## ANNUAL MEETING

**Dates:** March 20th-23rd, 2013  
**Venue:** Kyoto University, Yoshida-South Campus  
**Contact to:** Department of Mathematics and RIMS, Kyoto University  
Yoshida Nihonmatsu-cho, Sakyo-ku, Kyoto  
E-mail: kyoto13mar@mathsoc.jp  
During session: Phone +81 (0) 75 753 2935  
Fax +81 (0) 75 753 2935  
Mathematical Society of Japan  
Phone +81 (0) 3 3835 3483

### Tentative: 2013/2/1

Refer to page 34 for the abbreviation rule for conference rooms.

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<thead>
<tr>
<th>Date</th>
<th>Session</th>
<th>Venue</th>
<th>Contact</th>
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<tbody>
<tr>
<td>2013</td>
<td>Tentative: 2013/2/1</td>
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### 20th (Wed)

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:00-12:00</td>
<td>Algebra</td>
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<tr>
<td>14:15-16:45</td>
<td>Topology</td>
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<tr>
<td>9:30-12:00</td>
<td>Geometry</td>
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<td>9:30-12:00</td>
<td>Functional Equations</td>
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<td>9:30-12:00</td>
<td>Applied Mathematics</td>
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<tr>
<td>9:30-11:30</td>
<td>Real Analysis</td>
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<tr>
<td>9:00-12:10</td>
<td>Statistics and Probability</td>
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<td>9:30-12:00</td>
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### 21st (Thu)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:00-12:00</td>
<td>MSJ Prizes Presentation (Clock Tower 1F)</td>
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<tr>
<td>13:15-14:15</td>
<td>Invited Talk (Clock Tower 1F)</td>
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<tr>
<td>13:10-14:00</td>
<td>Official Party (Clock Tower 2F)</td>
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### 22nd (Fri)

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:00-12:00</td>
<td>Algebra</td>
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<tr>
<td>14:15-15:00</td>
<td>Topology</td>
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<tr>
<td>10:15-11:50</td>
<td>Geometry</td>
</tr>
<tr>
<td>9:30-11:30</td>
<td>Functional Equations</td>
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<tr>
<td>9:30-11:45</td>
<td>Functional Analysis</td>
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<tr>
<td>9:00-11:45</td>
<td>Applied Mathematics</td>
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<tr>
<td>9:30-11:45</td>
<td>Infinite Analysis</td>
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<td>9:30-12:00</td>
<td>Complex Analysis</td>
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<tr>
<td>9:30-12:00</td>
<td>Statistics and Probability</td>
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### 23rd (Sat)

<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:00-12:00</td>
<td>Algebra</td>
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<td>14:15-15:15</td>
<td>Invited Talk</td>
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<td>14:30-15:30</td>
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<tr>
<td>14:20-15:20</td>
<td>Invited Talk</td>
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Refer to page 34 for the abbreviation rule for conference rooms.
Plenary Talks

March 21st (Thu)  Clock Tower Centennial Hall, Centennial Hall (1F)

MSJ Autumn Prize Winner ........................................ (15:30〜16:30)

Yoshihiro Tonegawa (Hokkaido Univ.)
Regularity theories on generalized minimal surfaces and mean curvature flows ........................................ (16:45〜17:45)

Featured Invited Talks

March 20th (Wed)

Conference Room I
Yuzuru Inahama (Nagoya Univ.)
Rough path theory — (stochastic) analysis of iterated integrals— ........................................ (13:00〜14:00)

Conference Room III
Toshiki Mabuchi (Osaka Univ.)
New developments in the Kobayashi–Hitchin correspondence for manifolds ........................................ (13:00〜14:00)

March 22nd (Fri)

Conference Room I
Guest Talk from the Japan Society for Industrial and Applied Mathematics
Shinichiro Nakamura (RIKEN)
In search for hidden mathematics in industrial basic problems ........................................ (13:00〜14:00)

Conference Room III
Hiroyuki Ochiai
* A survey on a classification of unitary representations · · · (13:00〜14:00)
(Kyushu Univ./JST CREST)

March 23rd (Sat)

Conference Room I
Satoshi Yoshiara
* Around nonlinear functions ........................................ (13:00〜14:00)
(Tokyo Woman’s Christian Univ.)

Conference Room III
Junjiro Noguchi (Univ. of Tokyo)
Value distribution and distribution of rational points II · · · (13:00〜14:00)

Conference Room IV
Tatsuo Nishitani (Osaka Univ.)
The Cauchy problem for partial differential equations with double characteristics ........................................ (13:00〜14:00)
Talks invited by Research Sections and Special Session

March 20th (Wed)

**Algebra** (Conference Room I)
Takayuki Hayakawa (Kanazawa Univ.) Birational morphisms of 3-dimensional algebraic varieties (16:45～17:45)

**Geometry** (Conference Room III)
Wayne Rossman (Kobe Univ.) Construction of discrete surfaces in terms of discrete flat connections (15:45～16:45)

**Functional Equations** (Conference Room IV)
Naoto Yamaoka (Osaka Pref. Univ.) An oscillation constant for half-linear differential equations and its application (16:45～17:45)

**Real Analysis** (Conference Room VIII)
Giorgio Metafune (Salento Univ.) Spectral properties of second order operators with unbounded coefficients in $\mathbb{R}^d$ (16:45～17:45)

**Statistics and Probability** (Conference Room IX)
Daisuke Shiraishi (Kyoto Univ.) Non-intersecting two-sided random walks (14:30～15:30)
Naoyuki Ichihara (Hiroshima Univ.) Asymptotic problems for viscous Hamilton–Jacobi equations and stochastic control (15:45～16:45)

**Applied Mathematics** (Conference Room VI)
Jun Fujisawa (Keio Univ.) On the existence of good structures in graphs (16:40～17:40)

**Topology** (Conference Room II)
Takahiro Kitayama (Univ. of Tokyo) Torsion functions on character varieties and an extension of Culler–Shalen theory (14:30～15:30)
Makoto Sakuma (Hiroshima Univ.) Simple loops on bridge spheres and Heegaard surfaces (15:45～16:45)

March 21st (Thu)

**Foundation of Mathematics and History of Mathematics** (Conference Room VII)
Hiroshi Sakai (Kobe Univ.) Stationary and semi-stationary reflection principles (13:10～14:10)

**Algebra** (Conference Room I)
Naoki Terai (Saga Univ.) Classification of licci edge ideals (13:15～14:15)

**Geometry** (Conference Room III)
Makiko Tanaka (Tokyo Univ. of Sci.) Antipodal sets of compact symmetric spaces and the intersection of totally geodesic submanifolds (13:00～14:00)

**Functional Equations** (Conference Room IV)
Award Lecture for 2012 Analysis Prize
Shigeru Sakaguchi (Tohoku Univ.) Stationary isothermic surfaces and geometry of domain (13:30～14:30)
**Real Analysis** (Conference Room VIII)
Tsuyoshi Yoneda (Hokkaido Univ.)
Fourier analysis and rotating Navier–Stokes equations (13:40~14:40)

**Functional Analysis** (Conference Room V)
Hisayosi Matumoto (Univ. of Tokyo)
On the homomorphisms between scalar generalized Verma modules (13:30~14:30)

**Applied Mathematics** (Conference Room VI)
Hayato Chiba (Kyushu Univ.)
A spectral theory of linear operators on a Gelfand triplet and its application to the dynamics of coupled oscillators (13:15~14:15)

**Topology** (Conference Room II)
Kouichi Yasui (Hiroshima Univ.)
Corks and exotic 4-manifolds (13:30~14:30)

March 22nd (Fri)

**Algebra** (Conference Room I)
Award Lecture for 2012 Algebra Prize
Tomoyuki Arakawa (Kyoto Univ.)
Representation theory of W-algebras (15:30~16:30)

**Geometry** (Conference Room III)
Jeff Viaclovsky (Univ. of Wisconsin, Madison)
Critical metrics on connected sums of Einstein four-manifolds (14:20~15:20)

Hiroshi Matsuzoe (Nagoya Inst. of Tech.)
Statistical manifolds and geometry of estimating functions (15:40~16:40)

**Complex Analysis** (Conference Room VIII)
Tomoki Kawahira (Nagoya Univ.)
Zalcman’s lemma and complex dynamics (16:00~17:00)

**Functional Equations** (Conference Room IV)
Award Lecture for 2012 Analysis Prize
Yoshiyuki Kagei (Kyushu Univ.)
Asymptotic behavior of solutions of the compressible Navier-Stokes equation around a parallel flow (16:30~17:30)

**Functional Analysis** (Conference Room V)
Reiji Tomatsu (Hokkaido Univ.)
Classification problem of group or quantum group actions on von Neumann algebras (15:40~16:40)

**Statistics and Probability** (Conference Room IX)
Masanori Sawa (Nagoya Univ.)
The theory of cubature formulae and designs in numerical analysis, algebraic combinatorics and mathematical statistics (14:30~15:30)

**Applied Mathematics** (Conference Room VI)
Takeshi Ohtsuka (Gunma Univ.)
A level set formulation for evolving spirals and their behavior in spiral crystal growth (16:45~17:45)
Infinite Analysis (Conference Room VII)

Zengo Tsuboi (Humboldt-Univ. zu Berlin)
Baxter Q-operators and tau-function for quantum integrable systems (15:45～16:45)

March 23rd (Sat)

Complex Analysis (Conference Room VIII)

Hidetaka Hamada (Kyushu Sangyo Univ.)
Loewner chains on complete hyperbolic complex manifolds (14:20～15:20)

Functional Equations (Conference Room IV)

Hiroyuki Takamura (Future Univ.-Hakodate)
General theory of initial value problems for nonlinear wave equations and its optimality. (14:15～15:15)

Functional Analysis (Conference Room V)

Akazumori Ando (Univ. of Tsukuba)
Inverse scattering problem for discrete Schrödinger operators on the hexagonal lattice (14:30～15:30)

Infinite Analysis (Conference Room VII)

Kentaro Nagao (Nagoya Univ.)
Quivers with potential, 3d Calabi-Yau categories and the cohomological Hall algebras (14:30～15:30)

Open Lectures for Citizens

Sponsored by: Mathematical Society of Japan
Co-sponsored by: Department of Mathematics and RIMS, Kyoto University
Date: March 24th (Sun) 14:00～16:30
Venue: Kyoto University, Yoshida-South Campus Bldg No. 4, Rm 4C11
Program: Opening Speech:
Yoichi Miyaoka (Univ. of Tokyo) (14:00～14:10)
Lecture 1:
Hisashi Okamoto (Kyoto Univ.)
Fluid mechanics and mathematics (14:15～15:15)
Lecture 2:
Hiroshi Sugita (Osaka Univ.)
Probability and random number (15:30～16:30)
Presentation by Prof. Gert-Martin Greuel

Sponsored by: Mathematical Society of Japan

Date: March 20th (Wed) 16:30–17:00

Venue: Yoshida-South Campus Academic Center Bldg, Rm CN28

Presentor: Prof. Gert-Martin Greuel
(Director of Mathematisches Forschungsinstitut Oberwolfach (MFO) /
Editor-in-Chief of Zentralblatt MATH)

