Contemporary Mathematics

761

Centre de Recherches Mathématiques Proceedings

# Advances in Representation Theory of Algebras

Conference in Honor of
José Antonio de la Peña's 60th birthday
Advances in
Representation Theory of Algebras (ARTA VII)
September 24–28, 2018
Instituto de Matemáticas,
Universidad Nacional Autónoma de México,
Mexico

Ibrahim Assem
Christof Geiß
Sonia Trepode
Editors

CRM

AMS American Mathematical Society

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This volume consists of papers dedicated to José Antonio de la Peña
on the occasion of his 60th birthday.

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# Preface

The Seventh ARTA ("Advances in Representation Theory of Algebras") was held at the Instituto de Matemáticas de la UNAM (Universidad Nacional Autónoma de México) in Mexico City from the 24th to the 28th of September 2018. It was dedicated to our colleague and friend José Antonio de la Peña on the occasion of his 60th birthday.

For over thirty-five years José Antonio has been one of the prominent figures in the representation theory of algebras. His work on topics as diverse as covering theory, tame algebras, the use of quadratic forms in representation theory, the spectral theory of graphs and others have inspired, and continue to inspire, several generations of mathematicians. He was also active in the chemical applications of the theory and in the dissemination of mathematics. José Antonio has won an impressive series of national and international prizes and medals. His work has had an important impact on mathematics in Mexico, where he held, and still holds, prestigious administrative or honourary positions. José Antonio has always been willing to help young researchers from all countries and, as a consequence, had a strong influence on them. As a person, he is very generous, always ready to help those of his students or colleagues who experience difficulties.

This volume contains fourteen papers dedicated to José Antonio. We would like to express our deepest gratitude to the authors who submitted their contributions and to the referees for their kind assistance. We also wish to extend our gratitude to Véronique Hussin of the CRM and to Christine Thivierge of the AMS for their help in including this volume in the AMS Contemporary Mathematics series.

While this volume was being prepared, we have learned with deep sorrow that our colleague and close friend Andrzej Skowroński has passed away on the 22nd of October, 2020 in Torun, after an infection with Covid-19. This marks the loss of an excellent friend, and a brillant mathematician in our field. He was one of the founders of the ARTA series of conferences and is coauthor of three papers in this volume, as well as a friend and close collaborator of José Antonio de la Peña, to whom this volume is dedicated .

Ibrahim Assem

Christof Geiß

Sonia Trepode

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*Working with José Antonio*

Andrea Solotar, Universidad de Buenos Aires, Argentina
*The Gerstenhaber structure of Hochschild cohomology*

Ralf Schiffler, University of Connecticut, USA
*Frieze varieties: A characterization of the finite-tame-wild trichotomy for acyclic quivers*

Gordana Todorov, Northeastern University, USA
*Cyclic posets and triangulation clusters*

Eduardo do Nascimento Marcos, Universidade de São Paulo, Brazil
*Hochschild-Mitchell (co)homology of skew categories and of Galois coverings*

Birge Huisgen-Zimmermann, University of California, Santa Barbara, USA
*Truncated path algebras, a geometric and homological stepping stone. Part I*

Ken Goodearl, University of California, Santa Barbara, USA
*Truncated path algebras, a geometric and homological stepping stone. Part II*

Bernhard Keller, Université Paris Diderot - Paris 7
*Koszul duality and Hochschild cohomology*

Lidia Angeleri-Hügel, Università degli Studi di Verona, Italy
*Comparing localizations of rings*

Thomas Brüstle, Bishop's University and Université de Sherbrooke, Québec, Canada.
*Matrix reduction and exact structures*

Raymundo Bautista, CCM-UNAM, Mexico
*Representations of bocses and $A_\infty-$modules*

Pierre-Guy Plamondon, Université de Paris-Sud XI, France
*Derived categories of gentle algebras and surface dissections*

Sonia Trepode, Universidad Nacional de Mar del Plata, Argentina
*The representation dimension of selfinjective algebras of tilted type*

Changchang Xi, Capital Normal University, China
*Derived decompositions of abelian categories*

Henning Krause, Universität Bielefeld, Germany
*The Morita theory for derived categories revisited*

Grzegorz Bobiński, Nicolaus Copernicus University, Poland
*Birkhoff varieties*

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*Cycle-finite module categories*

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*Higher-dimensional Auslander algebras of type A and the higher-dimensional Waldhausen S-constructions*

Stanislaw Kasjan, Nicolaus Copernicus University, Poland
*Tame strongly simply connected algebras*

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The Seventh ARTA ("Advances in Representation Theory of Algebras VII") conference took place at the Instituto de Matemáticas of the Universidad Nacional Autónoma de México, in Mexico City, from September 24–28, 2018, in honor of José Antonio de la Peña's 60th birthday.

Papers in this volume cover topics Professor de la Peña worked on, such as covering theory, tame algebras, and the use of quadratic forms in representation theory. Also included are papers on the categorical approach to representations of algebras and relations to Lie theory, Cohen–Macaulay modules, quantum groups and other algebraic structures.

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