THE LONDON MATHEMATICAL SOCIETY

NEWSLETTER

No. 363 October 2007

Forthcoming Society Meetings

2007

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2008

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Mary Cartwright Lecture, Oxford

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Northern Regional Meeting, Manchester

Monday 9 June
Midlands Regional Meeting, Birmingham

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London

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SW & South Wales Regional Meeting
Swansea

THE BY-LAWS
Proposed Changes

Council in June considered a series of amendments to the By-Laws. These had been prepared to take forward several recent resolutions of Council and to make other adjustments to suit Charity Commission guidelines, along with clarification and tidying of other areas. A paper is included with this *Newsletter* laying out the nature of the changes and the reasons for them. These changes to the By-laws will be proposed at the Annual General Meeting on 23 November 2007.

Peter Cooper
Executive Secretary

LMS 2007 ELECTIONS AND OFFICERS

The ballot papers for the November elections to Council and Nominating Committee are being circulated with this copy of the *Newsletter*. Ten candidates for Members-at-Large of Council were proposed by the Nominating Committee for six vacancies.

The current President-Designate, Brian Davies, is nominated as the next President.

Please note that completed ballot papers must be returned by **Thursday 15 November 2007**.

A separate form for suggesting names to the Nominating Committee for potential candidates for the 2007 elections is also included. In addition members will be invited to make nominations direct in the April *Newsletter* next year.

ANNUAL GENERAL MEETING

The Annual General Meeting of the Society will be held at 3.15 pm on Friday 23 November 2007 at the Chemistry Auditorium, University College London, 20 Gordon Street, London. The business shall be:

(i) elections to Council and Nominating Committee;
(ii) the adoption of the Annual Report for 2006-07;
(iii) the report of the Treasurer;
(iv) appointment of Auditors;
(v) presentation of certificates to Prize winners;
(vi) proposals for changes to the By-Laws (see above).

I hope that as many members as possible will be able to attend.

Peter Cooper
Executive Secretary

ANNUAL DINNER

The Annual Dinner will be held after the Annual General Meeting at 7.30 pm on Friday 23 November at The Hotel Russell, London WC1. The cost is

£42.00 per person and members may book places for guests. The booking form, enclosed with this *Newsletter*, should be returned together with payment to the London Mathematical Society office by **Monday 19 November**.

PART-TIME FACILITATOR FOR AFRICAN MENTORING SCHEMES

As readers will have seen, the Society is involved in establishing pilot projects to support mathematics and its teaching in sub-Saharan Africa. The Society, ICMS, IMU and the African Mathematics Millennium Science Initiative (AMMSI) have received grants from the Nuffield Foundation and Leverhulme Trust for this purpose. The project is designed to counter the mathematics 'brain-drain' from sub-Saharan Africa by supporting qualified mathematics professionals *in situ*.

The Society is seeking a part-time Facilitator to work on the operation of the scheme, offering advice and assistance to potential applicants in the UK and Africa, 'brokering' partnerships, and helping the successful partnerships to operate successfully. The person would be expected to work for about 1 day per week, on average.

If any readers know of someone who may be interested, or would wish to do the work themselves, they should contact Peter Cooper, the Executive Secretary, at the Society in the first instance (peter.cooper@lms.ac.uk).

EPSRC-FUNDED STUDENTS AND LMS MEMBERSHIP

The LMS is one of several learned societies that are taking part in a scheme with EPSRC to offer 'free' membership to EPSRC-funded students. Under this scheme EPSRC will meet the costs of students' subscriptions (but not journals) for up to five years.

Students will benefit from free membership of the Society and consequently enjoy access to a range of services that will benefit their further professional development. In particular, participation in events (conferences, networks, etc) and keeping more closely in touch with activities in the mathematics community.

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The EPSRC hopes this will strengthen links with the students it sponsors and enable it to conduct a long-term evaluation of how its students have developed their careers beyond their first destinations. The LMS and EPSRC will also benefit from closer collaboration.

Further details of the scheme are available on the EPSRC website (www.epsrc.ac.uk). The membership application form for the Society has an additional section to obtain the information required. Email membership@lms.ac.uk for an application form or download one from the LMS website (www.lms.ac.uk/contact/membership.html).

Members are encouraged to make their students aware of, and sign up for this scheme.

IMA-LMS NEXT STEPS INITIATIVE

The most recent meeting of the Next Steps Initiative Joint Planning Group, that is considering the formation of a new single mathematics society, was held on 6 July 2007. The meeting reviewed all the work currently under development (*Vision and Mission*; *Public Benefit*; *Research*; *Constitution*; *Membership*) and agreed that work on the final three themes would be started – *Journals*, *Finance* and *Administration*. It is hoped that a Model for Implementation for a New Society should be ready for consideration by Councils in the spring of next year. The work has been steady and many contributors are hard-pressed to find time in their busy schedules to contribute comprehensively to this delicate task.

