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1. Welcome

This is the newsletter of the IoP Mathematical and Theoretical Physics Group in 2011. Its purpose is to inform about the recent Annual General Meeting (AGM), past and future meetings sponsored by the group, opportunities for research students in Mathematical and Theoretical Physics such the IOP Research Student Conference Fund, and the current committee membership.


Present members: C Korff

The meeting had originally been scheduled for 8 Dec 2011 at the ICMS, Edinburgh, but had been adjourned as inquorate.

The meeting started at 12.00 pm and was declared quorate at 12.15 pm.

1. Apologies

Several apologies from members had been received for the originally scheduled date.

2. Minutes of the previous AGM

The minutes were approved.

3. Matters arising

There were no matters arising from the minutes.

4. Chair's report

This year the group committee has been involved in an unusually high number of consultations, in particular in connection with the recent changes in the EPSRC funding policies and the "shaping capabilities" agenda. The chair would like to express his thanks to the committee and especially to the other group officers, Drs Robert Weston and Clare Dunning, as well as Prof Patrick Dorey for their assistance and their time invested in answering these. The chair urges all group members to actively follow these developments which have a significant impact on the future of mathematical physics and the mathematical sciences as whole in the UK.

The group has launched two new initiatives this year: we invited bids for workshop ideas from PhD students and postdocs in mathematical physics where they can showcase their results and form new contacts. It is planned to repeat this initiative next year and suggestions should be sent to the Honorary Secretary as early as possible. Members should encourage PhD students to prepare bids.
The second initiative was to hold a second autumn group workshop besides the UK meetings on Integrable Systems and CFT (traditionally held in Spring) to display more adequately the breadth of mathematical physics in the UK and the research interests covered by the group. This second meeting took place at the ICMS in Edinburgh and the topic was "Nonequilibrium physics and asymmetric exclusion processes". The chair would like to thank the Honorary Secretary Robert Weston for his efforts in organizing this event. The group plans to repeat also the autumn workshop next year, tentatively in September with a topic related to random matrix theory.

The group has received a low number of RSCF bursary applications this year and the chair would like to ask all group members to actively encourage PhD students at their institutions to join the IoP and apply for these. They represent a valuable opportunity to gain international experience by attending a workshop or conference.

The IoP has recently changed its policy on Divisions and changes are summarised in Clare Dunning's report who attended the GDOF for the group; see Any other Business.

5. Honorary Secretary's report

The group has co-organised/supported 5 meetings in 2011. A complete list will be published in the newsletter.

6. Treasurer's report

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitee expenses</td>
<td>312</td>
</tr>
<tr>
<td>Commitee Newsletter &amp;Communications</td>
<td>312</td>
</tr>
<tr>
<td>Conference support</td>
<td>3,786</td>
</tr>
<tr>
<td>Total</td>
<td>4,410</td>
</tr>
</tbody>
</table>

| Income                                          | £4,650 |
| Balance to spend                                | 240    |

7. Election of Committee

There were 2 nominations for 2 vacancies. Prof Anne Taormina (Durham) and Dr Roger Behrend (Cardiff) have both been elected unopposed to ordinary committee members. Prof Taormina will continue her role as webmaster for the group.

8. Election of officers

Due to other commitments Prof Uwe Grimm (Dep of Mathematics, Open U) has stepped down as vice-chair and the Committee has co-opted Prof Patrick Dorey as vice-chair of the group.
The chair would like to thank Uwe Grimm for his long service first as chair and then as vice-chair on behalf of the entire group.

9. Any other business

Restructuring of Divisions. Old divisions are to be dissolved and new ones set up that are created and constituted by their constituent groups for mutual benefit. The predominant interaction will be the organisation of joint meetings.

During a recent committee meeting it was decided in the first instance to contact the High Energy Physics and Nonlinear/Complex Physics Groups to explore the possibility to form a Division.

