

Conference Reports

Groups in Galway 1987

There were 20 participants at this year's Group Theory Conference, sponsored by the Royal Irish Academy, the Irish Mathematical Society, and University College, Galway, which was held on Friday and Saturday 15th and 16th May 1987, at University College, Galway.

Ted Hurley (U.C.G.) gave the first lecture on "Free Products". He described several free bases for the subgroups $[Y, X, \dots, X]$ in the free product of a nontrivial group Y and a free group X . Among other applications, it follows that a result proved by P. Hall, about the nilpotency class of a group which stabilises a series of given length in a group, is best possible.

Richard Watson (Maynooth) spoke on "Finite Varieties", which are classes of finite groups closed under the formation of subgroups, quotients, and finite direct products. He discussed the properties of the complete lattice formed by these classes: for instance, he announced that this lattice is modular, and asked whether it is distributive.

Mike Holcombe (Sheffield) lectured on "Algebraic Methods of System Specification". He considered the problem of the design of reliable hardware and software for computers, and defined the concept of an Eilenberg X -machine, which can be regarded as a model of computation.

Roderick Gow (U.C.D.) gave a survey of the problem of realising groups as Galois groups over algebraic number fields. Every finite soluble group can be so realised in infinitely many ways, and at least 19 of the 26 sporadic finite simple groups are known to be realisable over the rational field Q . Hilbert used Riemann surfaces to show that the symmetric and alternating groups are realisable over Q , and Gow has extended work of Schur, who showed that, in certain cases, they are realised as the groups of generalised Laguerre polynomials.

David Simms (T.C.D.) enunciated the axioms for a Poisson algebra, and showed how examples arise naturally in classical mechanics and the theory of partial differential operators, in the symmetric algebra of a finite dimensional Lie algebra, in the theory of symplectic manifolds and the representation theory of Lie groups, and (in a "super" form) from a Clifford algebra.

Edmund Robertson (St. Andrews) delivered the last lecture of the conference on "Nonabelian Tensor Products and Tietze Transformations". He gave a definition, due to Brown and Loday, of the (nonabelian) tensor product of 2 groups equipped with actions on each other, and he stated several pertinent results, which had been suggested by computer calculations.

In addition, Pat Fitzpatrick (U.C.C.) spoke on "Groups with Few Automorphism Orbits".

We would like to thank the lecturers, the sponsors, and the participants for their continued support.

Rex Dark

Cork Operator Conference 1987

This second edition of the Cork Operator Conference, subtitled "Operator theory and operator algebras", happened in Cork on Monday and Tuesday 19-19th May, supported by the Royal Irish Academy, the Irish Mathematical Society and the University College of Cork. From a list of 32 participants, the keynote speakers were Gert Pedersen of Copenhagen, on "Means, extensions and approximations involving unitary operators", Weslaw Zelazke of Warsaw, on "Generation of $B(X)$ by pairs of abelian subalgebras", and John Erdos of London, on "Similarity of nests". 15 other speakers came from America, Canada, Poland, Germany, Japan, Scotland and Ireland.

It is confidently expected that a third edition of the Cork Operator Conference will happen in 1988. ¹

Robin Harte

¹There is no truth whatsoever in the rumour that it will be subtitled "100 years of Harte and West"!

ILIAM 4 at NIHE, Limerick

The fourth in the series of ILIAM (Information Linkage Between Industry and Applied Mathematics) conferences was held at NIHE, Limerick on 8 May, 1987. The ILIAM meetings are the initiative of the Mathematics Department at NIHE, Dublin. The concept has now developed into a cooperative effort between that Department, the Mathematics Department of the University of Ulster and the Mathematics Department of NIHE, Limerick.

The objective of ILIAM is to provide over a one day meeting an opportunity for industrialists and academic applied mathematicians to meet and discuss problems of direct interest to industry. With the passing of each conference the range of interaction between academic mathematicians and the industrial community is broadening and deepening. The audiences at the meetings are widely based including engineers and managers from the industrial sector and engineers and mathematicians from the total third level educational sector including the Universities, National Institutes for Higher Education and the Regional Technical Colleges. Some mathematics teachers from the second level system also attend.

The presentations at ILIAM meetings are typically by industrialists describing problems, involving mathematics, which are of current interest in industry or by mathematicians/engineers from educational institutions describing the application of mathematics to industrially oriented problems.

The programme of ILIAM 4, at NIHE, Limerick on 8 May, 1987 included presentations by Mr. G. Hurley, Electronics Department, NIHE, Limerick with title "Mathematics of Resonant Phenomena in Transformers"; Mr. M. Quinlan, Manager Director, Microelectronics Application Centre, Limerick with title "MAC - An Interface Between Industry and the Applied Mathematician"; Mr. T. O'Dwyer, Analog Devices Ltd., Limerick with title "Mathematical Modelling of Semiconductor Devices"; Mr. J.J. King, Central Fisheries Board, Dublin with title "Washout of Submerged Vegetation in Irish Lakes"; Professor D. Conniffe, Economic and Social Research Institute, Dublin with title "Experimental Design in the 'Real' and Social Sciences"; Mr. P.J. Shields and Mr. G. Silcock, University of Ulster, Jordanstown with title "Mathematical Models in Fire Safety Engineering"; Dr. J. Carroll, Mathematics Department, NIHE, Dublin with title "Numerical Analysis of Semiconductor Devices"; Mr. C. Humphreys, Howmedica Int., Limerick with title "Computer Integrated Manufacturing".

P.F. Hodnett

Conference Announcements

Members on occasion have expressed a wish for more information on the many Mathematical Conferences that take place throughout the year in many parts of the world. We publish here only a selected few, usually those specially requested by the organisers or of special interest to Irish Mathematicians. The Notices and Bulletins of other Mathematical Societies contain some of these and others. There are to our knowledge two other publications which are devoted entirely to announcements of Conferences and which are very comprehensive and all-embracing. One is the European Mathematical Newsletter looked after by the Mathematisches Forschungsinstitut Oberwolfach and the other is the IMU Canberra Circular looked after by Bernhard Neumann. One great thing about these is that they are sent free of charge to those who ask for them! The full addresses are given below.

EUROPEAN MATHEMATICAL NEWSLETTER
Mathematisches Forschungsinstitut Oberwolfach,
Geschäftsstelle: Albertstrasse 24,
D-7800 Freiburg im Breisgau.
West Germany.

IMU CANBERRA CIRCULAR

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Division of Mathematics &		Institute of Advanced Studies,
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