Title: The Reviewing Service Zentralblatt MATH: Challenges and Opportunities

Foundation of Mathematics and History of Mathematics

March 20th (Wed) Conference Room VII

9:30–11:30
1 Teruaki Asai (Nara Univ. of Edu.) On the table of Plimpton 322 ............................................. 15
2 Ken Saito (Osaka Pref. Univ.) Diagrams in Euclid’s Elements —Books 7–13 ................................. 20
3 Shigeru Masuda (Kyoto Univ.) The Fourier’s motivations of works in the span of life .............................. 20
4 Shigeru Masuda (Kyoto Univ.) The definite integral by Euler and Laplace from the viewpoint of Poisson .......................................................... 20
5 Kenshi Miyabe (Kyoto Univ.) The other history of probability theory .............................................. 15
6 Setsuo Takato (Toho Univ.) Consideration of an interpretation of the Fangcheng procedure of the Nine Chapters on the Mathematical Arts ............................................. 15

14:15–16:30
7 Hideyuki Majima (Ochanomizu Univ.) Some remarks on the calculation of pi by Takebe Katahiro .......... 20
8 Hikosaburo Komatsu (Univ. of Tokyo)* On Mikami Yoshio’s study on the theory of determinants in Japan in the 17th century. Which are justified and which are not? .......................... 30
9 Shotaro Tanaka Representation of fractional function in power series —Expansion by Komatsu and by theorem by Wada, summary— ................................. 20
10 Takahiro Seki (Niigata Univ.) A Gentzen-style formulation for non-associative substructural logics I .......................................................... 15
11 Keishi Okamoto On expressiveness of first-order temporal logics .............................................. 15
12 Ryota Matsuo (Nagoya Univ.) Logics for strategies ........................................................................ 15

March 21st (Thu) Conference Room VII

9:30–11:40
13 Kohtaro Tadaki (Chuo Univ.) The generic group model and algorithmic randomness ................................. 20
14 Kenshi Miyabe (Kyoto Univ.) Van Lambalgen’s Theorem for uniform Kurtz randomness ......................... 15
15 Akitoshi Kawamura (Univ. of Tokyo)* Norbert Müller (Univ. Trier) Carsten Rösnick (TU Darmstadt) Martin Ziegler (TU Darmstadt) On representations of analytic functions and polynomial-time computability of operators ..................................................... 15
16 Takayuki Kihara (JAIST) An application of Kumabe–Slaman forcing to the ω-decomposability problem on Borel functions ..................................................... 20
17 Tatsuya Miyazaki (Nagoya Univ.) On rigid Souslin trees and their preservation ........................................ 15
18 Teruyuki Yorioka (Shizuoka Univ.) Some statements which can be forced with a coherent Suslin tree .......... 15
19 Toshimichi Usuba (Nagoya Univ.) Large cardinals and indestructibly countably tight spaces .................... 15
13:10–14:10  Talk invited by Section on Foundation and History of Mathematics
   Hiroshi Sakai  (Kobe Univ.)
   stationary and semi-stationary reflection principles

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**Algebra**

March 20th (Wed)  Conference Room I

9:00–12:00

1. Tomohiro Iwami  *(Kyushu Sangyo Univ.)*  On certain criterion (weak form) for semistability of 3-fold log flips

2. Ryo Akiyama  *(Shizuoka Univ.)*
   Classification of quantum affine planes

3. Yoshifumi Tsuchimoto  *(Kochi Univ.)*
   Auslander regularity of non commutative projective space

4. Shinya Kitagawa  *(Gifu Nat. Coll. of Tech.)*
   On certain pencils of plane curves of degree thirteen with a quintuple point and nine quadruple points

5. Sachiko Saito  *(Hokkaido Univ. of Educ.)*
   Real 2-elementary K3 surfaces of type (3,1,1) and degenerations

6. Takeshi Usa  *(Univ. of Hyogo)*
   Homological shells of a canonical curve $g = 5, 6$

7. Shigeru Iitaka  *(Gakushuin Univ.)*
   Hartshorne identities and their application

8. Yoshiaki Fukuma  *(Kochi Univ.)*
   Effective non-vanishing of global sections of multiple adjoint bundles for quasi-polarized $n$-folds

9. Ryo Okawa  *(Kyoto Univ.)*
   Frobenius morphisms and derived categories on two dimensional toric Deligne–Mumford stacks

10. Kotaro Kawatani  *(Nagoya Univ. / Osaka Univ.)*
    FM groupoid on K3 surfaces and Atkin–Lehner involutions

11. Kotaro Kawatani  *(Nagoya Univ. / Osaka Univ.)*
    Stability conditions on K3 surfaces and hyperbolic plane

14:15–16:45

12. Kazunori Yasutake  *(Kyushu Univ.)*
    On Fano fourfolds with nef vector bundle $A^2 T_X$

13. Kiwamu Watanabe  *(Saitama Univ.)*
    Fano 5-folds with nef tangent bundles

14. Ken-ichi Yoshida  *(Nihon Univ.)*
    Ulrich ideals and modules on 2-dimensional rational singularities

15. Takayuki Hibi  *(Osaka Univ. / JST CREST)*
    Normality of dilated polytopes

16. Akihiro Higashitani  *(Osaka Univ.)*
    Non-normal very ample toric rings
17 Kazunori Matsuda (Nagoya Univ.) * Regularity bounds for binomial edge ideals .......................................................... 10
Satoshi Murai (Yamaguchi Univ.)

18 Hidefumi Osugi (Rikkyo Univ. / JST CREST) Toric ideals and their circuits ............................................................ 15
Takayuki Hibi (Osaka Univ. / JST CREST)

19 Akiyoshi Sannai (Nagoya Univ.) ♯ Numerical characterizations of F-singularities ......................................................... 10

20 Yusuke Nakajima (Nagoya Univ.) ♯ Generalized F-signature of invariant subrings ....................................................... 15
Mitsuyasu Hashimoto (Nagoya Univ.)

16:45–17:45 Talk invited by Algebra Section
Takayuki Hayakawa (Kanazawa Univ.) ♯ Birational morphisms of 3-dimensional algebraic varieties

March 21st (Thu) Conference Room I

9:00–12:00
21 Noriko Zaitsu (Eigakun) The field higher dimension over R than the sedenions does not exist .................................................. 10
22 Shinichi Tajima (Univ. of Tsukuba) ♯ Efficient symbolic computation of matrix polynomials with an extended Horner’s rule ................................................................. 10
Katsuyoshi Ohara (Kanazawa Univ.) Akira Terui (Univ. of Tsukuba)
23 Shinichi Tajima (Univ. of Tsukuba) ♯ On structure of invariant subspaces for square matrix ............................................. 10
Katsuyoshi Ohara (Kanazawa Univ.)
24 Katsuyoshi Ohara (Kanazawa Univ.) ♯ A randomized algorithm for computing minimal annihilating polynomials of square matrix ................................................................. 10
Shinichi Tajima (Univ. of Tsukuba)
25 Shuzo Izumi (Kinki Univ.) ♯ A family of Artinian rings associated to a finite-dimensional vector space of holomorphic functions ................................................................. 10
26 Shuzo Izumi (Kinki Univ.) ♯ Taylor expansion and transcendency on an analytic manifold embedded in an affine space ................................................................. 15
27 Kazuma Shimomoto (Meiji Univ.) * F-injective and F-split rings and deformation problems ................................................. 10
Jun Horiuchi (Nippon Inst. of Tech.) Lance Edward Miller (Univ. of Utah)
28 Takahiko Furuya (Tokyo Univ. of Sci.) ♯ Hochschild cohomology for a class of some self-injective special biserial algebras of rank four ................................................................. 10
29 Hiroaki Komatsu (Okayama Pref. Univ.) ♯ Adjoint pair associated to generalized derivations of bimodules ................. 10
(Okayama Pref. Univ.)
30 Yasuhiko Takehana (Hakodate Nat. Coll. of Tech.) ♯ A generalization of costable torsion theory ............................................. 10
31 Takuma Aihara (Bielefeld Univ.) Dimensions of triangulated categories with respect to subcategories 2
Tokuiji Araya (Tokuyama Coll. of Tech.)
Osamu Iyama (Nagoya Univ.)
Ryo Takahashii (Nagoya Univ.)
Michio Yoshiwaki (Osaka City Univ.)
32 Ryo Kanda (Nagoya Univ.) ♯ Classifying Serre subcategories via atom spectrum ............................................... 10
33 Hirotaka Koga (Univ. of Tsukuba) ♯ Derived equivalences and Gorenstein dimension ............................................... 20
### 13:15–14:15 Talk invited by Algebra Section

**Naoki Terai (Saga Univ.)** Classification of licci edge ideals

March 22nd (Fri) **Conference Room I**

#### 9:00–12:00

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<tbody>
<tr>
<td>9:00</td>
<td>Satoshi Yamanaka (Okayama Univ.)</td>
<td>On Galois polynomials of degree $p$ in skew polynomial rings of derivation type II</td>
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<td>Shuichi Ikehata (Okayama Univ.)</td>
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<td>9:15</td>
<td>Mitsuhiro Miyazaki (Kyoto Univ. of Edu.)</td>
<td>Tensor of indeterminates and invariant theory</td>
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<td>9:30</td>
<td>Kyonko Kimura (Shizuoka Univ.)</td>
<td>Non-vanishingness of Betti numbers of edge ideals and complete bipartite graphs</td>
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<td>9:45</td>
<td>Takao Hayami (Hokkai-Gakuen Univ.)</td>
<td>Hochschild cohomology ring of quaternion algebras</td>
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<td>10:00</td>
<td>Kenich Shimaguiz (Nagoya Univ.)</td>
<td>On indicators of Hopf algebras</td>
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<td>10:15</td>
<td>Hiroki Sasaki (Shinshu Univ.)</td>
<td>Cohomology rings of tame blocks</td>
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<td>10:30</td>
<td>Tsuyoshi Miezaki (Yamagata Univ.)</td>
<td>The McKay–Thompson series of Mathieu Moonshine modulo two</td>
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<td>Thomas Creutzig (TU Darmstadt)</td>
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<td>Gerald Höhn (Kansas State Univ.)</td>
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<td>10:45</td>
<td>Yuya Mizuno (Nagoya Univ.)</td>
<td>$7$-tilting modules over preprojective algebras of Dynkin type</td>
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<td>11:00</td>
<td>Akihiko Hida (Saitama Univ.)</td>
<td>The action of the double Burnside algebra on the cohomology of the extraspecial $p$-group</td>
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<tr>
<td>11:15</td>
<td>Yutaka Yoshii (Nara Nat. Coll. of Tech.)</td>
<td>The Loewy series of PIMs for $2(h-1)$-deep weights for a finite Chevalley group</td>
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<td>11:30</td>
<td>Tomohiro Kamiyoshi (Matsue Coll. of Tech.)</td>
<td>Counting subspaces generated by subsets of a root system</td>
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<td>Makoto Nagura (Nara Nat. Coll. of Tech.)</td>
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<td>Shinichi Otani (Kanto Gakuin Univ.)</td>
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<td>11:45</td>
<td>Tsunekazu Nishinaka (Okayama Shoka Univ.)</td>
<td>Primitivity of group rings of locally freely productable groups</td>
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<td>12:00</td>
<td>Shuhei Tsujie (Hokkaido Univ.)</td>
<td>A canonical system of basic invariants of a finite reflection group</td>
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<td>Norihito Nakashima (Hokkaido Univ.)</td>
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#### 14:15–15:00

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<tr>
<td>14:15</td>
<td>Toshiyuki Kikuta (Osaka Inst. of Tech.)</td>
<td>A congruence property of Igusa’s cuspform of weight 35</td>
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<td>Hirotaka Kodama (Kinki Univ.)</td>
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<td>Shoju Nagaoka (Kinki Univ.)</td>
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<td>14:30</td>
<td>Shingo Sugiyama (Osaka Univ.)</td>
<td>Asymptotic behaviors of means of central values of automorphic $L$-functions for $GL(2)$</td>
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<tr>
<td>14:45</td>
<td>Yasuko Hasegawa (Keio Univ.)</td>
<td>Central values of standard $L$-functions for $Sp(2)$</td>
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#### 15:30–16:30 Award Lecture for 2012 Algebra Prize

**Tomoyuki Arakawa (Kyoto Univ.)** Representation theory of $W$-algebras
**Award Lecture for 2012 Algebra Prize**

Atsushi Ichino (Kyoto Univ.)

