

**Proceedings of the 46th Symposium
on Ring Theory and Representation Theory**

October 12 (Sat.) – 14 (Mon.), 2013
Tokyo University of Science, Japan

Edited by
Isao Kikumasa
Yamaguchi University

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Yamaguchi, JAPAN

第46回 環論および表現論シンポジウム報告集

2013年10月12日(土) - 14日(月・祝)

東京理科大学 神楽坂キャンパス

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2014年3月

山口大学

Organizing Committee of The Symposium on Ring Theory and Representation Theory

The Symposium on Ring Theory and Representation Theory has been held annually in Japan and the Proceedings have been published by the organizing committee. The first Symposium was organized in 1968 by H. Tominaga, H. Tachikawa, M. Harada and S. Endo. After their retirement, a new committee was organized in 1997 for managing the Symposium and committee members are listed in the web page

<http://fuji.cec.yamanashi.ac.jp/~ring/h-of-ringsymp.html>.

The present members of the committee are H. Asashiba (Shizuoka Univ.), S. Ikehata (Okayama Univ.), S. Kawata (Osaka City Univ.) and I. Kikumasa (Yamaguchi Univ.).

The Proceedings of each Symposium is edited by program organizer. Anyone who wants these Proceedings should ask to the program organizer of each Symposium or one of the committee members.

The Symposium in 2014 will be held at Osaka City University for Sept. 13 (Sat.)–15 (Mon.) and the program will be arranged by A. Hida (Saitama Univ.).

Concerning several information on ring theory and representation theory of group and algebras containing schedules of meetings and symposiums as well as ring mailing list service for registered members, you should refer to the following ring homepage, which is arranged by M. Sato (Yamanashi Univ.):

<http://fuji.cec.yamanashi.ac.jp/~ring/> (in Japanese)
(Mirror site: www.cec.yamanashi.ac.jp/~ring/)

<http://fuji.cec.yamanashi.ac.jp/~ring/japan/> (in English)

Shûichi Ikehata
Okayama Japan
March, 2014

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Preface

The 46th Symposium on Ring Theory and Representation Theory was held at Tokyo University of Science on October 12th – 14th, 2013. The symposium and this proceedings are financially supported by

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This volume consists of the articles presented at the symposium. We would like to thank all speakers and coauthors for their contributions.

We would also like to express our thanks to all the members of the organizing committee and Professor Masahisa Sato for their helpful suggestions concerning the symposium. Finally we would like to express our gratitude to Professor Katsunori Sanada and students of Tokyo University of Science who contributed in the organization of the symposium.

Isao Kikumasa
Yamaguchi, Japan
March, 2014

第46回 環論および表現論シンポジウム プログラム

10月12日(土)

9:00–9:30 小原 大樹 (東京理科大学)

One point extension of quiver algebras defined by two cycles and a quantum-like relation

9:30–10:00 小西 正秀 (名古屋大学)

A classification of cyclotomic KLR algebras of type $A_n^{(1)}$

10:15–10:45 古谷 貴彦 (明海大学)・速水 孝夫 (北海学園大学)

On some finiteness questions about Hochschild cohomology of finite-dimensional algebras

10:45–11:15 佐々木 洋城 (信州大学)

Source algebras and cohomology of block ideals of finite group algebras

11:30–12:00 伊山 修 (名古屋大学)

Geigle-Lenzing spaces and canonical algebras in dimension d

12:00–12:30 松田 一徳 (立教大学・JST CREST)

Stable set polytopes of trivially perfect graphs

14:00–14:30 加藤 希理子 (大阪府立大学)・Peter Jørgensen (Newcastle University)

Triangulated subcategories of Extensions

14:30–15:00 劉 裕 (名古屋大学)

Hearts of twin cotorsion pairs on exact categories

15:15–15:45 平松 直哉 (呉工業高専)

Serre subcategories of artinian modules

15:45–16:15 神田 遼 (名古屋大学)

Specialization orders on atom spectra of Grothendieck categories

16:30–17:20 Manuel Saorín Castaño (Universidad de Murcia)

Resolving subcategories of modules of finite projective dimension over a commutative ring

10月13日(日)

9:00–9:30 平野 康之 (鳴門教育大学)

On the ring of complex-valued functions on a finite ring

9:30–10:00 松岡 学 (大阪樟蔭女子大学)

