



## Research on algebraic combinatorics and representation theory of finite groups and vertex operator algebras

Organizer<sup>†</sup> : Toshiyuki Abe (Ehime University)

Date : December 11 (Mon) 10:00 – December 14 (Thu) 12:00

Location : Room 420, RIMS, Kyoto University

### PROGRAM

#### December 11 (Mon)

10:00–10:50 Yasuyuki Kawahigashi (The University of Tokyo)

Representation theories of vertex operator algebras and operator algebras

11:10–12:00 James Tener (UC Santa Barbara)

Local observables as boundary values of vertex operator algebras

13:30–14:20 Hiroki Ishioka (Tokyo University of Science)

Brauer indecomposability of Scott modules and local subgroups

14:40–15:30 Yuta Kozakai (Tokyo University of Science)

On foldings and two-sided tilting complexes for Brauer tree algebras

15:50–16:40 Koji Momihara (Kumamoto University)

Construction of strongly regular Cayley graphs based on three-valued Gauss periods

---

<sup>†</sup>The organizer thanks the following researchers for their advice in constructing the program. Akihide Hanaki (Sinshu), Masaaki Harada (Tohoku), Masaaki Kitazume (Chiba), Naoko Kunugi (Tokyo University of Science), Hiroki Sasaki (Sinshu), Akihiro Munemasa (Tohoku), Hiroshi Yamauchi (Tokyo Woman's Christian University), Satoshi Yoshiara (Tokyo Woman's Christian University)

December 12 (Tue)

10:00–10:50 Hiroshi Nozaki (Aichi University of Education)

Maximizing the order of a regular bipartite graph of given second eigenvalue

11:10–12:00 Hideo Mitsuhashi (Hosei University)

Zeta functions of quaternion weighted graphs

13:30–14:20 Ching Hung Lam (Academia Sinica)

Orbifold VOAs associated with coinvariant sublattices of even unimodular lattices

14:40–15:30 Scott Carnahan (University of Tsukuba)

A self-dual integral form for the Moonshine Module

15:50–16:40 Masahiko Miyamoto (University of Tsukuba)

Group-theoretical analysis on Mathieu Moonshine

December 13 (Wed)

10:00–10:50 Sho Suda (Aichi University of Education)

On the Smith normal form of a skew-symmetric D-optimal design of order  $n \equiv 2 \pmod{4}$

11:10–12:00 Kenzi Akiyama (Fukuoka University), Chihiro Suetake\*,  
Masaki Tanaka (Sojo University)

Projective planes of order 12 admitting an automorphism group of order 9

13:30–14:20 Keiji Ito (Tohoku University)

Characters of permutation groups and Krein parameters of commutative association schemes

14:40–15:30 Nobuo Iiyori (Yamaguchi University), Masato Sawabe\* (Chiba University)

Nilpotent  $\pi$ -subgroups and gluing complexes

15:50–16:40 Akihiko Hida (Saitama University)

Harada's conjecture on character degrees and class sizes  
— symmetric and alternating groups —

December 14 (Thu)

10:00–10:50 Hiroki Shimakura (Tohoku University)

Orbifold constructions associated with the Leech lattice vertex operator algebra

11:10–12:00 Sven Möller (Rutgers University)

Cyclic orbifolds of the Leech lattice VOA

---

Name\* : speaker