Automorphic representations and periods

March 23rd (Sat)  Conference Room I

**9:00–12:00**

50 Yoshio Tanigawa (Nagoya Univ.)
Jun Furuya
(Okinawa Nat. Coll. of Tech.)

On the means of number-theoretic error terms with shifted arguments

51 Yusuke Fujisawa (Nagoya Univ.)
Makoto Minamide
(Kyoto Sangyo Univ.)

On estimates of partial sums of the Möbius and Liouville functions for number fields

52 Takahiro Wakasa (Nagoya Univ.)
Supremum of the function $S_1(t)$ on short intervals

53 Kaneaki Matsuoka (Nagoya Univ.)
The behavior of the higher derivatives of Hardy’s function under the Riemann hypothesis

54 Masanori Katsurada (Keio Univ.)
Complete asymptotic expansions for generalized Epstein zeta-functions

55 Soichi Ikeda (Nagoya Univ.)
On an alternating series representation of real numbers

56 Soichi Ikeda (Nagoya Univ.)
Kaneaki Matsuoka (Nagoya Univ.)
Yoshikazu Nagata (Nagoya Univ.)
The mean values of Euler–Zagier double zeta function

57 Tomoya Machide (Kinki Univ.)
Restricted sum formulas for double zeta values of even weight and Ramanujan’s identity for Bernoulli numbers

58 Yasuo Ohno (Kinki Univ.)
Mika Sakata (Kinki Univ.)

On 2 and 3-orders of di-Bernoulli numbers

59 Tomoya Machide (Kinki Univ.)
On a parameterized sum formula for quadruple zeta values

60 Takao Komatsu (Hirosaki Univ.)
Ken Kamano (Osaka Inst. of Tech.)
Poly-Cauchy polynomials

61 Shingo Saito (Kyushu Univ.)
Noriko Wakabayashi
(Kyushu Sangyo Univ.)
The Bowman–Bradley theorem for mod $p$ multiple zeta values

62 Kazuhiro Kozuka
(Miyakonojo Nat. Coll. of Tech.)
Knopp type identities for $p$-adic multiple Dedekind sums

**14:15–16:45**

63 Masatoshi Nakano
(Kesennuma High School)

Some conjecture on Fibonacci number

64 Hajime Kaneko (Nihon Univ.)
Transcendence of real numbers related to the $\beta$-expansions by Pisot and Salem numbers

65 Yohei Tachiya (Hirosaki Univ.)
Linear independence of certain Lambert series

66 Masatoshi Suzuki (Tokyo Tech.)
On self-reciprocal polynomials having only zeros on the unit circle
Masakazu Yamagishi  
(Nagoya Inst. of Tech.)

Chebyshev polynomials, cyclotomic polynomials and twin primes  

67

Hajime Kuroiwa (Kochi Univ.)*

An application of a remainder represented by a splitting behavior

68

Yuuki Takai  
(Univ. of Tokyo/Keio Univ.)

Indivisibility of relative class numbers of totally imaginary quadratic extensions of totally real number fields

69

Tsuyoshi Itoh (Chiba Inst. of Tech.)*

Yu Takakura (Kyushu Univ.)

On the \(\mu\)-invariant of tamely ramified Iwasawa modules

70

Nao Takeshi (Tsuda Coll.)

Elliptic curves with good reduction everywhere over cubic fields

71

Akinari Hoshi (Rikkyo Univ.)*

Aiichi Yamasaki (Kyoto Univ.)

Krull–Schmidt theorem fails for dimension 5

72

Yuuki Takai  
(Univ. of Tokyo/Keio Univ.)

Indivisibility of relative class numbers of totally imaginary quadratic extensions of totally real number fields

73

Tsuyoshi Itoh (Chiba Inst. of Tech.)*

Yu Takakura (Kyushu Univ.)

On the \(\mu\)-invariant of tamely ramified Iwasawa modules

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Geometry

March 20th (Wed)  
Conference Room III

9:20–12:00

1 Hirotaka Ebisui (Oval Research Center)*

Saround theorem of famous theorem in history

5

2 Hirotaka Ebisui (Oval Research Center)*

On some square infinity-chain expansion-compositions of Phytogoras 2 area theorem and 6 perpendiculars-concurrency theorem, which show the existence of infinity parallel space

5

3 Noriko Zaitsu (Eigakuin)

About rigidity and infinitesimal rigidity of Polyhedron

10

4 Kiyohisa Tokunaga (Fukuoka Inst. of Tech.)

The divergence theorem of a triangular integral

10

5 Sadahiro Maeda (Saga Univ.)*

Katsufumi Yamashita (Saga Univ.)

Characterizations of the homogeneous real hypersurface of type (B) having two constant principal curvatures in a complex hyperbolic space

10

6 Sadahiro Maeda (Saga Univ.)*

Yuichiro Taniguchi (Saga Univ.)

A characterization of minimal real hypersurfaces of type (\(A_2\)) in a complex projective space

10

7 Naoya Ando (Kumamoto Univ.)*

Over-determined systems on surfaces in 3-dimensional space forms

15

8 Kouhei Miura (Tokyo Univ. of Sci.)*

The global lightlike transversal bundles of lightlike paracomplex submanifolds in parahermitian manifolds

10

9 Naoyuki Koike (Tokyo Univ. of Sci.)*

The classification of certain kind of isoparametric hypersurfaces in symmetric spaces of non-compact type

15

10 Atsufumi Honda (Tokyo Tech)*

Weakly complete wave fronts one of whose principal curvatures is constant

10

11 Shyuichi Izumiya (Hokkaido Univ.)*

Takami Sato (Hokkaido Univ.)

Singlarities of lightlike hypersurfaces along spacelike submanifolds in anti-de Sitter space

15

12 Takami Sato (Hokkaido Univ.)*

Evolutes of spacelike hypersurfaces in anti-de Sitter space

15
14:20–15:20
13  Hirotake Kurihara (Kyoto Univ.) ♯ A characterization of great antipodal sets by design theory on complex Grassmannian spaces .............................................. 15
14  Jun Nonaka (Keio Univ.) * Coxeter polyhedra in hyperbolic spaces ......................................................... 15
15  Soji Kaneyuki (上智大*) On the group of holomorphic and anti-holomorphic transformations of a compact Hermitian symmetric space and the $G$-structure ................... 15

15:45–16:45  Talk invited by Geometry Section
Wayne Rossman (Kobe Univ.) ♯ Construction of discrete surfaces in terms of discrete flat connections

March 21st (Thu)  Conference Room III

9:20–11:50
16  Takayuki Moriyama (Kyoto Univ.) ♯ Deformations of special Legendrian submanifolds on Sasaki–Einstein manifolds ................................................................. 15
17  Kotaro Kawai (Tohoku Univ.) * Construction of coassociative submanifolds .................................................. 10
18  Kota Hattori (Univ. of Tokyo) * Generalizations of Taub-NUT deformations ................................................. 15
19  Tomoyuki Hisamoto (Univ. of Tokyo) ♯ Geometry of the space of Kähler metrics, the relation between Calabi-type functionals and the Donaldson–Futaki invariant, .............................................. 15
20  Nobuhiko Otoba (Keio Univ.) ♯ New examples of Riemannian metrics with constant scalar curvature ................................................................. 15
21  Hajime Fujita (Japan Women’s Univ.) ♯ On an $S^1$-equivariant index for symplectic manifold ....................... 15
22  Masao Jinzenji (Hokkaido Univ.) ♯, Masahide Shimizu (Hokkaido Univ.) Multi-point virtual structure constants and mirror computation of $CP^2$-model ........................................................................ 10
23  Tsukasa Takeuchi (Tokyo Univ. of Sci.) ♯, Kiyonori Hosokawa (Tokyo Univ. of Sci.) About the configuration and characteristic of concrete recursion operator ........................................................................ 10
24  Peng Fei Bai (Nagoya Inst. of Tech.) *, Toshiaki Adachi (Nagoya Inst. of Tech.) Areas of trajectory-spheres ........................................................................ 10

13:00–14:00  Talk invited by Geometry Section
Makiko Tanaka (Tokyo Univ. of Sci.) ♯ Antipodal sets of compact symmetric spaces and the intersection of totally geodesic submanifolds

March 22nd (Fri)  Conference Room III

9:30–11:30
25  Shun Maeta (Tohoku Univ.) ♯ Biharmonic submanifolds and generalized Chen’s conjecture .............. 10
26  Shun Maeta (Tohoku Univ.) ♯, Hajime Urakawa (Tohoku Univ.) Biharmonic Lagrangian submanifolds in complex space forms ......................................................... 10
27  Yoshio Matsuyama (Chuo Univ.) ♯ Curvature pinching for complete submanifolds ....................................... 10
28  Hiroki Sako (Kyoto Univ.) * Generalizations of expander graphs and Property A for discrete metric spaces ........................................................................ 15
29 Shouhei Honda (Kyushu Univ.)* A Bochner type inequality on limit spaces ........................................ 20
30 Kei Kondo (Tokai Univ.)# Toponogov’s comparison theorem in Finsler geometry .............................. 20
    Shin-ichi Ohta (Kyoto Univ.)
    Minoru Tanaka (Tokai Univ.)

