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Representation Theory I

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Trends in Representation Theory, Ottawa,
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Edited by V. Dlab and P. Gabriel



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PREFACE

The First International Conference on Representations of Algebras was held at Carleton University, Ottawa, on September 3-7, 1974; the Proceedings of the Conference appeared as Springer Lecture Notes #488 the following year.

Since then, the interest in the representation theory grew rapidly, and significant advances and contributions to the theory continued to take place. These were to be reflected in the meeting organized at Carleton University on August 13-25, 1979. The Organizing Committee consisted of Professors J. Alperin, M. Auslander, V. Dlab, P. Gabriel, I. Reiner, C.M. Ringel, A.V. Rojter and H. Tachikawa.

The developments of the five-year period preceding the meeting were the subject of five series of lectures in the WORKSHOP ON THE PRESENT TRENDS IN REPRESENTATION THEORY (August 13-18, 1979) given by J. Alperin (Block theory), P. Gabriel (Trends in representation theory), J.E. Humphreys (Highest weight modules for semi simple Lie algebras), C.M. Ringel (Algorithms for solving vector space problems) and V.A. Rojter (Differential graded categories). The first volume of these Proceedings contains reports from the WORKSHOP.

Recent advances in the representation theory were reported in 42 lectures during the second part of the meeting: THE SECOND INTERNATIONAL CONFERENCE ON REPRESENTATIONS OF ALGEBRAS; the lectures are listed on page VIII. Not all contributions to the CONFERENCE appear in these Proceedings; on the other hand, some papers which were not reported, are included. All

published papers appear in the form submitted by the author; only very few technical alterations have been made. It should be pointed out that some of the contributions to these Proceedings have resulted out of discussions and conversations during the meeting. We should like to thank all referees for their assistance.

It has been suggested that the Proceedings contain a list of publications in the field of representation theory for the past 10 years. An attempt in this direction has been made; we wish to thank Mr. Ibrahim Assen for his assistance in preparing the Bibliography.

We should like to acknowledge financial assistance of the Natural Sciences and Engineering Research Council Canada and of Carleton University. The assistance of other national research bodies to support participants of the meeting has been also greatly appreciated. In particular, we wish to thank Carleton University for the generous support of the first part of the meeting; without its assistance the organization of the WORKSHOP would not have been possible. And, we wish to extend our thanks to the Secretary, Professor Luis Ribes for his unlimited help in the organization of the meeting and to Ms. Alejandra Leon for her efficient secretarial assistance.

Ottawa - Zurich, July 1980

Vlastimil Dlab and Peter Gabriel

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K. BONGARTZ	Algebras of finite representation type without cycles
S. BRENNER	Some co-rank 2 quivers with relations and their null roots
D.W. BURRY	A module-oriented theory of blocks
M.C.R. BUTLER	Generalizations of the Bernstein-Gelfand-Ponomarev reflection functors
J.F. CARLSON	The dimension of modules and their restrictions over modular group algebras
Ch.W. CURTIS	Homology representations of finite groups
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J.E. HUMPHREYS	Cartan invariants and decomposition numbers for Chevalley groups
Y. IWANAGA	Trivial extension of some artin algebras
H. JACOBINSKI	Hereditary covers and blocks
J.C. JANTZEN	Representations of semisimple groups and their Frobenius kernels
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H. KUPISCH	Symmetric algebras of finite representation type
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D. SIMSON	Species and hereditary rings of finite representation type
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G. TODOROV **	Almost split sequences for TrD -periodic modules M , with no projectives in the class $[M]$
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P.J. WEBB	Distinguishing non-isomorphic relation modules
K. YAMAGATA	On artinian rings of local representation type

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** lecture delivered by I.M. Platzeck

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