QF rings and direct summand conditions

10:15–10:45 古賀 寛尚・星野 光男 (筑波大学)・亀山 統胤 (信州大学)

Clifford extensions

10:45–11:15 亀山 統胤 (信州大学)・星野光男・古賀 寛尚 (筑波大学)

Group-graded and group-bigraded rings

11:30–12:20 Manuel Saorín Castaño (Universidad de Murcia)

Classical derived functor as fully faithful embeddings

14:00–14:30 竹花 靖彦 (函館工業高専)

Complements and closed submodules relative to torsion theories

14:30–15:00 源 泰幸 (大阪府立大学)

Torsion theory and ideals

15:15–15:45 金 加喜・松本 英鷹・松澤 翔 (静岡大学)

Defining relations of 3-dimensional quadratic AS-regular algebras

15:45–16:15 秋山 諒 (静岡大学)

Quantum planes and iterated Ore Extensions

16:30–17:20 Manuel Saorín Castaño (Universidad de Murcia)

The symmetry, period and Calabi-Yau dimension of m -fold mesh algebras

18:00–懇親会

10月14日（月・祝）

9:00–9:30 相原 琢磨（名古屋大学）

Mutation and mutation quivers of symmetric special biserial algebras

9:30–10:00 水野 有哉（名古屋大学）

Support tau-tilting modules and preprojective algebras

10:15–10:45 足立 崇英（名古屋大学）

Classifying τ -tilting modules over Nakayama algebras

10:45–11:15 加瀬 遼一（大阪大学）

On the poset of pre-projective tilting modules over path algebras

11:30–12:00 板垣 智洋・眞田 克典（東京理科大学）

The dimension formula of the cyclic homology of truncated quiver algebras over a field of positive characteristic

The 46th Symposium on Ring Theory and Representation Theory (2013)

Program

October 12 (Saturday)

9:00–9:30 Daiki Obara (Tokyo University of Science)

One point extension of quiver algebras defined by two cycles and a quantum-like relation

9:30–10:00 Masahide Konishi (Nagoya University)

A classification of cyclotomic KLR algebras of type $A_n^{(1)}$

10:15–10:45 Takahiko Furuya (Meikai University), Takao Hayami (Hokkai-Gakuen University)

On some finiteness questions about Hochschild cohomology of finite-dimensional algebras

10:45–11:15 Hiroki Sasaki (Shinshu University)

Source algebras and cohomology of block ideals of finite group algebras

11:30–12:00 Osamu Iyama (Nagoya University)

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12:00–12:30 Kazunori Matsuda (Rikkyo University/JST CREST)

Stable set polytopes of trivially perfect graphs

14:00–14:30 Kiriko Kato (Osaka Prefecture University), Peter Jørgensen (Newcastle University)

Triangulated subcategories of Extensions

14:30–15:00 Yu Liu (Nagoya University)

Hearts of twin cotorsion pairs on exact categories

15:15–15:45 Naoya Hiramatsu (Kure National College of Technology)

Serre subcategories of artinian modules

15:45–16:15 Ryo Kanda (Nagoya University)

Specialization orders on atom spectra of Grothendieck categories

16:30–17:20 Manuel Saorín Castaño (University of Murcia)

Resolving subcategories of modules of finite projective dimension over a commutative ring

October 13 (Sunday)

9:00–9:30 Yasuyuki Hirano (Naruto University of Education)

On the ring of complex-valued functions on a finite ring

9:30–10:00 Manabu Matsuoka (Osaka Shoin Women's University)

QF rings and direct summand conditions

10:15–10:45 Hirotaka Koga (University of Tsukuba), Mitsuo Hoshino (University of Tsukuba), Noritsugu Kameyama (Shinshu University)

Clifford extensions

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Group-graded and group-bigraded rings

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The symmetry, period and Calabi-Yau dimension of m -fold mesh algebras

18:00– Conference dinner

October 14 (Monday)

9:00–9:30 Takuma Aihara (Nagoya University)

Mutation and mutation quivers of symmetric special biserial algebras

9:30–10:00 Yuya Mizuno (Nagoya University)

Support tau-tilting modules and preprojective algebras

10:15–10:45 Takahide Adachi (Nagoya University)

Classifying τ -tilting modules over Nakayama algebras

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On the poset of pre-projective tilting modules over path algebras

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The dimension formula of the cyclic homology of truncated quiver algebras over a field of positive characteristic