Groups in Galway conferences

Colin M Campbell, University of St Andrews, Scotland

1.   Introduction to the Groups in Galway conference

Eglinton Canal outside NUI Galway

The conference **Groups in Galway** owes its origins to Professor Martin Newell of the National University of Ireland, Galway see [1]. Professor Martin Newell writes:

At the inaugural meeting of the Irish Mathematical Society in Dublin in December 1977, I proposed that a series of instructional conferences be organised in various topics in Mathematics. The Departments in Cork and Galway undertook to arrange conferences in History of Mathematics and Group Theory, respectively, in 1978. Only the one in Galway has been held on an annual basis ever since.

The first of these conferences was held at University College Galway, May 12-13, 1978. The organiser was Martin L Newell and the topic was Group Theory. The following lectures were given:

Some aspects of permutation groups	J P McDermott (U.C.G.)
Finite simple groups	T J Laffey (U.C.D.)
The representations of *GL(n,q)*	G Thomas (U.C.C.)
Augmentation quotients of some finite nonabelian groups	N Losey (Manitoba and Warwick)

In issue 2 of the Newsletter of the Irish Mathematical Society in 1979 there is the following paragraph.

> The Group Theory Conference in Galway was a tremendous success with over 25 participants, including a small number from abroad. Great credit is due to the main speakers for their very informative presentation, tending to review some of the main areas of the theory and not getting bogged down in technical detail. Martin Newell, the organiser, has plans well in hand for another conference in May this year and informs us that he hopes to make it an annual event. Group Theory is alive, well and flourishing in Ireland.

In the same issue of the Newsletter there is the announcement of a Short Conference. It states:

> One of the main activities of the Society has been its organisation of short, mainly instructional, conferences. The next conference of this type will be held in University College, Galway, on May 11-12, and will be on Group Theory. The organiser is Professor M L Newell. A similar conference on Function Theory will be held in University College, Cork, in the Autumn.

The conference is often referred to as **'GiG'**. This phrase GiG, Groups in Galway, was penned in an announcement in the Newsletter of the LMS (London Mathematical Society) in 1982 and that title has stuck with the conference ever since.

Thus the series of Groups in Galway was well launched.

I (Colin M Campbell -- University of St Andrews) have been a participant at many of the conferences over the years and always look forward to my 'spring treat'. It is a pleasure to note that the conference remains a great success. Perhaps this is due to the fact that the talks are taken seriously but the atmosphere within the conference is always friendly. Many of my colleagues from St Andrews have been at these annual meetings which always attract a good number of international participants. Long may the conferences continue.

2. Origin of speakers

For the Groups in Galway conferences the table below lists the country of origin of the speakers.

Year	Galway	Rest of Ireland	United Kingdom	Rest of Europe	North America	Rest of world	Total
1978-1981	4	7	3		2		16
1982-1985	10	17	8		1	2	38
1986-1989	5	13	6	3	4	4	35
1990-1993	9	9	9	3	4		34
1994-1997	3	9	11	1	9	3	36
1998-2001	6	4	16	9	4	1	40
2002-2005	7	14	9	9	9		48
2006-2009	4	9	20	9	1	1	44
2010-2013	7	2	16	9	4		38
2014-2017	4	2	11	16	3	2	38
2018-2021	4	3	10	11	3	3	34

We now provide brief details about the participants at some of the Groups in Galway conferences.

1990   participants 35   countries 7
Ireland (20), England (5), Scotland (3), Germany (2), Italy (2), Canada (2), Bulgaria

1998   participants 39   countries 9
Ireland (17), England (8), Scotland (5), Italy (3), U.S.A. (2), France (1), Greece (1), U.S.S.R. (1), Australia (1)

2000   participants 29   countries 9
Ireland (18), Spain (3), Scotland (2), England, Germany, Greece, New Zealand, U.S.A., Wales

2016   participants 41   countries 6
Ireland (24), England (8), Scotland (5), Spain (2), Italy (1), USSR (1)

2017   participants 54   countries 12
Ireland (29), England (11), Scotland (4), U.S.A. (2), Australia, Belgium, France, Germany, Hungary, Norway, Poland, Spain

In looking at the above information one notes that Groups in Galway was very much designed to serve group theory in Ireland.

3. Publications

For Groups in Galway there is a special part in the *Bulletin of the Irish Mathematical Society* **56** (2005) to mark the retirement of Professor Martin L. Newell. It includes papers from the *Proceedings of Groups in Galway* 2005.

4. Gender Distribution

In this section we consider the gender distribution. W consider the speakers at the Groups in Galway conferences in blocks of four years.

Year	Speakers M/F	Total
1978-1981	16/0	16
1982-1985	37/1	38
1986-1989	33/2	35
1990-1993	33/1	34
1994-1997	33/3	36
1998-2001	36/4	40
2002-2005	41/7	48
2006-2009	31/13	44
2010-2013	31/7	38
2014-2017	34/4	38
1978-1981	16/0	16

5. Form and role of the conferences

The conference Groups in Galway takes place over two or three days. Initially the conference would start on a Friday afternoon so that participants from other universities in Ireland could easily attend. Traditionally it ended by the early afternoon on the Saturday so that those at the conference could watch the English football cup final on television! On special occasions the conference lasts for three days rather than the traditional two.

The talks at Groups in Galway vary in length from 30 minutes to one hour. In recent years most talks have been 45 minutes. There are also some poster sessions displaying the work of the graduate students at NUI Galway.

6. The mathematics of the conferences

The initial **Groups in Galway conference** had, as one might expect, a considerable amount of finite group theory. Over the years there has been a great variety of mathematics. Our St Andrews interest in computational group theory and the development of the group theory package GAP has been well-represented. Nowadays infinite group theory and various aspects of geometric group theory feature strongly. The topics of Groups in Galway 2018 include: 'Symmetric coverings and the Bruck-Ryser-Chowla theorem', 'The groups of order $p^n q$', 'Recent directions in Private Information Retrieval' and 'Using groups to construct combinatorial structures and codes'.

7. Groups tourism

Groups in Galway has not organised special outings but, over the years, I have visited many sites of interest in the west of Ireland.

Galway City itself is magnificently situated on Galway Bay with the mountains of County Clare in the background. In County Clare there is the famed Burren. I have visited Athlone, Ballinasloe, Limerick, the Connemara coast and the Aran Islands. I have also been on a boat trip from Ashford on Lough Corrib as part of a church group from Belfast at the 'time of the troubles'.
(The group were being hosted in Galway by Rex Dark, one of the Galway group theorists.)

River Corrib outside NUI Galway

Galway Bay from Barna

Barna harbour, Galway Bay

REFERENCES

[1] Bull. Irish Math. Soc. **56** (2005)

[2] Groups in Galway history
 http://www-history.mcs.st-and.ac.uk/Extras/Groups_Galway_hist.html

[3] Groups in Galway lectures
https://mathshistory.st-andrews.ac.uk/Honours/Galway_Group_Theory/

[4] Colin M. Campbell, 'Groups in Galway and Groups St Andrews conferences' in Proceedings of the Conference on History of Mathematics and Teaching of Mathematics, Miskolc 2018, ISBN 978-615-00, pp. 25-33