Web. The IoP have redesigned the group webpages and will soon request groups to provide additional material (if any). Suitable material should be sent to the webmaster Prof Anne Taormina.

The meeting was concluded at 12.19pm.

3. Announcement of forthcoming meetings

1) Integrable Systems and Conformal Field Theory, York 13-14 April

The 16th Annual UK Meeting on Integrable Models, Conformal Field Theory and Related Topics will take place at The King's Manor, the city centre campus of the University of York, on the afternoon of 13th April and morning of 14th April 2012. The meeting is supported by the London Mathematical Society and the Institute of Physics.

The aim of the meeting is to bring together mathematicians and physicists working in this area to discuss recent results and promote cohesion within the UK Integrable Models and Conformal Field Theory community. Some speakers will be from outside the UK, and international participants are welcome.

The meeting also aims to act as a venue for young researchers to present their work and become integrated into the community. There will be an informal poster session. All participants, especially students and postdocs, are encouraged to present a poster.

Further information will be available in due course; please contact Niall MacKay [niall.mackay@york.ac.uk].

2) Mathematical and Theoretical Physics Group Meeting on Random Matrix Theory and Quantum Integrable Systems

Provisional venue: Portland Place, London

Provisional dates: first or second week of September

Further details will be announced in due course on the group's website and circulated via email.

3) Young Researchers Meeting in Mathematical Physics
The Mathematical and Theoretical Physics Group invites bids by PhD students and postdocs in mathematical physics to organise a conference to present their results and form contacts between young researchers in the UK and internationally. Please send suggestions to the Honorary Secretary as early as possible.

4. Recent events organised or supported by the group

(a) AdS and Condensed Matter

http://plato.tp.ph.ic.ac.uk/~jsonner/Welcome.html

A workshop on AdS and Condensed Matter was held at Imperial College, London on Jan 10-11th 2011. There were 33 participants in total and the level was postdoctoral and above. The principal aim of the workshop was to bring together string theorists, condensed matter theorists and condensed matter experimentalists with the aim of promoting an active dialogue between the communities, especially in the UK and Europe. The format of the meeting was 5 main survey talks each day leaving much time for discussion and interaction. The list of speakers, title of talks and other information on the meeting can be found at the web site.

(b) 15th Annual UK meeting on Integrable Models, Conformal Field Theory and Related Topics (ICFT11)

http://www.city.ac.uk/engineering-maths/research/mathematics-centre/research-seminars/icft-2011

ICFT11 was held at City University from 15th to 16th April 2011, and attracted 35 participants. The programme comprised four invited and four contributed talks, including three talks by students. The meeting was highly successful in its remit of bringing together the diverse community working on subjects ranging from non-equilibrium physics to the AdS/CFT correspondence. Full details of the meeting can be found at http://www.kent.ac.uk/ims/personal/tcd/webpages/icft10/index.html

(c) A Workshop on Non-equilibrium Physics and Asymmetric Exclusion Processes

International Centre of Mathematical Sciences, Edinburgh December 8-9th, 2011
http://www.ma.hw.ac.uk/~robertw/NEP11/

This Mathematical and Theoretical Physics Group meeting brought the UK and EU communities working on non-equilibrium physics and ASEPss together with those with expertise in mathematical physics, condensed matter, representation theory and combinatorics.

Main speakers included Fabian Essler (Oxford), Martin Evans (Edinburgh), Thomas Gasenzer (Heidelberg), Des Johnston (Heriott-Watt), Kirono Mallick (Saclay), Pierre van Moerbeke (Louvain-la-Neuve). Further details can be found at the workshop website.
(d) Young Researchers in Mathematical Physics Workshop

University of Glasgow, November 4–5\textsuperscript{th}, 2011
http://www.maths.gla.ac.uk/~ekmorrison/Conference/index11.html

The aim of the meeting was to provide a platform for researchers in the early stages of their careers to meet others working on subjects related to mathematical physics. The aim was to have a series of talks from both postgraduate students and senior researchers already established in the area. The conference also featured a discussion session in which the participants were invited to raise questions about current developments in fields related to mathematical physics.