Comments sought

As described above, the NSI group is developing a model that if implemented would lead to the replacement of both the Institute of Mathematics and its Applications and the London Mathematical Society by a new society.

As this work progresses, members are invited to send views directly to the NSI group and can be assured that all comments received will be brought to the attention of the group at its next meeting. Although the NSI group does not guarantee to reply to all messages it may on occasion choose to do so. The email address to use is nsicontact@btinternet.com.

ICRA AWARD

The series of International Conferences on Representations of Algebras (ICRA) was established in 1974 to exchange the latest results in the rapidly developing field of Representations of Finite-Dimensional Algebras. From the outset a major focus has been to bring together leading and well-established experts with young researchers who are just starting out, and to profit greatly from the possibilities of exchange, and from associated workshops where recent advances are presented in detail.

At ICRA XI in Patzcuaro, Mexico 2004, the Scientific Advisory Committee decided to establish an ICRA Award, to be awarded at each session of ICRA for outstanding work by young mathematicians in the field of Representations of Finite Dimensional Algebras.

At ICRA XII in Toruń, Poland 2007, the inaugural ICRA Award has been awarded to Osamu Iyama (Nagoya University, Japan), for his original and influential work on developing a 'higher' theory for almost split sequences and Auslander correspondence, and his subsequent work on Calabi-Yau categories, which have strong connections with the cluster algebras of Fomin-Zelevinsky. The chairman of the Scientific Advisory Committee and of the Selection Committee was Professor Andrzej Skowroński.

The next ICRA conference and workshop are planned to be held at the University of São Paulo, São Paulo, Brazil from 30 July – 8 August 2008.

LONDON MATHEMATICAL SOCIETY

NORTHERN REGIONAL MEETING

Hicks Lecture Theatre 7, University of Sheffield
Wednesday 24 October 2007

2.30 **Opening of the meeting**
Fröhlich Lecture
Larry Breen (University of Paris, XIII)
Differential forms: an intrinsic perspective

3.45 **Tea**

4.30 **Alberto Cattaneo** (University of Zürich)
The Poisson sigma model

7.00 Dinner in the Rutland Arms Hotel, Bakewell

For further details or to reserve a place at the dinner, which costs £28.50 including wine, email K.Mackenzie@sheffield.ac.uk.

The meeting will be followed by a workshop from 25–27 October on *Lie algebroids and Lie groupoids in differential geometry*. For further details, see http://kchmackenzie.staff.shef.ac.uk/october07/ or email Kirill Mackenzie (K.Mackenzie@sheffield.ac.uk) or Ieke Moerdijk (moerdijk@math.uu.nl).

There are funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting and workshop. Requests for support, including an estimate of expenses, may be addressed to Kirill Mackenzie (email above).

LONDON MATHEMATICAL SOCIETY

ANNUAL GENERAL MEETING

Friday 23 November 2007

3.15–3.30 Annual General Meeting (see details on page 1)

3.30–4.30 Professor M. Struwe (Zürich)

4.30–5.00 Tea

5.00–6.00 Professor J.F. Toland (Bath)
Presidential Address

The meeting will be held in the Chemistry Auditorium, Christopher Ingold Building, University College London, 20 Gordon Street, London WC1. Please note early start.

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting. Requests for support, including an estimate of expenses, may be addressed to the Programme Secretary at the Society (web: www.lms.ac.uk; email: grants@lms.ac.uk).

The meeting will be followed by the Annual Dinner at the Hotel Russell. For further details see the announcement in this *Newsletter* (page 1). All enquiries may be addressed to Susan Oakes (tel: 020 7637 3686, email: susan.oakes@lms.ac.uk).

5ECM
Call for Registration and Abstracts

The Fifth European Congress of Mathematics (5ECM) will be held in Amsterdam from 14-18 July 2008, under the auspices of the European Mathematical Society (EMS) and under special patronage of the Koninklijk Wiskundig Genootschap (KWG). On the website www.5ecm.nl you will find the Call for Registration and Abstracts with all information about the Congress known so far. In a few days registration will open. Please note that members of the EMS and of the KWG pay a reduced fee. Registration before 1 April 2008 further reduces the fee.

FELIX KLEIN PRIZE
Call for Nominations

The prize, established in 1999 by the European Mathematical Society (EMS) and the endowing organisation, the *Institute for Industrial Mathematics* in Kaiserslautern, is awarded to a young scientist or a small group of young scientists (normally under the age of 38) for using sophisticated mathematical methods to solve a concrete and difficult industrial problem.

There are no restrictions on eligibility other than those specified in the Principal Guidelines. The Prize Committee is responsible for solicitation and evaluation of nominations, which may be made by anyone, including members of the Prize Committee. It is the responsibility of the nominator to provide all relevant information to the Prize Committee, including a résumé and documentation of the benefit to industry and the mathematical methods used. The Prize Committee will report its nomination to the EMS President at least three months before the date of the award. The prize is awarded to a single person or a small group and cannot be split.

