) Soliton solutions of domain-wall type to anti-self-dual Yang–Mills equations ..... 15  
Shan-Chi Huang (Nagoya Univ.)
- [11-01-0013](#)  
8 Saburo Kakei (Rikkyo Univ.) Toda lattice hierarchy and soliton equations on square lattice ..... 15

## 14:30–16:30

- [11-01-0007](#)  
9 Nicolas Babinet (Univ. de Bourgogne) Quantum curve for supermatrix model and Hirota differential equations ..... 15  
Taro Kimura (Univ. de Bourgogne)
- [11-01-0005](#)  
10 Hiraku Nakajima (Univ. of Tokyo) Euler numbers of Hilbert schemes of points on simple surface singularities and quantum dimensions of standard modules of quantum affine algebras ..... 15
- [11-01-0014](#)  
11 Hiromu Nakano (Tohoku Univ.)<sup>b</sup> The structure theorem of Fock modules at positive rational level ..... 15
- [11-01-0012](#)  
12 Yuma Mizuno (Tokyo Tech.)<sup>b</sup> Difference equations arising from cluster algebras ..... 15
- [11-01-0003](#)  
13 Yasuaki Gyoda (Nagoya Univ.) Compatibility degree of cluster complexes ..... 15
- [11-01-0009](#)  
14 Yuta Nishiyama (Kumamoto Univ.) Inner products of Macdonald polynomials and its combinatorics ..... 15

September 23rd (Wed)

## 10:30–11:30 Talk Invited by Infinite Analysis Special Session

- [11-02-0001](#)  
Hideya Watanabe (Kyoto Univ.)  $q$ -quantization

## 13:15–14:15 Talk Invited by Infinite Analysis Special Session

- [11-02-0002](#)  
Yoshihisa Saito (Rikkyo Univ.)<sup>b</sup> On elliptic Artin groups