14:20–15:20 Talk invited by Geometry Section

    Jeff Viaclovsky
    (Univ. of Wisconsin, Madison)
    # Critical metrics on connected sums of Einstein four-manifolds

15:40–16:40 Talk invited by Geometry Section

    Hiroshi Matsuzoe
    (Nagoya Inst. of Tech.)
    # Statistical manifolds and geometry of estimating functions

Complex Analysis

March 22nd (Fri) Conference Room VIII

9:30–12:00

1 Katsuyuki Nishimoto (Descartes Press Co.) * N-fractional calculus of the function $f(z) = ((z-b)^{2} - c)^{-3}$ and identities .................................................. 15

2 Mitsuru Uchiyama (Shimane Univ.)# Principal inverses of orthogonal polynomials ................................. 15

3 Hitoshi Shiraishi (Kinki Univ.)# Toshio Hayami (Kinki Univ.)
    Coefficient estimates for Schwarz functions ................................................................. 15

4 Toshio Hayami (Kinki Univ.)# Shigeyoshi Owa (Kinki Univ.)
    Coefficient estimates for a certain class concerned with arguments of $f'(z)$ ......................... 15

5 Junichi Nishiwaki (Setsunan Univ.)# Shigeyoshi Owa (Kinki Univ.)
    Notes on a certain class of analytic functions .............................................................. 15

6 Kazuo Kuroki (Kinki Univ.)# Shigeyoshi Owa (Kinki Univ.)
    Starlikeness of order $\alpha$ for certain class of analytic functions .................................... 15

7 Naohiro Yaginuma (Nippon RAD, Inc.)# Minoru Yanagishita (Chiba Univ.)
    On the first boundary value problem of the biharmonic equation for the half-space ............... 15

8 Hiroaki Masaoka (Kyoto Sangyo Univ.)# Tero Kilpeläinen (Univ. of Jyväskylä)
    Pekka Koskela (Univ. of Jyväskylä)
    On harmonic Hardy–Orlicz spaces ................................................................................. 15

9 Rikio Yoneda (Otaru Univ. of Commerce) * Toeplitz operators and Hankel operators on the Bergman spaces with closed range ................................................. 10
14:20–15:40
10 Masashi Kisaka (Kyoto Univ.)♯ On the transcendental entire functions with the property that $J(f) \cup \{\infty\} \subset \hat{\mathbb{C}}$ is a Sierpiński carpet ........................................... 15
11 Masahiro Yanagishita (Waseda Univ.)♯ On a relation between the universal Teichmüller space and the Grunsky operator ............................................................... 20
12 Yoshihiko Shinomiya (Tokyo Tech)♯ On holomorphic sections of Veech holomorphic families of Riemann surfaces ................................................................. 15
13 Yohei Komori (Waseda Univ.) ♯ On a degenerate family of Riemann surfaces of genus two over an elliptic curve ................................................................. 15

16:00–17:00 Talk invited by Complex Analysis Section
Tomoki Kawahira (Nagoya Univ.)♯ Zalcman’s lemma and complex dynamics

March 23rd (Sat) Conference Room VIII

10:00–12:00
14 Kohei Ueno *(Toba Nat. Coll. of Maritime Tech.) Böttcher coordinates for polynomial skew products ........................................... 15
15 Tomoko Shinohara (Tokyo Metro. Coll. of Ind. Tech.) ♯ A construction of an invariant surface for an indeterminate point of rational mappings .................................................... 15
16 Tatsuhiro Honda (Hiroshima Inst. of Tech.) ♯ Hidetaka Hamada (Kyushu Sangyo Univ.) Gabriela Kohr (Babeş-Bolyai Univ.) Distortion theorems for linearly invariant families ........................................... 15
17 Tomohiro Okuma (Yamagata Univ.) ♯ Fan-Ning Meng (Yamagata Univ.) The maximal ideal cycles over complete intersection surface singularities of Brieskorn type ......................................................... 15
18 Atsuhira Nagano (Waseda Univ.)♯ Atsuhira Nagano (Waseda Univ.)♯ Double integrals on chambers of the Kummer surface and the Hilbert modular function ................................................................. 15
19 Takayuki Koike (Univ. of Tokyo) ♯ Gabriela Kohr (Babeş-Bolyai Univ.) Minimal singular metrics of a line bundle admitting no Zariski-decomposition ......................................................... 10
20 Masanori Adachi (Nagoya Univ.)♯ Masanori Adachi (Nagoya Univ.)♯ On the ampleness of positive CR line bundles over 3-manifolds foliated by Riemann surfaces ................................................................. 15

14:20–15:20 Talk invited by Complex Analysis Section
Hidetaka Hamada (Kyushu Sangyo Univ.) ♯ Loewner chains on complete hyperbolic complex manifolds
## Functional Equations

**March 20th (Wed)  Conference Room IV**

### 9:30–12:00

| 1 | Tomoyuki Tanigawa (Kumamoto Univ.)* | Regularly varying solutions of half-linear differential equations with retarded and advanced arguments | 15 |
| 2 | Toshiharu Kawasaki (Nihon Univ.)♯, Masashi Toyoda (Tamagawa Univ.) | On the Cauchy problem for an ordinary differential equation by using a fixed point theorem | 15 |
| 3 | Ichiro Tsukamoto (Toyo Univ.)* | On asymptotic behaviour of positive solutions of $x'' = t^{\alpha \lambda - 2} x^{1+\alpha}$ ($\alpha = \lambda_0$, $\lambda > 0$) | 12 |
| 4 | Seiji Saito (Doshisha Univ.)♯ | Globally uniformly asymptotic stability of solutions for difference equations | 15 |
| 5 | Katsuyuki Nishimoto (Descartes Press Co.)* | Solutions to the homogeneous Bessel equation by means of N-fractional calculus operator | 15 |
| 6 | Katsuyuki Nishimoto (Descartes Press Co.)* | The solutions to the radial Schrödinger equation of the hydrogen atom by means of N-fractional calculus operator | 15 |
| 7 | Ryu Sasaki (Kyoto Univ.)♯, Kouichi Takemura (Chuo Univ.) | Global solutions of certain second order differential equations with a high degree of apparent singularity | 10 |
| 8 | Nobuki Takayama (Kobe Univ./JST CREST), Takayuki Hibi (Osaka Univ./JST CREST), Kenta Nishiyama (Osaka Univ./JST CREST) | Pfaffian systems of A-hypergeometric systems | 15 |
| 9 | Hiromasa Nakayama (Kobe Univ./JST CREST) | Gröbner basis for differential equations of the Lauricella hypergeometric functions | 15 |

### 14:15–16:30

| 10 | Hidekazu Ito (Kanazawa Univ.)♯ | Superintegrability of vector fields and their normal forms near equilibrium points | 15 |
| 11 | Chihiro Matsuoka (Ehime Univ.)♯, Koichi Hiraide (Ehime Univ.) | Global solutions created by Borel–Laplace transform of difference equations associated with Hénon maps | 15 |
| 12 | Masaki Hibino (Meijo Univ.)* | On the summability of divergent power series solutions for certain 1st order linear PDEs | 15 |
| 13 | Yasuaki Niijima (Chiba Univ.)♯ | On the prolongation of 2-bounded holomorphic solutions to the first order involutive system | 10 |
| 14 | Hideshi Yamane ♯, (Kwansei Gakuin Univ.) | Long-time asymptotics for the defocusing integrable discrete nonlinear Schrödinger equation | 15 |
| 15 | Haruya Mizutani (Kakushin Univ.)♯ | Remarks on Strichartz estimates for Schrödinger equations with potentials superquadratic at infinity | 15 |
| 16 | Tetsutaro Shibata (Hirosima Univ.)* | Inverse bifurcation problems for diffusive logistic equation of population dynamics | 15 |
| 17 | Yutaka Kamimura ♯, (Tokyo Univ. of Marine Sci. and Tech.) | An inverse analysis of advection-diffusion | 15 |
16:45–17:45  Talk invited by Functional Equations Section

Naoto Yamaoka (Osaka Pref. Univ.)
An oscillation constant for half-linear differential equations and its application

March 21st (Thu)  Conference Room IV

9:30–12:00

18  Satoshi Tanaka (Okayama Univ. of Sci.)
Exact multiplicity of positive solutions for a class of two-point boundary value problems with one-dimensional $p$-Laplacian

19  Naoki Sioji (Yokohama Nat. Univ.)
Kohtaro Watanabe
(Nat. Defense Acad. of Japan)
Uniqueness of a positive radial solution for an elliptic equation $\Delta u + g(r)u + h(r)u^p = 0$ and its applications

20  Ryuji Kajikiya (Saga Univ.)
Asymmetry of positive solutions of the Emden–Fowler equation in hollow symmetric domains

21  Ryuji Kajikiya (Saga Univ.)
Multiple positive solutions of the Emden–Fowler equation in hollow symmetric domains

22  Yasuhito Miyamoto (Keio Univ.)
Structure of the positive solutions for supercritical elliptic equations in a ball

23  Yasuhito Miyamoto (Keio Univ.)
Symmetry breaking bifurcation from solutions concentrating on the equator of $S^N$

24  Yasuhito Miyamoto (Keio Univ.)
Kazuyuki Yagasaki (Hiroshima Univ.)
Monotonicity of the first eigenvalue and the global bifurcation diagram for the branch of interior peak solutions

25  Daishuke Naimen (Osaka City Univ.)
Existence of infinitely many solutions for nonlinear Neumann problems with indefinite coefficients

26  Yusuke Kotera (Osaka Univ.)
Takashi Suzuki (Osaka Univ.)
Takuya Tsuchiya (Ehime Univ.)
Hadamard variational formula for general domain perturbation

27  Yoichi Miyazaki (Nihon Univ.)
$L_p$ regularity theorem for elliptic equations and smoothness of the domain

13:30–14:30  Award Lecture for 2012 Analysis Prize

Shigeru Sakaguchi (Tohoku Univ.)
Stationary isothermic surfaces and geometry of domain

March 22nd (Fri)  Conference Room IV

9:30–12:00

28  Chihiro Aida (Meiji Univ.)
Chao-Nien Chen
(Nat. Changhua Univ. of Edu.)
Hirokazu Ninomiya (Meiji Univ.)
Diffusion-induced bifurcation from infinity

29  Yuki Kaneko (Waseda Univ.)
Yosioh Yamada (Waseda Univ.)
Kazuhiko Oeda (Waseda Univ.)
Spreading and vanishing for free boundary problems in an ecological model

30  Hiroko Okochi
(Tokyo Univ. of Pharmacy and Life Sci.)
Conditions for Turing’s instability concerning reaction-diffusion equations
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<td>Norisuke Ioku (Ehime Univ.)</td>
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<td>A generalization of the Korn inequality</td>
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<td>The derivation of the conservation law for nonlinear Schrödinger equations of Gross–Pitaevskii type</td>
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<td>Nobu Kishimoto (Kyoto Univ.)</td>
<td>Well-posedness for the cubic nonlinear Schrödinger equation on two-dimensional torus</td>
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<td>Kazuyuki Doi (Toyama Pref. Univ.), Hideo Kubo (Hokkaido Univ.)</td>
<td>On the weighted pointwise estimates for derivatives of solutions to the wave equation</td>
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16:30–17:30 Award Lecture for 2012 Analysis Prize

Yoshiyuki Kagei (Kyushu Univ.) | Asymptotic behavior of solutions of the compressible Navier-Stokes equation around a parallel flow |

March 23rd (Sat) Conference Room IV

9:30–11:45

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48 Tomonari Watanabe (Hiroshima Univ.) ♯ Global existence and decay estimates for quasilinear wave equations with nonuniform dissipative term .......................... 10

49 Itsuko Hashimoto (Kanazawa Univ./Osaka City Univ.)
   Heinrich Freistühler (Konstanz Univ.) * Initial boundary value problem for scalar conservation law ............... 10

50 Naoki Tsuge (Gifu Univ.) ♯ The motion of the gas in a nozzle — Time global existence and invariant regions — .......................... 15

51 Jan Prüss (Univ. Halle) * On a stability of incompressible two-phase flows with phase transitions in a bounded domain: The case of non-equal densities ..................... 15

   Senjo Shimizu (Shizuoka Univ.)
   Mathias Wilke (Univ. Halle)

52 Tetu Makino (Yamaguchi Univ.) ♯ Spherically symmetric motions of a gaseous star .......................... 15

53 Teppei Kobayasi (Meiji Univ.) * Jeffery–Hamel’s flows in the plane III ........................................ 10

54 Teppei Kobayasi (Meiji Univ.) * Steady Navier–Stokes equations with Poiseuille’s flow and Jeffery–Hamel’s flow ........................................ 15

14:15–15:15 Talk invited by Functional Equations Section

Hiroyuki Takamura ♯ General theory of initial value problems for nonlinear wave equations and its optimality.
   (Future Univ.-Hakodate)

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Real Analysis

March 20th (Wed)  Conference Room VIII

9:00–12:10

1 Shota Kojima (Rikkyo Univ.) ♯ A generalization of $e$ ........................................ 10

2 Yukino Tomizawa (Chuo Univ.) ♯ Lipschitz evolution operators in Banach spaces .......................... 15
   Yoshikazu Kobayashi (Chuo Univ.)
   Naoki Tanaka (Shizuoka Univ.)