The award comprises a certificate containing the citation and a cash prize of €5000. The prize is presented every four years at the European Congress of Mathematics by the President of the EMS. The recipient is invited to present his or her work at the conference.

The first prize was awarded to David C. Dobson (USA) in the year 2000 during 3ECM in Barcelona. The prize was not awarded in 2004. The endowing Institute for Industrial Mathematics in Kaiserslautern is responsible for managing the prize fund as well as its administration.

Nominations for the prize must reach the Helsinki office of the EMS by email (ulmanen@cc.helsinki.fi) no later than **1 February 2008**. Please use the text 'Felix Klein Prize' in the subject field of the email. The complete nomination must be submitted in pdf format.

EUROPEAN MATHEMATICAL SOCIETY PRIZES

The European Mathematical Society has issued a call for nominations for its prizes to be awarded at the 2008 European Congress of Mathematics. Ten prizes are to be awarded to European mathematicians who have not reached their 35th birthday on 30 June 2008, although the maximum age may be increased by up to three years in the case of an individual with a broken career pattern. Mathematicians are defined to be 'European' if they are of European nationality or their normal place of work is within Europe. The Prizes are to be awarded for work published before 31 December 2007. The nomination for each award must be accompanied by a written justification, a résumé and a citation of about 100 words that can be read at the award ceremony.

For further information contact the chairman of the Prize Committee, Professor R. Tijdeman by email: tijdemon@math.leidenuniv.nl or by telephone: +31715277138. The deadline for nominations is **1 November 2007**.

GRAHAM ROBERT ALLAN

Graham Robert Allan died on 9 August 2007 at the age of 70 years. He was elected to the Society on 19 May 1964 and was awarded the Junior Berwick Prize in 1969. He served the Society as Member of Council and was an editor of the *Proceedings* from 1976 to 1981.

Graham was born in Southgate, north London, and was an only child. The family moved to the Cotswolds during the war, but returned to London in 1943, and Graham then attended Minchenden Grammar School in Southgate, from which he obtained an exhibition in mathematics to Sidney Sussex College, Cambridge, in December 1954. Graham served in the Royal Air Force from 1955 to 1957, mainly spent at a radar station in East Anglia, and was well prepared mathematically when he went to Cambridge in 1957.

Graham was a Wrangler in Part II of the Mathematical Tripos in 1960 and took Part III in 1961. He was then supervised by Frank Smithies from 1961 to 1964; his PhD thesis *Contributions to the theory of locally convex spaces* was very much his own work.

In 1962 Graham married Elizabeth Gemmell in 1962, a town planner with Lancashire County Council.

Graham became a Research Fellow at Sidney Sussex in 1963-64, and then began a long connection with Churchill College, being elected as a Fellow and Director of Studies in Mathematics there in 1964. He moved to Newcastle University as a Lecturer in Pure Mathematics in 1967 but this appointment in Newcastle did not last long: in 1969 Graham became a lecturer at Cambridge and again a Fellow of Churchill College.

This second sojourn in Cambridge was even shorter. At that time, there was a considerable expansion of university education in the UK, and in particular the School of Mathematics at Leeds University was to expand substantially. The plan for pure mathematics was striking and perhaps innovative. Leeds was to concentrate on three distinct areas of research in pure mathematics; Graham was appointed in 1970 as a professor to build and lead a group in functional analysis, and he was very successful in this. He was also Head of Pure Mathematics at Leeds from 1975 to 1978.

However, Graham did not welcome the increasing burden of administrative duties, coupled with financial stringency imposed on the University, and he missed the stimulation of the very strong undergraduates and graduate students that he had had at Cambridge. He returned there as a Lecturer in Mathematics and Fellow of Churchill in 1978; he became a Reader in Functional Analysis in 1980, again Director of Studies at Churchill from 1985, and Vice-Master of the College from 1990 to 1993. He was Chairman of the Mathematics Faculty Board in 1997 and 1998. Graham retired in 2003, but continued to teach a Part III course until 2006. A book based on these lectures will shortly be published by OUP.

Graham had about 20 research students over his career, so his influence on the development of his subject of Banach algebra theory was substantial. Former graduate students include John Rennison (Kent), Ian Craw (Aberdeen), Garth Dales (Leeds), Peter McClure (Manitoba), Peter Dixon (Sheffield), Ghotsi Haghany (Isfahan), Thomas Ransford (Laval), Michael White (Newcastle), Frederic Gourdeau (Laval) and Thomas Vils Pedersen (Copenhagen). Important overseas friends and collaborators included Anthony O'Farrell (Maynooth), Wiesław Żelazko and Jaroslav Zemánek (Warsaw), Jean Esterle (Bordeaux), and Alexander Helemskii (Moscow).