List of speakers and presentations:

- Norman Rink, University of Cambridge. “Vortices on Riemann Surfaces”.
- Vidas Regelskis, University of York. “New methods in boundary scattering theory: from twisted Yangians to coideal quantum affine algebras”
- Tom Sutherland, University of Oxford. “Stability conditions and the Painlevé equations”
- Christian Saemann, Heriot-Watt University. “Matrix Models and Scalar Field Theories on Noncommutative Spaces”
- Paul Jones, University of Loughborough. “Bogolubov transformations”
- David Bruschi, University of Nottingham. “Voyage to Alpha Centauri: Entanglement degradation of cavity modes due to motion and beyond”
- Susan Nelmes, University of Durham. “Skyrmion Stars and the Multilayered Rational Map Ansatz”
- Bart Vlaar, University of Glasgow. “Non-symmetric Yang-Baxter algebra for the quantum nonlinear Schrödinger model”
- Derek Harland, University of Durham. “Magnetic monopoles with large charge”

(e) Young Theorists Forum

University of Durham, December 14-15\textsuperscript{th}, 2011
http://www.ippp.dur.ac.uk/Workshops/11/ytf11

The purpose of YTF was to bring together postgraduate students working in theoretical physics, providing the opportunity to present their work to a sympathetic audience. The aim was to foster development of early career researchers and encourage collaboration between different universities. A complete list of participants and talks/presentations can be found on the workshop website; see http://www.ippp.dur.ac.uk/Workshops/11/ytf11/files/YTF11_Programme.pdf

5. EPSRC’s “Shaping Capabilities” Agenda

Members will have been following the recent press coverage regarding controversies related to EPSRC’s recent funding policies. As outlined in the chair’s report the group committee has been actively involved in discussions with the IoP as to how best to address the concerns of the mathematical physics community. This is an ongoing process and we urge members to follow the developments, not only in the physical
but also in the mathematical sciences which is for most researchers in mathematical
and theoretical physics the relevant funding stream.

We refer to the recent letter by Sir Peter Knight (page 6 in the Interactions Magazine)
http://mag.digitalpc.co.uk/fvx/iop/interactions/1112/index.html
and the statement of the IoP Council

The group committee would also like point out a website maintained by Prof Burt
Totaro of Cambridge University as a useful resource for members to keep up-to-date
with recent developments and press coverage regarding EPSRC funding decisions
affecting the mathematical sciences:
http://www.dpmms.cam.ac.uk/~bt219/epsrc.html

6. IoP Research Students Conference Funds

We encourage research students to apply for funding via the Research Student
Conference Fund, see advert below. For the next round of student bursaries, you will
need to apply by the 1st March 2012.

Details how to apply can be found here:
http://www.iop.org/about/grants/research_student/page_38808.html

7. Call for workshop 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 committee membership below). The group
supports around six meetings a year on average.
8. Current committee membership

Dr Christian Korff (Chair)                           c.korff@maths.gla.ac.uk
Prof Patrick Dorey (Vice-Chair)                        p.e.dorey@durham.ac.uk
Dr Robert Weston (Honorary Secretary)                 r.a.weston@ma.hw.ac.uk
Dr Clare Dunning (Treasurer)                           t.c.dunning@kent.ac.uk
Dr Roger Behrend                                       behrendr@cardiff.ac.uk
Prof Yang Chen                                          ychen@imperial.ac.uk
Prof Uwe Grimm                                          u.grimm@physics.org
Prof Ian Moss                                           ian.moss@ncl.ac.uk
Dr Nikolaos Proukakis                                 nikolaos.proukakis@ncl.ac.uk
Prof Anne Taormina (Web Editor)                        anne.taormina@durham.ac.uk

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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