

# Group, Ring, Language and Related Areas in Computer Science

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The Kyoto University Research Institute for Mathematical Science (RIMS) workshop

"Group, Ring, Language and Related Areas in Computer Science"

will be held as follows:



**Period: 2023-02-15 – 2023-02-17**

**Room 111**

Research Institute for Mathematical Sciences

Kyoto University, Kyoto 606-8502, Japan

## Program

### ■ Feb. 15 (Wednesday)

- 9:30–10:00** Igor Potapov University of Liverpool  
Computational Problems on Combinatorial Necklaces and Crystal Structure Prediction
- 10:00–10:30** Tomoko Adachi Shizuoka Institute of Science and Technology  
Orthogonality of Quasigroups and Secret Sharing Scheme with Perfect Concealment

#### Break

- 10:40–11:10** Yoshiyuki Kunimochi Shizuoka Institute of Science and Technology  
Some classes of strong codes
- 11:10–12:00** **Invited Talk**  
Yuko Murakami Rikkyo University  
Elucidation of completeness of achievement stit logic of agency

#### Lunch break

- 13:10–13:40** Machida, Hajime Hitotsubashi University  
Centralizing monoids of majority operations
- 13:40–14:10** Noriaki Kamiya University of Aizu  
On triality relations of normal triality algebras and Lie algebras
- 14:10–14:40** Hisaya Tsutsui Embry-Riddle Aeronautical University  
An infective test lemma and primitivity of certain classes of rings

#### Break

- 14:50–15:40** **Invited Talk**  
Alexander Meduna Brno University of Technology  
Grammars with Context Conditions and Their Applications
- 15:40–16:10** Christopher Briggs Embry-Riddle Aeronautical University  
Emergent gender differentiation in gendered genetic algorithm meta-optimization
- 16:10–16:40** Szilard Fazekas Akita University  
The general case of the clusters conjecture

### ■ Feb.16 (Thursday)

- 9:30–10:00** Shuji Jimbo Okayama University  
Partition of an Eulerian circuit search problem for the complete graph of order 15
- 10:00–10:30** Fujita, Kenetsu Gunma University, Kurata, Toshihiko Hosei University  
Boolos' "The Hardest Logic Puzzle Ever" and coinduction

#### Break

- 10:40–11:10** Jiryo Komeda Kanagawa Institute of Technology  
On numerical semigroups whose quotients by two are generated by two or three elements
- 11:10–11:40** Michiro Kondo Tokyo Denki University, Mayuka F.Kawaguchi Hokkaido University  
Note on quotient normal eo-algebras

#### Lunch break

- 12:50–13:40** **Invited Talk**  
Collin Bleak University of St Andrews  
Embeddings into Finitely Presented Simple Groups

- 13:40–14:20** Brent Solie Embry-Riddle Aeronautical University  
Some questions on primitivity and Thompson’s group
- 14:20–14:50** Haruki Fukaura, Szilard Fazekas, Akihiro Yamamura Akita University  
Some Theorems of Free Burnside Group

**Break**

- 15:00–15:50** **Invited Talk**  
Takeo Uramoto Kyushu University Inst. of Math. for Ind.  
On algebraic language theory, Galois theory, and class field theory
- 15:50–16:20** Takao Yuyama Tokyo Institute of Technology  
Groups whose Word Problem is Accepted by an Abelian G-automaton
- 16:20–16:50** Marcin J. Schroeder Tohoku University  
The Relationship Between Rota’s Logic of Information  
Based on Partitions and Logic of Information Defined in a Closure Space

- 18:30–** **Banquet**

■ **Feb.17 (Friday)**

- ~~**9:30–10:00** Munehiro Iwami Shimane University  
Rewriting of Rational Terms by Tree Transducer Revisited~~
- 10:00–10:30** Huang Xinhao, Szilard Fazekas, Akihiro Yamamura Akita University  
Reconstructing Words from Mirror Words

**Break**

- 10:40–11:10** Kunitaka Shoji Shimane University  
Self-injective inverse semigroups
- 11:10–12:00** **Invited Talk**  
Carl-Fredrik Nyberg-Brodde University Gustave Eiffel  
Language-theoretic methods in semigroup theory

**Lunch break**

- 13:20–13:50** Akihiro Yamamura Akita University  
Latin Hexahedra and Related Combinatorial Structures
- 13:50–14:20** Kiyomitsu Horiuchi Konan University  
On an algebraic system similar to logic using trice
- 14:20–14:50** Yuji Kobayashi Toho University, Laboratory of Mathematics and Games  
Multipliers and weak multipliers of algebras

**Break**

- 15:00–15:30** Satoshi Yamanaka National Institute of Technology, Tsuyama  
On Galois polynomials with cyclic Galois group in skew polynomial rings II
- 15:30–16:00** Masaaki Kumazawa Mino Jiyu Gakuen High School  
Remarks on BCK-algebras with condition (S) satisfying Cornish’s identity
- 16:00–16:30** Fugen Hagihara Kyoto University  
The ultimate signs of second-order holonomic sequences