Graham became a Roman Catholic in 1979, persuaded by intellectual considerations; he deeply loved philosophy and theology, and this was a major part of his life. A full requiem mass was celebrated on 17 August 2007 at the Catholic Church in Cambridge.

He is survived by Elizabeth, and two daughters, Juliet and Clare.

Garth Dales writes: Graham contributed seminal papers on Banach algebra theory, and was an international leader in his field.

I took Graham's Part III course on Banach algebras in the year 1966-67. I was very much attracted by the beautiful clear lecturing style which covered the details carefully, but never became pedantic; he always took great care to ensure that his lectures were accessible to his audience. The material was, to me, a lovely blend of algebraic foundations with a substantial super-structure of real, complex, and functional analysis.

Always Graham was kind, quiet, thoughtful, and considerate; he inspired great affection in his research students and others; he was very modest about his own achievements. His former students and many friends in the mathematical community will miss him greatly.

THE *PLUS* NEW WRITERS AWARD – BRING MATHS TO LIFE

Plus magazine (http://plus.maths.org) is trying to find the science writers of the future, who can make mathematics lively and interesting for a general audience. Published online and free of charge, *Plus* is an award-winning magazine about maths which is aimed at the general public. Its articles by top mathematicians and science writers provide a window into the world of maths with all its beauty and applications, and cover fields as diverse as art, medicine, cosmology and sport. The *Plus* new writers award gives our readers a chance to join our acclaimed list of authors, including physicist Stephen Hawking, mathematician and writer Marcus du Sautoy, and NASA astronaut Michael Foale.

There are three categories to this writing competition: Secondary school students are invited to write a piece of up to 900 words about the life and/or work of any mathematician, living or dead. University students and the general public can write a longer piece on any mathematical topic or application they think the world should know about.

The winning entries will be read by an international audience of over 200,000 in the June 2008 issue of *Plus*. The closing date is 31 March 2008, and more information on the competition can be found on the *Plus* site http://plus.maths.org/competition. Besides the fame and glory of seeing your article published in *Plus*, there are also prizes for the best submissions, including signed copies of popular science books and an Apple iPod.

Dr Marianne Freiberger
Editor of *Plus* Online Magazine

ISAAC AWARD 2007

Dr Michael Ruzhansky (Imperial College London) has been awarded the 2007 ISAAC Award by the International Society for Analysis, its Applications and Computation (ISAAC), for his contributions to areas of partial differential equations, microlocal analysis, and harmonic analysis. The ISAAC Award is the biannual prize awarded at the ISAAC Congress to a scientist of age up to 40 at the time of the congress for particular merits in analysis, its applications and computation.

INTERNATIONAL SOCIETY ON GENERAL RELATIVITY AND GRAVITATION

At the July 2007 General Assembly of the International Society on General Relativity and Gravitation, Professor Malcolm MacCallum was elected for a further 3-year term as its Secretary. At the end of this term he will have been in that post for 15 years.

AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES SCHOOLS ENRICHMENT CENTRE

Educational opportunities in mathematics and science in South African schools are still seriously affected by the legacy of apartheid. Resources are poor and the majority of children are taught by mathematically unqualified teachers. The South African Government National Strategy for Mathematics Science and Technology 2005-2009 states:

"The shortage of competent teachers results in less qualified and inadequately prepared teachers assuming teaching roles. The negative consequence hereof manifests as a vicious cycle of low quality teaching, poor learner performance, and a constant undersupply of quality teachers"

So far all the work of the African Institute for Mathematical Sciences Schools Enrichment Centre (AIMSSEC) has been done by unpaid volunteers. All students come from disadvantaged communities and receive full bursaries. AIMSSEC needs to raise funds to appoint a South African Director and staff so as to expand its support for mathematics teaching and learning, curriculum development, dissemination of resources and research in mathematics education. AIMSSEC is modelled on, and draws resources from, the Cambridge University Millennium Mathematics Project. My vision is for AIMSSEC to provide equally powerful and effective support for mathematics teaching and learning in schools across Africa.

Assisted by a large international group of experienced teacher trainers I have run seven 10-day residential professional development courses, followed by three months distance learning, for a total of 285 mathematics teachers and subject advisers. Another 60 are enrolled for the January 2008 course. A selected group will be trained as subject leaders in mathematics in a new 2 year part-time e-learning course (a continuation of the established AIMSSEC course) run in partnership with Stellenbosch University and the Mathematics Centre for Professional Teachers. Participants will attend Saturday sessions at one of the Stellenbosch University Interactive Telematic classrooms, a network which extends across South Africa.

The website www.aimssec.aims.ac.za offers a problems page, details of AIMSSEC courses and events and *ask AIMS*, an Online Forum where AIMS students and graduates discuss mathematics and answer questions from learners and teachers.

South African and UK schools, linked by Motivate video-conference masterclasses, provide professional development for teachers and enrichment for learners of all ages. Topics have included measurement and scale, financial mathematics, calculation of distances along international flight paths, astronomy, avalanches, uses of quadratic equations, the sun and energy, the Transit of Venus and the collection, analysis and exchange of statistics about the different countries.

