

NEWSLETTER

September 2008

Issue no. 2

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1. Welcome

This is the second newsletter of the IoP Mathematical and Theoretical Physics Group in 2008. Its main purpose is to inform about the **upcoming AGM on Saturday 18th October** at the University of Durham. Moreover, it contains information on recent and future meetings sponsored by the group, Isaac Newton Institute Programmes of interest to group members, and to announce opportunities for research students in Mathematical and Theoretical Physics such the IoP Research Student Conference Fund.

2. Announcement of forthcoming meetings

The **22nd meeting of the North British Mathematical Physics Seminar (NBMPs)** will be held in the Dermon Christopherson Room of the Calman Learning Centre on the Science Site of Durham University, from 11am to 5.30pm on the 18th of October. For more information on the NBMPs, see <http://www.maths.ed.ac.uk/NBMPS/>

The AGM will coincide with this meeting, and is scheduled for the lunch break taking place 12:30-14:00 on Saturday the 18th of October.

A symposium entitled **QUANTUM (Groups + Foundations + Information)** will take place at the University of York on 29-30 September 2008 to celebrate the achievements of Professor Anthony Sudbery. The symposium aims to reflect Professor Sudbery's diverse research achievements during his distinguished career. His research interests span many areas of pure and applied mathematics, ranging from quantum groups and exceptional Lie algebras to foundational questions in quantum mechanics and quantum information theory. The meeting is organised by Prof Paul Bush, Dr Atsushi Higuchi, Dr Reidun Twarock and Dr Stefan Weigert, and is supported generously by the London Mathematical Society and by the Mathematical and Theoretical Physics Group of the IOP.

Speakers will include A Beige (Leeds), I Bengtsson (Stockholm), K Brown (Glasgow), E Corrigan (Durham), AJ Macfarlane (Cambridge), S Majid (London), C Manogue (Oregon, USA), S Popescu (Bristol), J Ryan (Arkansas, USA) and R Tucker (Lancaster). Most of them have collaborated with Tony Sudbery at some point of his career. The broad range of topics they represent will provide a stimulating background for

the interaction of research communities often separated by discipline boundaries. The meeting will also give opportunities for graduate students to exchange ideas with well-established colleagues in their fields and to acquaint themselves with other mathematical topics. Financial support is available to help them attend the symposium.

Details about registration, poster and Festschrift contributions, support for graduate students, accommodation and the conference dinner are available at <http://maths.york.ac.uk/www/TonySudberyFest>

A workshop on **Applications of Group Theory in Mathematical Biology** will be organised by Prof Anne Taormina and Dr Reidun Twarock at Durham University in December 2008. This one-day workshop will explore the application of mathematical physics techniques to the study of biological systems. The workshop will celebrate the involvement of the Department of Mathematics in the newly established Biophysical Sciences Institute in Durham, as well as the launch of a new MSc in Mathematical Biology, that is scheduled to start in October 2009.

A satellite workshop on **Geometric Aspects of Discrete and Ultra-Discrete Integrable Systems** will be held at the University of Glasgow from 30th March until 3rd April 2009 as part of the Isaac Newton Institute Programme on Discrete Integrable Systems. The local organisers are Claire Gilson, Christian Korff and Jon Nimmo, and the contact with the organisers of the Newton Institute Programme is Prof Orlando Ragnisco from Roma Tre. The intention of the workshop is to bring together different communities of researchers working on classical and quantum aspects of integrable systems as well as experts on combinatorial representation theory and crystals. The scientific programme will include the three strands:

1. Birational Yang-Baxter maps, tropical R-matrices and geometric crystals,
2. Cellular automata, box and ball systems, combinatorial R-matrices and crystal bases,
3. Geometry associated with discrete integrable systems.

Confirmed speakers include Alexander Bobenko (Technische Universität Berlin), Atsuo Kuniba (The University of Tokyo), Rei Inoue (Suzuka University of Medical Science), Kenji Kajiwara (Kyushu University), Toshiki Nakashima (Sofia University, Tokyo), Masatoshi Noumi (Kobe University), Masato Okado (Osaka University), Anne

Schilling (University of California at Davis), Daisuke Takahashi (Waseda University), Tomoyuki Takenawa (Tokyo University of Marine Science & Technology), Tetsuji Tokihiro (The University of Tokyo), Alexander Veselov (Loughborough University), Robert Weston (Heriot-Watt University), Ralph Willox (The University of Tokyo) and Yasuhiko Yamada (Kobe University).