3 Takesi Fukao (Kyoto Univ. of Edu.) ♯ Characterization of the solution for evolution equations with time-dependent constraints ........................................ 15
   Nobuyuki Kenmochi (Bukkyo Univ.)

4 Toyohiko Aiki (Japan Women’s Univ.) ♯ On large time behavior of a solution to the concrete corrosion problem in a sewer pipe ........................................ 15
   Adrian Muntean (TU Eindhoven)

5 Ken Shirakawa (Chiba Univ.)
   Salvador Moll (Univ. Valencia)
   Existence theorem for solutions to multidimensional phase-field models of grain boundaries ........................................ 15

6 Noriaki Yamazaki (Kanagawa Univ.) ♯ Necessary conditions for optimal control of positive solutions to second order impulsive differential equations ........................................ 15
   Lingling Zhang (Taiyuan Univ. of Tech.)
   Chengbo Zhai (Shanxi Univ.)

7 Hiroki Ohwa (Niigata Univ.) * On the wave-front tracking method for $2 \times 2$ hyperbolic systems of conservation laws ........................................ 15
8 Naoki Sato (Nagaoka Nat. Coll. of Tech.)
Tohokyo Aiki (Japan Women’s Univ.)
Yusuke Murase (Meijo Univ.)
Ken Shirakawa (Chiba Univ.)
♯ On global solution of a one dimensional free boundary problem for adsorption phenomena .................................................. 15

9 Motohiro Sobajima (Tokyo Univ. of Sci.)
Tomomi Yokota (Tokyo Univ. of Sci.)
♯ On analytic $C_0$-semigroups generated by generalized Ornstein–Uhlenbeck operators in weighted $L^p$-spaces .................................................. 15

10 Yutaka Tsuzuki (Tokyo Univ. of Sci.)
Motohiro Sobajima (Tokyo Univ. of Sci.)
Tomomi Yokota (Tokyo Univ. of Sci.)
♯ Solvability of nonlinear heat equations with unbounded obstacles coupled with Navier–Stokes equations .................................................. 15

11 Akio Ito (Kinki Univ.)
Kazuhiko Yamamoto (Kinki Univ.)
♯ Existence and uniqueness of non-negative time-global solutions to ODE system describing cardiomegaly .................................................. 15

12 Risei Kano (Kochi Univ.)
Akio Ito (Kinki Univ.)
♯ The existence of weak solutions for tumor invasion models ................ 15

14:15–16:30
13 Kota Kumazaki (Tomakomai Nat. Coll. of Tech.)
♯ Large time behavior of a solution for carbon dioxide transport model in concrete carbonation process .................................................. 15

14 Hiroshi Watanabe (Salasian Polytechnic)
♯ A kinetic approach to strongly degenerate parabolic equations ........ 15

15 Akio Ito (Kinki Univ.)
Nobuyuki Kenmochi (Bukkyo Univ.)
Yusuke Murase (Meijo Univ.)
♯ Solvability of mathematical modeling for Sake whose finish time depends on the solutions .................................................. 15

16 Takeshi Iida (Fukushima Nati. Coll. of Tech.)
♯ The inequalities on weighted Morrey spaces for Hardy–Littlewood maximal function and singular integrals .................................................. 15

17 Gaku Sadasue (Osaka Kyaioku Univ.)
Yoshihiro Sawa (Tokyo Metro. Univ.)
Eiichi Nakai (Ibaraki Univ.)
♯ Generalized Morrey–Campanato spaces of martingales .................. 15

18 Takahiro Noi (Chuo Univ.)
♯ Trace operators for Besov spaces with variable exponents ................ 15

19 Katsuo Matsuoka (Nihon Univ.)
♯ On the boundedness for singular integrals in central Morrey spaces and $\lambda$-CMO spaces .................................................. 15

20 Shinya Moritoh (Nara Women’s Univ.)
♯ Anisotropic versions of some analogues of Besov–Triebel–Lizorkin spaces .................................................. 15

16:45–17:45 Talk invited by Real Analysis Section
Giorgio Metafuno (Salento Univ.)
♯ Spectral properties of second order operators with unbounded coefficients in $\mathbb{R}^d$

March 21st (Thu) Conference Room VIII

9:00–11:55
21 Enji Sato (Yamagata Univ.)
Takashi Izumi (Yamagata Univ.)
♯ Fourier multipliers from $L^p$ spaces to Morrey spaces on the unit circle .................................................. 15
22 Nobusumi Sagara (Hosei Univ.)
Mohammed Ali Khan (Johns Hopkins Univ.)
Maharam-types and Lyapunov’s theorem for vector measures on Banach spaces ........................................... 15

23 Toshiharu Kawasaki (Nihon Univ.)
Approximately derivative in a vector lattice .......................... 15

24 Toshikazu Watanabe (Nihon Univ.)
Tamaki Tanaka (Niigata Univ.)
On Riesz space-valued non-additive measures ..................... 15

25 Fumiaki Kohsaka (Oita Univ.)
Nonexistence of fixed points and unbounded sets .................. 15

26 Kichi-Suke Saito (Niigata Univ.)
Ryotaro Tanaka (Niigata Univ.)
Naoto Komuro (Hokkaido Univ. of Edu.)
Beckner’s inequality and its application to Banach spaces .......... 10

27 Ryotaro Tanaka (Niigata Univ.)
Kichi-Suke Saito (Niigata Univ.)
A structure of finite dimensional normed linear spaces .......... 15

28 Hiroyasu Mizuguchi (Niigata Univ.)
Kichi-Suke Saito (Niigata Univ.)
Ryotaro Tanaka (Niigata Univ.)
On the calculation method of the Dunkl–Williams constant of normed spaces ......................................................... 15

29 Koji Aoyama (Chiba Univ.)
Existence of fixed points of firmly nonexpansive-like mappings in Banach spaces ..................................................... 15

30 Aoi Honda (Kyushu Inst. of Tech.)
Yoshiaki Okazaki (Kyushu Inst. of Tech.)
Hiroshi Sato (Kyushu Univ.)*
Inner and outer approximation spaces of $A_2(f)$ and $\ell_p$ ............. 15

12:55–13:25

31 Takayuki Tamura (Chiba Univ.)
Mikio Kato (Shinshu Univ.)
On direct sums of Banach spaces with a strictly monotone norm .... 15

32 Yasuji Takahashi (Okayama Pref. Univ.)*
Mikio Kato (Shinshu Univ.)
Some results on von Neumann–Jordan type constants of a Banach space ................................................................. 15

13:40–14:40 Talk invited by Real Analysis Section
Tsuyoshi Yoneda (Hokkaido Univ.)
Fourier analysis and rotating Navier–Stokes equations

Functional Analysis

March 21st (Thu) Conference Room V

9:30–12:15

1 Tatsuya Tsurii (Osaka Pref. Univ.)
Satoshi Kawakami (Nara Univ. of Edu.)
Deformations of finite hypergroups .................................. 10
Duality problem of extension hypergroups ........................................ 10

A hypergroup coming from infinite dimensional representations of a
motion group ................................................................................... 10

Induced states of a hypergroup ......................................................... 10

When does the dual have a hypergroup structure? ......................... 10

Inductive structure and the determinant of the right multiplication
operators in the clan structure of a Euclidean Jordan algebra .......... 15

Clans defined by representations of Hermitian Jordan algebras .... 15

Clans defined by representations of Lorentzian Jordan algebras .... 15

Dual clans of clans defined by representations of Euclidean Jordan
algebras ........................................................................................... 15

Compatible automorphisms for visible linear actions ..................... 15

Embedding of real coadjoint orbits in the twisted cotangent bundle of
the complex flag variety ................................................................. 15


13:30–14:30  Talk invited by Functional Analysis Section
Hisayosi Matumoto (Univ. of Tokyo) 2 On the homomorphisms between scalar generalized Verma modules

March 22nd (Fri)  Conference Room V

10:00–12:00

Yuki Seo (Osaka Kyoiku Univ.) 2 The Arithmetic-Geometric mean inequality in an external formula ........ 10

Kei Ji Izuchi (Niigata Univ.) 2 Composition operators induced by analytic maps to the polydisk .......... 15

Quang Dieu Nguyen (Hanoi Univ. of Education, Vietnam)
Shuichi Ohno (Nippon Inst. of Tech.)

Wolfgang Krieger (Univ. of Heidelberg) 2 A class of subshifts with property (A) ................................. 15

Toshihiro Hamachi (Kyushu Univ.)

Tsuyoshi Kajiwara (Okayama Univ.) 2 Trace on cores of C*-algebras associated with rational functions .... 15

Yasuo Watatani (Kyushu Univ.)