AIMSSEC supports local schools with workshops for teachers and learners, and seeks funding to expand the programme for AIMS students and graduates to work as volunteer tutors in township schools.

AIMSSEC makes a little go a long way: £2.50 pays for a learner to participate in a video-conference masterclass, £10 pays for a resource pack of teaching materials and £300 pays all expenses for a teacher for a 10-day residential professional development course followed by three months distance learning, including travel, tuition, accommodation, food, stationery and a package of teaching materials to take back to school. The total cost of a 10-day residential course for 50 teachers followed by three months' distance learning is £15,000.

The AIMSSEC account is administered by Stellenbosch University. Cheques should be made payable to: Stellenbosch Foundation – AIMSSEC Cost Centre R268.

For details of how to make a donation through the Stellenbosch Foundation Charitable Trust see http://www0.sun.ac.za/stigting/make_a_donation_give.html. Please send a covering letter saying what you would like the money to be used for. I am very grateful for any support and always happy to give further information.

Toni Beardon, MMP and AIMSSEC
Centre for Mathematical Sciences
Cambridge University
LAB11@cam.ac.uk

VISIT OF PROFESSOR GUOHUA WU

Professor Guohua Wu (Nanyang University, Singapore) will be visiting the University of Leeds from 26 November to 14 December. His work on relative computability is particularly concerned with various computability theoretic aspects of the Ershov hierarchy, and relationships to computation using partial information. He will give a short course of lectures in the Leeds Computability Seminar, and (on 5 December) a talk *On the complexity of the successivity relation in computable linear orderings* to the Leeds Logic Seminar. For further details of the visit of Professor Wu contact Professor Barry Cooper (pmt6sbc@leeds.ac.uk). The visit is supported by an LMS Scheme 4 grant.

COMPUTAT 2007

At COMPUTAT 2007 research in different fields of Mathematics and Computer Science and their teaching will be presented. Simultaneously the 10th National Congress of the Cuban Society for Mathematics and Computer Science will take place. The Congress will take place from 21–23 November. For further information contact Tania Toledo Riverón, Scientific Secretary, Pedagogical University of Holguín, Cuba (tel: + 5324 482145, fax: + 5324 481168, email: compumat2007@hlg.rimed.cu).

THE INSTITUTE FOR MATHEMATICAL SCIENCES, SINGAPORE

Data-driven and Physically-based Models for Characterization of Processes in Hydrology, Hydraulics, Oceanography and Climate Change

The Institute is jointly organizing this programme with Pacific Institute for Mathematical Sciences, UBC, taking place from 7–27 January 2008 in Singapore. The 3-week programme will consist of a full week of seminars/lectures, and two weeks of workshops and research discussions aimed at developing research collaboration. Three main topics are covered in the programme are:

- *Development of a fully integrated data-driven and physical-based models for water resources management*
- *Dynamic and statistical downscaling on climate change study*
- *Nonlinear wave dynamics and tsunami modeling*

The first week will be dedicated totally to seminars/lectures on the three topics described above. Each of the following two weeks will start with two days of presentation by a number of invited speakers, focusing on the topics described above. The remaining three days of each of these two weeks will be reserved for work in smaller multi-disciplinary groups. The groups will address a number of concrete challenges associated with the three topical areas. The general idea is to arrive at possible research collaboration in the immediate future, and to draft scientific publications by the end of the workshop. For general enquiries email imssec@nus.edu.sg, for scientific enquiries email Yui Liong (tmslsy@nus.edu.sg) and for updates on the programme and registration visit www.ims.nus.edu.sg/Programs/ocean07/index.htm.

Mathematical Imaging and Digital Media

This programme will take place at the Institute for Mathematical Sciences (National University of Singapore) in Singapore from 5 May–27 June 2008.

Mathematical imaging is a multidisciplinary field that synergizes many areas of science, technology and mathematics to provide solid foundation, new ideas and techniques and understanding of almost every aspect of imaging science ranging from hardware design to image enhancement, from image representation to image understanding, and from modeling of pattern formation to synthesis of artistic graphics.

Digital media comprises hardware and software systems that enable real-time human-machine interaction. It involves a wide range of technologies that cut across various disciplines in sciences, mathematics, engineering and computer sciences with applications in diverse fields, including communications, education, medicine, finance, games, entertainment and lifestyle.

The emphasis is on the applications in imaging science and digital media of the recent developments in the areas of approximation and wavelet theory, numerical analysis and scientific computing, and statistical and data analysis. The focus will be on the following themes:

- *Mathematical imaging and digital media:* Mathematical methods for computer graphics, computer vision, mesh generation, image restoration and reconstruction, image enhancement, image segmentation, object detection, image decomposition, image representation, image compression.
- *Wavelet theory and applications:* Sparse data representation and approximation by wavelets and redundant systems, noise removal, stochastic wavelet analysis, inverse problems via wavelet methods.

