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Edited by C. M. Campbell, M. R. Quick, E. F. Robertson and G. C. Smith

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# Groups St Andrews 2005

## Volume 1

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C.M. Campbell

*University of St Andrews*

M.R. Quick

*University of St Andrews*

E.F. Robertson

*University of St Andrews*

G.C. Smith

*University of Bath*



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## Introduction

Groups St Andrews 2005 was held in the University of St Andrews from 30 July to 6 August 2005. This was the seventh in the series of Groups St Andrews group theory conferences organised by Colin Campbell and Edmund Robertson of the University of St Andrews. The first three were held in St Andrews and subsequent conferences held in Galway, Bath and Oxford before returning to St Andrews in 2005. We are pleased to say that the conference was, we believe, a success having been attended by 230 participants from 37 countries. The lectures and talks were given in the Mathematical Institute and the School of Physics and Astronomy of the University of St Andrews. Accommodation was provided in New Hall and in Fife Park.

The Scientific Organising Committee of Groups St Andrews 2005 was: Colin Campbell (St Andrews), Nick Gilbert (Heriot-Watt), Steve Linton (St Andrews), John O'Connor (St Andrews), Edmund Robertson (St Andrews), Nik Ruskuc (St Andrews), Geoff Smith (Bath). The Committee received very valuable support from our Algebra colleagues at St Andrews, both staff and postgraduate students. Once again, we believe that the support of the two main British mathematics societies, the Edinburgh Mathematical Society and the London Mathematical Society has been an important factor in the success of these conferences.

The main speakers at the meeting were Peter J Cameron (Queen Mary, London), Rostislav I Grigorchuk (Texas A&M), John C Meakin (Nebraska-Lincoln) and Akos Seress (Ohio State). Additionally there were seven one-hour invited speakers together with an extensive programme of over a hundred seminars; a lot to fit into a week! As has become the tradition, all the main speakers have written substantial articles for these Proceedings. Each volume begins with two such articles. All papers have been subjected to a formal refereeing process comparable to that of a major international journal. Publishing constraints have forced the editors to exclude some very worthwhile papers, and this is of course a matter of regret.

It is hoped that the next conference in this series will be held in 2009 and will be Groups St Andrews in Bath. As Colin and Edmund will have retired before Groups St Andrews 2009, they look forward to this conference with special interest and anticipate a slightly different role. These Proceedings do, however, mark the first 25 years of Groups St Andrews conferences. In addition to the mathematics, illustrated by these Proceedings, the seven conferences have contained a wide selection of social events. "Groups St Andrews tourism" has taken us to a variety of

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interesting and scenic venues in Scotland, Ireland, England and Wales. Bus trips have included Kellie Castle, Loch Earn and Loch Tay, Falkland Palace and Hill of Tarvit, Crathes Castle and Deeside, Loch Katrine and the Trossachs, House of Dun, Connemara and Kylemore Abbey, the Burren and the Cliffs of Moher, Tintern Abbey and Welsh Valleys, the Roman Baths in Bath, Salisbury Cathedral, Rufus Stone and the New Forest, Stonehenge, Wells Cathedral and the Cheddar Gorge, Blenheim Palace, Glamis Castle. We have been on boats on Loch Katrine, the Thames, and Galway Bay to the Aran Islands. There have also been: musical events with participants as the musicians, Scottish Country Dance evenings, barn dances, piano recitals, organ recitals, theatre trips, whisky tasting, putting, chess, walks along the Fife Coast, walks round Bath, and walks round Oxford. All these have provided opportunities for relaxation, but also opportunities to continue mathematical discussions. We hope that the cricket match (and balloon trip) postponed from 1997 will take place only 12 years late at Groups St Andrews 2009 in Bath!

Thanks to those authors who have contributed articles to these Proceedings. We have edited their articles to produce some uniformity without, we hope, destroying individual styles. For any inconsistency in, and errors introduced by, our editing we take full responsibility. Our final thanks go to Roger Astley and the rest of the Cambridge University Press team for their assistance and friendly advice throughout the production of these Proceedings.

Colin Campbell  
Martyn Quick  
Edmund Robertson  
Geoff Smith