Further information, including the list of confirmed speakers, can be found on the website

<http://www.gla.ac.uk/departments/mathematics/research/isamp/gadudis>

The meeting **ICFT09 - 13th Annual UK Meeting on Integrable Models, Conformal Field Theory and Related Topics** will take place in Oxford 3rd-4th April 2009.

A **summer school on Quantum and Discrete Integrable Systems** is planned by Claire Dunning and Andy Hone in summer 2009 at the University of Kent.

If there is a topic that you think is suitable for a half- or one-day meeting that you either would like the group to organise, or that you would like to organise yourself under the aegis of the group, please get in touch with the Honorary Secretary at your earliest convenience (see also items 6 and 8).

3. **Recent events organised or supported by the group:**

The second **Fundamental Physics UK Meeting, organised by Neil Lambert**, took place at King's College London on 7th-8th November 2008. This event received funding from the Mathematical and the Relativity IOP Groups. The meeting provided an opportunity for researchers throughout the UK to meet and discuss the latest developments in String Theory, Quantum Field Theory and Gravity. The seminars were in a pedagogical style and there was ample time scheduled for informal discussions.

The group also sponsored the conference **QG² 2008 - Quantum Geometry and Quantum Gravity Conference** in Nottingham from June 30th to July 4th 2008. For more details see:

<http://www.maths.nottingham.ac.uk/conferences/qgsquared-2008/>

4. News from the Isaac Newton Institute, Cambridge

The Isaac Newton Institute (INI) is inviting proposals for programmes of 4-week, 4-month or 6-month durations to run in 2010 or later. Proposals are considered twice yearly, with deadlines for submission on January 31st and July 31st. The INI has put on many meetings in areas of interest to group members, and organisers get to spend 6 months in Cambridge away from their usual duties.

Note that anyone can attend the INI for up to two days without an invitation - although it may be helpful to let them know you are coming. Also very useful is the "junior fellow" scheme which can pay all the costs of young researchers attending programmes.

A forthcoming programme of interest to group members is the programme of Discrete Integrable Systems, 19th January – 3rd July 2009, which is organised by Dr R Halburd (UCL), Prof F Nijhoff (Leeds), Prof. M Noumi (Kobe), Prof. GRW Quispel (La Trobe) and Prof. O Ragnisco (Roma Tre). For details see <http://www.newton.ac.uk/programmes/DIS/index.html>

Running in the second half of this year is the programme "Mathematics and Physics of Anderson localization: 50 Years After" with the following associated events:

- 2 - 6 November 2008
Delocalization Transitions and Multifractality (A Satellite Meeting at Gregynog Hall, University of Wales)
<http://www.newton.cam.ac.uk/programmes/MPA/mpaw03.html>
- 15 - 19 December 2008
Classical and Quantum Dynamics in the Presence of Disorder

5. IoP Research Students Conference Funds

We encourage research students to apply for funding via the Research Student Conference Fund, see advert below. Two more rounds of student bursaries will take place shortly: one this autumn and another one in December 2008.

Supporting research students

Research Student Conference Fund

Providing financial support to research student members, to attend international conferences and major national meetings.

Apply for up to £250 during the course of your PhD.

Applications are considered on a quarterly basis and should reach the Institute by: 1 March, 1 June, 1 September or 1 December

For further information see www.iop.org or contact supportandgrants@iop.org

IOP Institute of Physics

6. Calls for proposals

The Mathematical and Theoretical Physics Group organises scientific meetings and occasionally other activities of interest to its members. The committee always welcomes suggestions of topics for meetings; people interested in organising a meeting or who would like to suggest a topic suitable for a meeting are invited to contact the Honorary Secretary (see item 8). The group supports around six meetings a year on average.

7. Current committee membership

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This newsletter is also available on the web and in smaller print sizes

The contents of this newsletter do not necessarily represent the views or policies of the Institute of Physics, except where explicitly stated.

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