For general enquiries email imssec@nus.edu.sg and for scientific enquiries email Zuowei Shen (matzuows@.nus.edu.sg).

Oxford Centre for Nonlinear PDE

EPSRC
Engineering and Physical Sciences Research Council

Centre Launch Meeting

Wednesday 24th October 2007

Following the third round of S&I Awards announced by EPSRC. The University of Oxford's Mathematical Institute received £3.3m to establish a world-class research centre in the analysis of non-linear partial differential equations (PDEs).

Introduction by John Ball, Centre Director (Oxford)

Confirmed speakers:

Gianni Dal Maso (SISSA, Trieste)
Quasi-static evolution problems in plasticity with softening

Yvan Martel (Versailles)
On collision of two solitons for the generalized KdV equation in the nonintegrable case

Mike Cullen (Met Office)
Analysis of large-scale atmosphere/ocean flows

Rosario Mingione (Parma)
Singular sets and vectorial problems

Gregory Seregin (Oxford)
Axially Symmetric Solutions to Navier-Stokes Equations

Felix Otto (Bonn)

Where and When:

The launch meeting will be held on Wednesday 24th October starting at 9:30am at St Anne's College, Oxford.

Tea, Coffee and a buffet lunch will be provided.

Talks will be followed by a drinks reception in the new Centre at the Gibson Building/Block 21, Radcliffe Infirmary, Woodstock Road, Oxford, OX2 6HA.

Registation and more information:

You can register online at: www.maths.ox.ac.uk/oxpde/meetings/launch/registration.php

More information can be found at: www.maths.ox.ac.uk/oxpde/meetings/

BRITISH ASSOCIATION
Mathematical Sciences Section

The British Association Mathematical Sciences Section Committee put on an impressive and well-attended programme this year, ensuring that the mathematical sciences were well represented at the BA Festival of Science in York from 9–15 September.

Dr Reidun Twarock, an EPSRC advanced research fellow in the departments of Mathematics and Biology at the University of York, gave a lecture entitled *Microworld Adventures: A Symmetry-Approach to Viruses*, explaining her research into the structures of viruses by exploring their symmetries. This in turn had led the biologists to a new and deeper understanding of how viruses function and enabled them to predict other structures. This was followed by a reception sponsored by the *more maths grads* project, at which a number of mathematical organisations exhibited their work.

The following day, Section President Professor Robin Wilson donned 18th century dress to transform himself into Leonhard Euler. He then went on to describe the life and works of this prolific Swiss mathematician who was born 300 years ago. Cambridge University's Professor Keith Moffat spoke on Euler's work on dynamics whilst Professor Chris Budd of the University of Bath also dressed up, this time as Johann Bernoulli, to talk about Euler's fabulous formula ($e^{i\pi} = -1$). Another mathematics session at the BA Festival looked at careers in mathematics from the perspective of *How mathematics changed my life*, and Professor Budd gave a further session as part of the schools' programme. The Section committee already has plans in place for next year's festival which will be held in Liverpool.

Johann Bernoulli (aka Chris Budd) Leonhard Euler (aka Robin Wilson)

JAMES CLERK MAXWELL

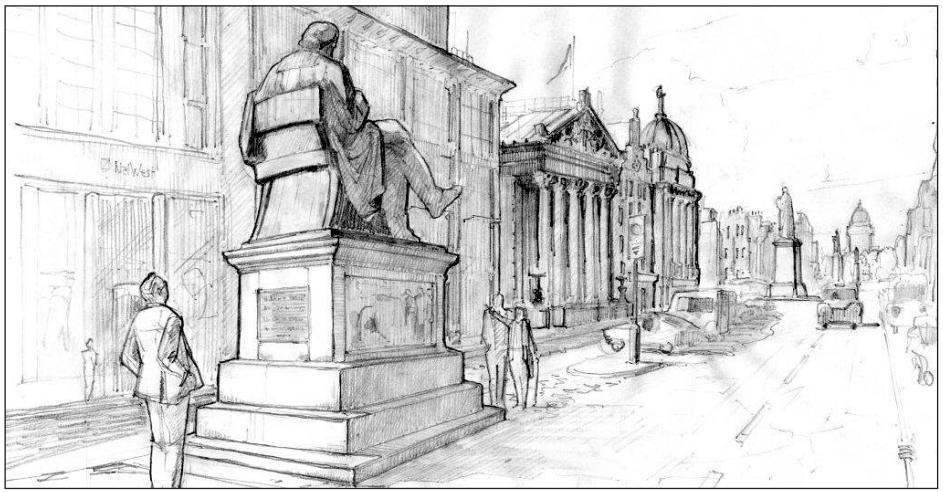
For a scientist of Maxwell's stature, there are few memorials to him. Maxwell himself was a genuinely modest man and did not seek publicity. His early death, before his ideas had been fully absorbed, cut short the fame that came to such octogenarians as Newton or Kelvin. In 2006 the 175th anniversary of his birth raised his profile in his home city and the Royal Society of Edinburgh (of which Maxwell had been a Fellow) initiated plans for a statue of him. A prime site was identified on George Street in the heart of the New Town, and close to the present building of the RSE, as pictured. Planning permission has now been obtained and the project has widespread support.