Kengo Matsumoto (Joetsu Univ. of Edu.) 2 C*-algebras associated with Hilbert C*-quad modules of finite type ................................................................. 15
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<th>Time</th>
<th>Speaker</th>
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<td>14:30–15:20</td>
<td>Yoshihiro Ando (IHÉS)</td>
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<td>Uffe Haagerup (Univ. of Copenhagen)</td>
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<td>14:30–15:20</td>
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<td>Tamotsu Teruya (Gunma Univ.)</td>
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**March 23rd (Sat)**

**Conference Room V**

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<th>Time</th>
<th>Speaker</th>
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<td>10:30–12:00</td>
<td>Hiromichi Miyake</td>
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<td>10:30–12:00</td>
<td>Yoshinori Kametaka (Osaka Univ.)</td>
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<td>10:30–12:00</td>
<td>Hiroyuki Yamagishi (Tokyo Metro. Coll. of Ind. Tech.)</td>
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<td>Yoshinori Kametaka (Osaka Univ.)</td>
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<td>Atsushi Nagai (Nihon Univ.)</td>
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<td>Kohtaro Watanabe (Nat. Defense Acad. of Japan)</td>
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<td>Kazuo Takemura (Nihon Univ.)</td>
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<td>10:30–12:00</td>
<td>Shin-ichi Nakagiri (Kobe Univ.)</td>
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<td>10:30–12:00</td>
<td>Kohei Umeta (Hokkaido Univ.)</td>
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<td>Naofumi Honda (Hokkaido Univ.)</td>
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</table>
14:30–15:30  Talk invited by Functional Analysis Section
Akzunori Ando (Univ. of Tsukuba)  Inverse scattering problem for discrete Schrödinger operators on the hexagonal lattice

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Statistics and Probability

March 20th (Wed)    Conference Room IX

9:30–12:00

1  Yukiko Iwata (Univ. of Tokyo)  Stochastic perturbations of one-dimensional maps
2  Yu Ito (Kyoto Univ.)  Integrals along rough paths via fractional calculus
3  Makoto Nakashima (Univ. of Tsukuba)  Super-Brownian motion in random environment
4  Yuki Suzuki (Keio Univ.)  A diffusion process with a Brownian potential including a zero potential part
5  Katusi Fukuyama (Kobe Univ.)  Christoph Aistleitner (Graz Univ. Tech.)  Optimal bound for the discrepancies of lacunary sequences
6  Hiroaki Hata (Shizuoka Univ.)  Risk-sensitive portfolio optimization problems with a jump type stochastic factor model
7  Kazufumi Fugimoto (Bank of Tokyo-Mitsubishi UFJ)  Expected utility maximization under incomplete information and with Cox-processes observations
8  Teppei Ogihara (Osaka Univ.)  Nakahiro Yoshida (Univ. of Tokyo)  Maximum likelihood type and Bayes type estimation for diffusion processes with nonsynchronous observations

14:30–15:30  Talk invited by Statistics and Probability Section
Daisuke Shiraishi (Kyoto Univ.)  Non-intersecting two-sided random walks

15:45–16:45  Talk invited by Statistics and Probability Section
Naoyuki Ichihara (Hiroshima Univ.)  Asymptotic problems for viscous Hamilton–Jacobi equations and stochastic control

March 21st (Thu)    Conference Room IX

9:00–11:50

9  Satoshi Suzuki (Shimane Univ.)  Daishi Kuroiwa (Shimane Univ.)  Lagrange-type duality theorem and generator for quasiconvex programming
10  Yusuke Saeki (Shimane Univ.)  Daishi Kuroiwa (Shimane Univ.)  On constraint qualification for DC programming problems
11  Teruo Tanaka (Hiroshima City Univ.)  A partially observable Markov decision process under a fractional criterion
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<td>Toshiharu Fujita (Kyushu Inst. of Tech.)</td>
<td>Mutually dependent decision processes and Egg Dropping Problem</td>
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<td>Sigeo Aki (Kansai Univ.)</td>
<td>On distributions of the number of pattern occurrences in undirected</td>
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<td>Kiyoshi Inoue (Seikei Univ.)</td>
<td>graphical models</td>
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<td>14</td>
<td>Hironori Fujisawa (Inst. of Stat. Math.)</td>
<td>A family of skew-unimodal distributions with mode invariance</td>
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<td>Toshihiro Abe (Tokyo Univ. of Sci.)</td>
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<td>15</td>
<td>Tamio Koyama (Kobe Univ.)</td>
<td>The evaluation of orthant probabilities utilizing the holonomic</td>
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<td>Akimichi Takemura (Univ. of Tokyo)</td>
<td>gradient method</td>
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<td>Satoshi Aoki (Kagoshima Univ./JST CREST)</td>
<td>Markov chain Monte Carlo methods for the regular two-level fractional</td>
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<td>Hidefumi Osugi (Rikkyo Univ./JST CREST)</td>
<td>factorial designs and cut ideals</td>
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<td>Takayuki Hibi (Osaka Univ./JST CREST)</td>
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<td>17</td>
<td>Sanpei Kageyama (Hiroshima Inst. of Tech.)</td>
<td>Complete existence of 3 pairwise additive BIB designs</td>
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<td>Kazuki Matsubara (Hiroshima Univ.)</td>
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<td>18</td>
<td>Hiromu Yumiba (Inst. Inst. for Nat. Sci.)</td>
<td>Existence conditions for balanced fractional factorial designs of</td>
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<td>Yoshifumi Hyodo (Okayama Univ. of Sci./Int.</td>
<td>resolution V derived from simple arrays with three symbols (II)</td>
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<td>Inst. for Nat. Sci.)</td>
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<td>Masahide Kuwada (Int. Inst. for Nat. Sci.)</td>
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<td>19</td>
<td>Kazuyoshi Yata (Univ. of Tsukuba)</td>
<td>Estimation on eigenvalues for high-dimensional data having power</td>
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<td>Makoto Aoshima (Univ. of Tsukuba)</td>
<td>spiked model</td>
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<td>Hiroto Hyakutake (Kyushu Univ.)</td>
<td>On estimation of parameters in heteroscedastic random effects models</td>
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<td>Kengo Ueda (Kyushu Univ.)</td>
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<td>Shoichi Sasabuchi (Kyushu Univ.)</td>
<td>On the powers of tests for homogeneity of regression coefficient</td>
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<td>vectors under synchronized order restrictions</td>
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<td>22</td>
<td>Fumiya Akashi (Waseda Univ.)</td>
<td>Empirical likelihood approach for stable processes</td>
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<td>Masanobu Taniguchi (Waseda Univ.)</td>
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<td>23</td>
<td>Yan Liu (Waseda Univ.)</td>
<td>Hypothesis testing for vector stable processes</td>
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<td>Masanobu Taniguchi (Waseda Univ.)</td>
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<td>24</td>
<td>Kenta Hamada (Waseda Univ.)</td>
<td>Constrained Whittle estimators and shrinked Whittle estimators</td>
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<td>Masanobu Taniguchi (Waseda Univ.)</td>
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<td>25</td>
<td>Yoshihiko Maesono (Kyushu Univ.)</td>
<td>Smoothing of sign test and approximation of its p-value</td>
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<td>Lu Mengxin (Kyushu Univ.)</td>
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<td>26</td>
<td>Gaku Igarashi (Hokkaido Univ.)</td>
<td>Re-formulation of the inverse Gaussian, reciprocal inverse Gaussian</td>
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<td>Yoshihide Kakizawa (Hokkaido Univ.)</td>
<td>and Birnbaum–Saunders kernel estimators</td>
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March 22nd (Fri)  Conference Room IX

9:30–12:00

25  Yoshihiko Maesono (Kyushu Univ.) Smoothing of sign test and approximation of its p-value
    Lu Mengxin (Kyushu Univ.)

26  Gaku Igarashi (Hokkaido Univ.) Re-formulation of the inverse Gaussian, reciprocal inverse Gaussian and
    Yoshihide Kakizawa (Hokkaido Univ.) Birnbaum–Saunders kernel estimators
27 Shuya Kanagawa (Tokyo City Univ.) ♯  Asymptotic expansion for sums of Hilbert space valued random variables and its application to V-statistics ........................................... 15
28 Shintaro Hashimoto (Univ. of Tsukuba) ♯ Ken-ichi Koike (Univ. of Tsukuba) Information inequality for the Bayes risk ................................................................. 15
29 Yiling Lin (Nagoya Univ.) ♯ Miwako Mishima (Gifu Univ.) Masakazu Jimbo (Nagoya Univ.) Optimal equi-difference conflict-avoiding codes of length $n = 2^a3^b m$ and weight four ................................................................. 18
30 Hiroyuki Kurakami (Tokyo Univ. of Sci.) Kouji Tahata (Tokyo Univ. of Sci.) Sadao Tomizawa (Tokyo Univ. of Sci.) Generalized marginal cumulative logistic model and decomposition of marginal symmetry for multi-way tables ............................................. 10
31 Yusuke Saigusa (Tokyo Univ. of Sci.) ♯ Kouji Tahata (Tokyo Univ. of Sci.) Sadao Tomizawa (Tokyo Univ. of Sci.) Extended palindromic symmetry models for square contingency tables with ordered categories ................................................................. 10
32 Yayoi Tanaka (Tokyo Univ. of Sci.) ♯ Kouji Yamamoto (Osaka Univ.) Sadao Tomizawa (Tokyo Univ. of Sci.) Sum-symmetry model and its decomposition for square contingency tables with ordered categories ................................................................. 10
33 Fumika Shimada (Tokyo Univ. of Sci.) ♯ Kouji Yamamoto (Osaka Univ.) Sadao Tomizawa (Tokyo Univ. of Sci.) Measure for symmetry using collapsed tables in square contingency tables with ordered categories ................................................................. 10
34 Motoki Ohama (Tokyo Univ. of Sci.) ♯ Kouji Yamamoto (Osaka Univ.) Sadao Tomizawa (Tokyo Univ. of Sci.) Decompositions of symmetry using generalized linear diagonals-parameter symmetry model for square contingency tables ................................................................. 10

14:30–15:30 Talk invited by Statistics and Probability Section
Masanori Sawa (Nagoya Univ.) ♯ The theory of cubature formulae and designs in numerical analysis, algebraic combinatorics and mathematical statistics

15:45–16:45 Award Lecture for 2012 Analysis Prize
Masanobu Taniguchi (Waseda Univ.) ♯ Non-standard analysis for time series

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**Applied Mathematics**

**March 20th (Wed) Conference Room VI**

**9:30–11:35**

1 Atsuhiro Nakamoto ♯ General extension to even triangulations ........................................... 15
    (Yokohama Nat. Univ.)
    Kenta Ozeki
    (Nat. Inst. of Information/JST ERATO)
    Kenta Noguchi (Keio Univ.)
2 Atsuhiro Nakamoto
(Yokohama Nat. Univ.)
Tsubasa Yamaguchi
(Yokohama Nat. Univ.)
♯ Generating theorem for even multi-triangulations on the torus ................................ 15

3 Atsuhiro Nakamoto
(Yokohama Nat. Univ.)
Momoko Kobayashi
(Yokohama Nat. Univ.)
♯ On 3-list-coloring of bipartite graphs on closed surfaces ................................. 15

4 Atsuhiro Nakamoto
(Yokohama Nat. Univ.)
Kenta Ozeki
(Nat. Inst. of Information/JST ERATO)
Kenta Noguchi
(Keio Univ.)
♯ A cyclic 4-colorability of graphs on surfaces .................................................. 10

5 Akira Saito (Nihon Univ.)
♯ The local Chvátal–Erdős condition and 2-factors in graphs .......................... 15

6 Kenjiro Ogawa (Tokai Univ.)
Morimasa Tsuchiya (Tokai Univ.)
Satoshi Tagunsari (Tokai Univ.)
♯ On strict-semi-bound graph .................................................................................. 10

7 Michitaka Furuya (Tokyo Univ. of Sci.)
♯ Upper bounds on the diameter of domination dot-critical graphs with given connectivity ................................................................. 15

8 Kazunori Matsuda (Nagoya Univ.)
♯ Properties of weakly closed graphs ................................................................. 10

14:15–16:25

9 Ryota Matsubara
(Shibaura Inst. of Tech.)
Haruhide Matsuda
(Shibaura Inst. of Tech.)
♯ On trees with constraints on the leaf degree ................................................ 10