The sculptor, Alexander Stoddart (www.alexanderstoddart.com) has extensive experience of public monuments. He was responsible for the statue of David Hume and Adam Smith in Edinburgh and of John Witherspoon in Princeton. It is our hope that the statue of Maxwell can be completed by October 2008, the end of my term as President of the Royal Society of Edinburgh.

My main task now is to raise the funds for the statue and I hope that members of the London Mathematical Society will contribute to this overdue celebration of one of the brightest stars in our firmament.

Our target is £300,000 and any contributions can be sent to: The President, The Royal Society of Edinburgh, 22-26 George Street, Edinburgh EH2 2PQ. Cheques should be made payable to The Royal Society of Edinburgh – Clerk Maxwell Fund. The RSE is a registered Scottish charity (No. SC000470), so that, for UK taxpayers, Gift Aid offers tax advantages. We have also set up arrangements for tax-payers in other countries. I welcome discussion with those who would like to contribute. Any surplus funds, left over after covering all costs associated with the statue, will go into a Clerk Maxwell fund of the RSE, which will be used to support RSE objectives in science and the humanities.

Michael Atiyah, President of The Royal Society of Edinburgh
Past President of The London Mathematical Society (1975–1977)



INSTITUT DES HAUTES ÉTUDES SCIENTIFIQUES

The Institut des Hautes Études Scientifiques, located in Bures-sur-Yvette (France), welcomes each year up to 250 mathematicians and theoretical physicists from all over the world for periods ranging from two to three weeks up to one or two years.

Created in 1958, IHÉS is an international research institute, registered as a Foundation in the public interest since 1980, the purpose of which is to support and develop theoretical research in the mathematical sciences, physics and more recently, in molecular biology. IHÉS is financed by different institutions, such as: the French Research Ministry, several European research agencies among which the Engineering and Physical Sciences Research Council (EPSRC), the European Commission, the US National Science Foundation, and also some private foundations and companies. The EPSRC has now been supporting IHÉS for a number of years. In doing so, its aim is to foster closer links between British and French mathematical research centres.

British mathematicians and theoretical physicists are invited to apply to IHÉS for visits (for more information, consult the website www.ihes.fr). They can use their stay to work with researchers from other research groups in the Paris area.

Director: Jean-Pierre Bourguignon

Permanent Professors: Thibault Damour, Mikhael Gromov Maxim Kontsevich, Laurent Lafforgue, Nikita Nekrasov

Honorary Professor: David Ruelle

Léon Motchane Chair: Alain Connes

Louis Michel Chairs: Michael Douglas, Jürg Fröhlich, Samson Shatashvili

Long term CNRS visitors: Christophe Breuil, Ofer Gabber, Dirk Kreimer, Christophe Soulé, Claire Voisin

External Members of the Scientific Committee: Curtis Callan, Michael Green, Stanislas Leibler, George Papanicolaou, Marc Mézard, Gerd Faltings

WILLIAM HODGE FELLOWSHIPS 2008/2009

In 2000 the EPSRC committee reviewing IHÉS suggested that the EPSRC and IHÉS offer each year two one-year fellowships bearing the name of Sir William Hodge, the eminent British mathematician. The fellowships enable outstanding young mathematicians and theoretical physicists to spend time at IHÉS. At the last review in 2005, it was suggested that fellows be encouraged to have a UK-based mentor and be involved with the UK mathematics community.

Applicants must have a PhD in the Mathematical Sciences or Theoretical Physics obtained in 2006, 2007 or in early 2008. One of the two grants will be awarded to an applicant who has spent at least the preceding nine months at a UK academic institution or has just graduated from a UK institution. Applications will be reviewed and selection made based on the sole criterion of excellence in research by the IHÉS Scientific Committee in December 2007. The Committee consists of the Permanent Professors, the Director, and the external members (the list can be found above). Fellowships would start in the autumn of 2008.

Applications should be sent through the IHÉS website (www.ihes.fr) and should include: the application form, a cover letter, a CV, a publication list, a research project, two or three letters of recommendation, and a proposal for a UK mentor. Deadline for applications: **22 November 2007**.

For more information contact: IHÉS – 35, route de Chartres, F-91440 Bures-sur-Yvette (France), tel: +33 1 6092 6605, fax: +33 1 6092 6609, email: hodge@ihes.fr, website: www.ihes.fr.