10 Shoichi Tsuchiya (Tokyo Univ. of Sci.)
Michitaka Furuya (Tokyo Univ. of Sci.)
♯ On forbidden pairs implying a homeomorphically irreducible spanning tree ................................................................. 15

11 Midori Kobayashi (Univ. of Shizuoka)
Gisaku Nakamura (Univ. of Shizuoka)
♯ Dudeney’s Bench problem .................................................................................. 10

12 Kazuhiko Ushio (Kinki Univ.)
♯ Balanced $(C_9,C_{12})$-foil designs and related designs ........................................ 15

13 Kiyoshi Ando (Univ. of Electro-Comm.)
♯ Some degree sum and forbidden subgraph conditions for $k$-contractible edges ................................................................. 15

14 Iwao Sato (Oyama Nat. Coll. of Tech.)
♯ A generalized Bartholdi zeta function for a hypergraph .................................. 15

15 Kenji Kashiwabara (Univ. of Tokyo)
♯ Fulkerson conjecture for cubic graphs, and clutter theory .......................... 15

16 Guantao Chen (Georgia State Univ.)
Ryo Hazama (Keio Univ.)
Katsuhiro Ota (Keio Univ.)
♯ Clique minors, chromatic numbers for degree sequences in graphs ................ 15

16:40–17:40 Talk invited by Applied Mathematics Section
Jun Fujisawa (Keio Univ.)
♯ On the existence of good structures in graphs
March 21st (Thu)  Conference Room VI

9:30–11:35

17  Naoki Matsumoto  (Yokohama Nat. Univ.)  The number of diagonal transformations in pentangulations on the sphere ................................................................. 15
18  Masahiro Hachimori  (Univ. of Tsukuba)  Discrete Voronoi games and related games on graphs, and Nash equilibria ................................................................. 15
19  Shinya Fujita  (Maebashi Inst. of Tech.)  Revisit of Erdős–Gallai’s theorem on the circumference of a graph ......................................................... 10
      Linda Lesniak  (Drew Univ.)
20  Yoshiyuki Mori  (Okayama Univ. of Sci.)  A fast calculation of $a^{p-1} \equiv 1 \pmod{p^2}$ ......................................................... 10
      Ryuichi Sawae  (Okayama Univ. of Sci.)
      Daisuke Ishi  (Okayama Univ. of Sci.)
21  Yoshiyuki Mori  (Okayama Univ. of Sci.)  On a calculation of the largest prime divisor of an odd perfect number ......................................................... 10
      Miho Aoki  (Shimane Univ.)
      Daisuke Ishii  (Okayama Univ. of Sci.)
22  Yukiko Fukukawa  (Osaka City Univ.)  Generalization of the Catalan number ......................................................... 10
23  Yutaka Sueyoshi  (Nagasaki Univ.)  On the maximal value of break intervals of equitable round-robin tournaments with home-away assignments ......................................................... 20
      Ryuichi Harasawa  (Nagasaki Univ.)
      Aichi Kudo  (Nagasaki Univ.)
24  Chie Nara  (Tokai Univ.)  Affine classes of 3-dimensional parallelohedra —Their parametrization and structure— ......................................................... 15
      Jin-ichi Itoh  (Kumamoto Univ.)
      Nikolai Dolbilin  (Steklov Math. Inst.)

13:15–14:15  Talk invited by Applied Mathematics Section

Hayato Chiba  (Kyushu Univ.)  A spectral theory of linear operators on a Gelfand triplet and its application to the dynamics of coupled oscillators

March 22nd (Fri)  Conference Room VI

9:00–11:45

25  Hirotaka Ebisui  (Oval Research Center)  Example of error and difficulty in hard-soft PG manage and color-phase technology by Pachikuri multistructured mapping form using a spatial multi-phase positon in stratified society ......................................................... 10
26  Shunzi Horiguchi  (Niigata Sangyo Univ.)  On relations between the enhancement of Tsuchikura–Horiguchi’s (Yoshimasu Murase–Newton type’s) recurrence formulas concerning algebraic equations and Horner method ......................................................... 15
27  Shan Der Lin  (Chung Yuan Christian Univ.)  Laplace transform of the fractional derivative and its applications ......................................................... 15
      Chia-Hung Lu  (Chung Yuan Christian Univ.)
28  Fumio Nakajima  (Iwate Univ.)  A mathematical approach to the policy of Atomic energy ......................................................... 15
29  Takechiko Kinoshita  (Kyoto Univ.)  A numerical verification of the invertibility for elliptic partial differential operators ......................................................... 15
      Yosihata Watanabe  (Kyushu Univ.)
      Mitsuhiro T. Nakao  (Sasebo Nat. Coll. of Tech.)
30 Akitoshi Takayasu (Waseda Univ.)\textsuperscript{♯} Xuefeng Liu (Waseda Univ.)\textsuperscript{♯} Shin’ichi Oishi (Waseda Univ./JST CREST)\textsuperscript{♯} Verified computations for semilinear elliptic boundary value problems on arbitrary polygonal domains .................................................. 15
31 Mikio Murata (Tokyo Univ. of Agri. and Tech.)\textsuperscript{♯} The direct method to transform parabolic differential equations into cellular automata .................................................. 15
32 Koya Sakakibara (Meiji Univ.)\textsuperscript{♯} Masashi Katsurada (Meiji Univ.)\textsuperscript{♯} Hidenori Ogata (Univ. of Electro-Comm.)\textsuperscript{♯} An application of a method approximating holomorphic functions by linear combinations of $1/(z - \zeta)$: calculating the inverse of conformal mappings .................................................. 15
33 Takashi Sakajo (Hokkaido Univ./JST CREST)\textsuperscript{♯} Tomoo Yokoyama (Hokkaido Univ./JST CREST)\textsuperscript{♯} Word representation of streamline topologies for structurally stable vortex flows in multiply connected domains .................................................. 15

14:15–16:30

34 Takahito Kashiwabara (Univ. of Tokyo)\textsuperscript{♯} Some remarks on Navier–Stokes equations with leak boundary condition .................................................. 15
35 Masahisa Tabata (Waseda Univ.)\textsuperscript{♯} Equivalence of an upwind FEM and a characteristics FEM .................................................. 15
36 Kenji Uemichi (Kwansei Gakuin Univ.)\textsuperscript{♯} Koichi Osaki (Kwansei Gakuin Univ.)\textsuperscript{♯} A mathematical model for comb construction of honeybees .................................................. 15
37 Masaji Watanabe (Okayama Univ.)\textsuperscript{♯} Fusako Kawai (Kyoto Inst. Tech.)\textsuperscript{♯} Study on microbial depolymerization processes of exogenous type .................................................. 15
38 Hideki Murakawa (Kyushu Univ.)\textsuperscript{♯} Arnaud Ducrot (Univ. Bordeaux 2) Frank Le Foll (Univ. de Le Havre) Pierre Magal (Univ. Bordeaux 2) Jennifer Pasquier (Univ. de Le Havre) Glenn F. Webb (Vanderbilt Univ.)\textsuperscript{♯} On spatiotemporal patterns in a cell population model .................................................. 15
39 Hiroyoshi Yamamoto (Tohoku Univ.)\textsuperscript{♯} Izumi Takagi (Tohoku Univ.)\textsuperscript{♯} Concentration point in the ground state of a reaction-diffusion equation in heterogeneous media .................................................. 15
40 Kazuyuki Yagasaki (Hiroshima Univ.)\textsuperscript{♯} G. H. M. van der Heijden (Univ. College London)\textsuperscript{♯} Existence of horseshoe dynamics in an asymmetric heavy top .................................................. 15
41 Yasuaki Hiraoka (Kyushu Univ.)\textsuperscript{♯} Protein structure analysis and persistent homology .................................................. 15

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

Takeshi Ohtsuka (Gunma Univ.)\textsuperscript{♯} A level set formulation for evolving spirals and their behavior in spiral crystal growth
Topology

March 20th (Wed)  Conference Room II

9:30–12:00

1  Shin Satoh (Kobe Univ.)\#  OU sequence of knot diagram and its application ............................................. 10
   Ryuji Higa (Kobe Univ.)
   Yasutaka Nakanishi (Kobe Univ.)
   Takuto Yamamoto (Kobe Univ.)

2  Taizo Kanenobu (Osaka City Univ.)\#  Links which are related by a band surgery ............................................. 10
   Hiromasa Moriuchi (Osaka City Univ.)

3  Takuji Nakamura (Osaka Electro-Comm. Univ.)
   (Kobe Univ.)
   Yasutaka Nakanishi (Kobe Univ.)
   Shin Satoh (Kobe Univ.)

4  Makoto Ozawa (Komazawa Univ.)\#  Coexistence of coiled surfaces and spanning surfaces for knots and links ............................................. 15

5  Makoto Ozawa (Komazawa Univ.)\#  A destabilized bridge sphere of bridge number arbitrarily higher than the bridge number of the knot ............................................. 10
   Kazuto Takao (Osaka Univ.)

6  Masakazu Teragaito (Hiroshima Univ.)\#  Left-orderable fundamental group and Dehn surgery on twist knots ............................................. 10
   Ryoto Hakamata (Hiroshima Univ.)

7  Kazuhiro Ichihara (Nihon Univ.)\#  Exceptional surgeries on alternating knots ............................................. 10
   Hidetoshi Masai (Tokyo Tech)

8  Toshifumi Tanaka (Gifu Univ.)\#  On the maximal Thurston–Bennequin number for knots in a spatial graph ............................................. 10

9  Isamu Miyato (Nagoya Inst. of Tech.)\#  On a certain parity of the Alexander polynomial ............................................. 10

10 Sakie Suzuki (Kyoto Univ.)\#  Bing doubling and the colored Jones polynomial ............................................. 10

11 Takefumi Nosaka (Kyushu Univ.)\#  Topological interpretation of link invariants from finite quandles I; main theorem ............................................. 10

12 Takefumi Nosaka (Kyushu Univ.)\#  Topological interpretation of link invariants from finite quandles II; some calculations ............................................. 10

13 Takefumi Nosaka (Kyushu Univ.)\#  On third homologies of groups and of quandles via Dijkgraaf–Witten invariant and Inoue–Kabaya map ............................................. 10

14 Rei Inoue (Chiba Univ.)\#  Cluster algebra and complex volume of 2-bridge links ............................................. 15
   Kazuhiro Hikami (Kyushu Univ.)

14:30–15:30  Talk invited by Topology Section

   Takahiro Kitayama (Univ. of Tokyo)\#  Torsion functions on character varieties and an extension of Culler–Shalen theory

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

   Makoto Sakuma (Hiroshima Univ.)\#  Simple loops on bridge spheres and Heegaard surfaces
March 21st (Thu)  Conference Room II

9:30–12:00

15 Hiroki Takahashi (Kyoto Univ.)* Emergence of attractors at the first bifurcation of the Hénon family

16 Katsuhisa Koshino (Univ. of Tsukuba)*
Katsuro Sakai (Univ. of Tsukuba) A Hilbert cube compactification of a function space into a 1-dimensional locally compact AR with the compact-open topology

17 Wataru Yuasa (Tokyo Tech)* Hyperelliptic Goldman Lie algebra and its abelianization

18 Yusuke Kuno (Tsuda Coll.)*
Robert Penner (Aarhus Univ./Caltech)
Vladimir Turaev (Indiana Univ.) An extension of the Earle class to the Ptolemy groupoid

19 Takuya Sakasai (Univ. of Tokyo)#
Masaaki Suzuki (Akita Univ.)
Shigeyuki Morita (Univ. of Tokyo*) Computations of Euler characteristics of graph homologies in low weights

20 Tatsuro Shimizu (Univ. of Tokyo)# An extension of degree one finite type invariant for rational homology 3-spheres to correspondences.

21 Tomohiko Ishida (Univ. of Tokyo)# Quasi-morphisms on the group of area-preserving diffeomorphisms of the 2-disk

22 Hidetoshi Masai (Tokyo Tech)# On commensurability of fibrations on a hyperbolic 3-manifold

23 Kenta Hayano (Osaka Univ.)#
Refik Inanc Baykur (Max Planck Inst. for Math./Brandeis Univ.) Multisections of Lefschetz fibrations via mapping class groups

24 Naoyuki Monden (Kyoto Univ.)# Lefschetz fibrations with small slope

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

Kouichi Yasui (Hiroshima Univ.)* Corks and exotic 4-manifolds

March 22nd (Fri)  Conference Room II

10:15–11:50

25 Tadayuki Haraguchi (Internat. Pacific Univ.)* Long exact sequences for de Rham cohomology of diffeological spaces

26 Masaki Nakagawa (Okayama Univ.)*
Hiroshi Naruse (Okayama Univ.) On the generalization of the Schur P, Q-functions which give the basis for the generalized (co)homology of the loop spaces on classical groups

27 Takahiro Matsutani (Univ. of Tokyo)* Fundamental groups of neighborhood complexes

28 Yusuke Kawamoto (Nat. Defense Acad. of Japan)* Higher homotopy commutativity of H-spaces and the cyclohedra

29 Miho Hatanaka (Osaka City Univ.)# The uniqueness of decompositions of a (topological) toric manifold

30 Yukiko Fukukawa (Osaka City Univ.)# Megumi Harada (MacMaster Univ.)
Mikiya Masuda (Osaka City Univ.) The ring structure of the equivariant cohomology ring of the Peterson variety
31 Takahito Naito (Shinshu Univ.) ♯ On the loop coproducts of the relative loop spaces ........................................ 10
32 Kohei Tanaka (Shinshu Univ.) ♯ A model structure on the category of small categories related to coverings ................................................................. 15

15:00–16:35
33 Atsuhide Mori (Osaka City Univ.) * High dimensional confoliations and leafwise symplectic foliations .......... 15
34 Tomonori Fukumaga (Hokkaido Univ.) * Evolute of fronts in the Euclidean plane ........................................ 20
            Masatomo Takahashi
            (Muroran Inst. of Tech.)
35 Shunsuke Ichiki (Yokohama Nat. Univ.) ♯ Distance-squared mappings ....................................................... 15
36 Tomoo Yokoyama (Hokkaido Univ.) ♯ Almost periodic, recurrent, non-wandering properties for flows and foliations ................................................................. 15
37 Shin Kiriki (Kyoto Univ. of Educ.) ♯ C^2-robust heterodimensional tangencies ........................................ 15
            Teruhiko Soma (Tokyo Metro. Univ.)
38 Yusuke Mizota (Kyushu Univ.) ♯ Improving estimate of the highest degree of liftable vector fields ........ 15

Infinite Analysis

March 22nd (Fri)  Conference Room VII

9:30–11:45
1 Kanehisa Takasaki (Kyoto Univ.) ♯ Melting crystal model and Ablowitz–Ladik hierarchy ......................... 15
2 Hajime Nagoya (Kobe Univ.) ♯ From Gauss to quantum Painlevé ............................................................... 20
3 Shin Isojima (Hosei Univ.) ♯ Ultradiscrete Ai function with parity variables and the number of restricted partitions ......................................................... 15
            Junkichi Satsuma
            (Aoyama Gakuin Univ.)
            Tetsuji Tokihiro (Univ. of Tokyo)
4 Gen Kuroki (Tohoku Univ.) ♯ Quantized birational action of the product \( \overline{W}(A_{m-1}^{(1)}) \times \overline{W}(A_{n-1}^{(1)}) \) of the extended affine Weyl groups for coprime \( m, n \) .................................................. 20
5 Yoko Shigyo (Tsuda Coll.) ♯ On addition formulae of BKP hierarchy ............................................................... 15
6 Tetsu Masuda (Aoyama Gakuin Univ.) ♯ A q-analogue of Sasano systems ........................................... 15
7 Takao Suzuki (Kinki Univ.) ♯ 6-dimensional Painlevé equations and their particular solutions in terms of rigid equations ......................................................... 20
8 Yusuke Ikawa (Kobe Univ.) ♯ Hypergeometric solutions for the q-Painlevé equation of type \( E_6^{(1)} \) by Padé method ............................................................... 15
### 14:15–15:35

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<td>A conjecture about Macdonald polynomials of type $B_2$</td>
<td>Junichi Shiraishi (Univ. of Tokyo)</td>
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<td>10</td>
<td>Quantum coordinate ring and 3D reflection equation</td>
<td>Masato Okado (Osaka Univ.), Atsuo Kuniba (Univ. of Tokyo)</td>
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<td>Elliptic Ding–Iohara algebra and the free field realization of the elliptic Macdonald operator</td>
<td>Yosuke Saito (Tohoku Univ.)</td>
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<tr>
<td>13</td>
<td>Elliptic $q$-Virasoro algebra and its free field realization</td>
<td>Yosuke Saito (Tohoku Univ.)</td>
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### 15:45–16:45 Talk invited by Infinite Analysis Special Session

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<td>Baxter Q-operators and tau-function for quantum integrable systems</td>
<td>Zengo Tsuboi (Humboldt-Univ. zu Berlin)</td>
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**March 23rd (Sat) Conference Room VII**

### 9:45–11:40

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<td>Idempotent dynamical braiding maps and dynamical semigroups with left unit</td>
<td>Diogo Kendy Matsumoto (Waseda Univ.), Yusici Shibukawa (Hokkaido Univ.)</td>
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<td>Confluence of apparent singularities in multi-indexed orthogonal polynomials: the Jacobi case</td>
<td>Choon-Lin Ho (Tamkang Univ.), Ryu Sasaki (Kyoto Univ.), Kouichi Takemura (Chuo Univ.)</td>
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<td>16</td>
<td>Operator orderings and Meixner–Pollaczek polynomials</td>
<td>Genki Shibukawa (Kyushu Univ.)</td>
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<td>17</td>
<td>Twisted period relation for Lauricella’s $F_{C}$</td>
<td>Yoshiaki Goto (Hokkaido Univ.)</td>
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<td>18</td>
<td>Quantum inverse scattering approach to the totally asymmetric simple exclusion process</td>
<td>Kohei Motegi (Okayama Inst. for Quant. Phy.), Kazumitsu Sakai (Univ. of Tokyo), Jun Sato (Ochanomizu Univ.)</td>
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<td>19</td>
<td>The Riemann–Hilbert problem and the connection problem of the KZ equation</td>
<td>Shu Oi (Rikkyo Univ.), Kimio Ueno (Waseda Univ.)</td>
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<td>20</td>
<td>The hexagon relations for dilogarithms and the Riemann–Hilbert problem</td>
<td>Shu Oi (Rikkyo Univ.), Kimio Ueno (Waseda Univ.)</td>
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### 14:30–15:30 Talk invited by Infinite Analysis Special Session

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<td>Quivers with potential, 3d Calabi–Yau categories and the cohomological Hall algebras</td>
<td>Kentaro Nagao (Nagoya Univ.)</td>
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Information for Speakers

The Organizing Committee apologizes that it had to cut the duration of contributed talks because of technical reasons. Since the schedule is very tight, we ask the speakers to strictly keep time. A bell will be rung when 2/3 of the assigned time has passed. A second bell will be rung as soon as the time is up, and the speaker has to leave the stage. The talks with * mark are presented through document camera, while ♯ marks denote PC presentations. The speakers with * marks are professors emeriti. If you find anything wrong in the program, do not hesitate to inform the Chair of Organizing Committee by sending e-mail to the address program@mathsoc.jp.

Each conference room is equipped with a black board, a document camera, and a projector for PC presentation. You are asked to use your own PC for a PC presentation. The time for connecting your PC to the projector is included in the assigned duration of your talk. You are recommended to check beforehand if your PC can be connected to the projector in the conference room. We strongly advise you to prepare an alternative method to present your talk such as printed sheets for the document camera in case your PC does not fit to the projector.

Information for Participants

Smoking is not allowed in any building on the Kyoto University.

Using Wi-Fi Networks

Kyoto University is a partner of the eduroam activity in Japan. It provides you Wi-Fi connection to the Internet connection by your eduroam ID in a limited number of places such as the COOP Cafeteria in Yoshida South Campus. You can find a brief account for the service on the URL


Official Party

Time: March 21st (Thu), 18:00–20:00
Venue: Clock Tower Centennial Hall, Internationa Conference Hall (2F)
Participants are asked to pay 5,000 JPY at the party.
Directions

2013 MSJ ANNUAL MEETING

Dates : March 20th (Wed)-23rd (Sat), 2013
Venue : Kyoto University
Address : Yoshida Nihonmatsu-cho, Sakyoku, Kyoto
Contact to : Department of Mathematics and RIMS, Kyoto University
            Kitashirakawa Oiwake-cho, Sakyoku, Kyoto
            E-mail kyoto13mar@mathsoc.jp
During session : Phone +81 (0) 75 753 2035
                Fax +81 (0) 75 753 2035
Web Site : http://mathsoc.jp/en/meeting/kyoto13mar/

Conference Rooms

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Abbreviation rule for conference rooms: C=Common=共 (Kyo), E=East=東 (Higashi), W=West=西 (Nishi), S=South=南 (Minami), N=North=北 (Kita)

You can find more detailed accounts for the conference rooms at the URL http://mathsoc.jp/en/meeting/kyoto13mar/

Other Rooms

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To use the bus within the city centre, the fare is 220yen.
Kyoto University, Yoshida-South Campus, and part of Main Campus
Floor Maps

Yoshida-South Campus Bldg No. 4

Academic Center for Computing and Media Studies

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4F
3F
2F
1F

I
Room 4C30

II
Room 4C31

III
Room 4C21

IV
Room 4C21

Discussion Room
Room 4C22

Open Space Laboratory

Academic Center for Computing and Media Studies

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B1

V
B1 Lecture Room

KEEP OUT

Get down the stairs.
Yoshida-South Campus Academic Center Bldg (B1–2F)
Yoshida-South Campus Academic Center Bldg (3F–4F)
Graduate School of Human and Environmental Studies Bldg

2F

Executive Committee

Extended Abstracts & Membership

1F

Room 222

Room 226

Room 228

B1

Lobby

Piloto

Foyer

open ceiling space

WC (Men)

WC (Men)

WC (Women)

WC (Women)

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