EDINBURGH MATHEMATICAL SOCIETY

The Edinburgh Mathematical Society 2007–08 programme is as follows:

2007

12 October, Edinburgh, AGM & Presidential Address, Dr C.M. Campbell
9 November, Glasgow, Professor C.A. Stuart
7 December, Strathclyde, Professor P.K. Jimack

2008

18 January, Edinburgh, Professor F.C. Kirwan
15 February, Edinburgh, 125th Anniversary Meeting, Professor J.F. Toland, Professor E. Zelmanov
14 March, Dundee, Professor A. Stevens
25 April, Aberdeen, Professor A.A. Ranicki
23 May, St Andrews, Professor C.W. Parker

For further information contact Tom Lenagan (tom@maths.ed.ac.uk) or visit www.maths.ed.ac.uk/~ems.

ISLAND III

Algebraic Aspects of Integrability

This workshop took place at the beginning of July this year, supported by an LMS conference grant. This helped to support one of our invited speakers, as well as research students at UK universities and participants from former Soviet Union countries.

The workshop was held on the splendidly rugged and peaceful Island of Islay. The isolated setting drew the participants together and encouraged interaction. The main speakers included Date, Dubrovin, Noumi, Ruijsenaars, Varchenko and Veselov, whose talks concerned problems of behaviour of solutions of integrable equations, orthogonal polynomials and discrete integrable systems, interrelation between classical integrable systems and soliton solutions of wave equations, Calogero-Moser systems and the Bethe *ansatz* method. A highlight of the workshop was the talk by McKay who pointed out those integrable systems structures appeared in the theory of modular functions. Some further talks were presented on other algebraic aspects of integrable systems.

The overall number of scheduled talks was deliberately limited so that participants could benefit from discussions in the remaining time. This structure proved very successful. In particular there was ample opportunity to discuss the work of younger participants based on their poster presentations leading to a fruitful exchange of ideas and forming a basis for future developments in the field.

All of the participants clearly enjoyed the meeting and the social aspects were enhanced by the atmosphere and the outstanding cuisine at the Machrie Hotel and demonstrations of the art of whisky making by local distillers.

We have been encouraged to start thinking about Island IV for the year 2011.

For the purposes of dissemination the presentations appear on the conference website www.maths.gla.ac.uk/island/island3 and a refereed special issue of the *Glasgow Mathematical Journal* will be devoted to the conference.

Claire Gilson
University of Glasgow

REVIEWS

Music: A Mathematical Offering by David J. Benson, Cambridge, 2006, £25.99 paperback, ISBN 0-521-619998, £65.00 hard back ISBN 0-521-85387; **The Math Behind the Music** by Leon Harkleroad, Cambridge/MAA, 2006, £40.00 hardback, £14.99 paperback, ISBN, 0-521-81095-7/0-521-00935-9.

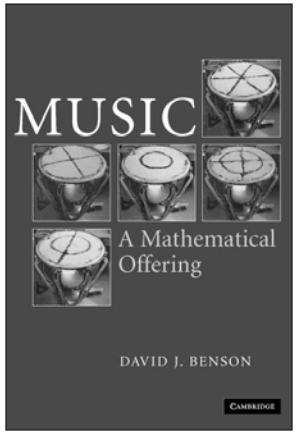
In recent years there has been an explosion of interest in exploring the many connections between mathematics and music. A number of UK universities offer joint degrees in the two subjects, while in US liberal arts colleges it is an ideal topic for students needing to fulfil a mathematics requirement. The AMS–MAA Joint Winter meetings now regularly feature well-attended sessions on mathematics and music.

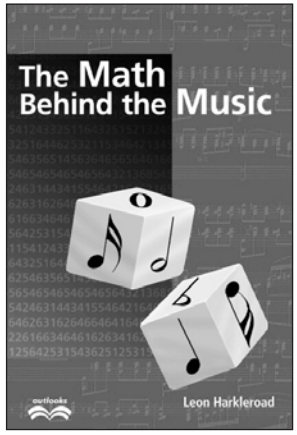
In view of this, it is not surprising that there has been an corresponding increase in books on the subject – from edited collections such as J. Fauvel, R. Flood and the reviewer's *Music and Mathematics: From Pythagoras to Fractals* [1] and a Springer book *Mathematics and Music*, arising from a European Mathematical Society forum [2], to Mazzola's massive book on music and topos theory [3]. Other recent books focus on specific topics, such as Neuwirth's *Musical Temperaments* [4]. The two books under review are welcome additions to this collection – they are very different from each other, and from the books just mentioned.

Leon Harkleroad's book is aimed at a general reader and is good to dip into. It covers the traditional topics of pitch, the mathematics of sound, the twelve-tone scale, tuning and temperament, and patterns in music, as well as less well-known topics as change ringing and probabilistic music. Suffice it to say that it is engagingly written and easy to read, and in the hands of a lively instructor would be highly suitable for the liberal arts courses mentioned above. A special feature of this book is the excellent accompanying audio CD of musical examples.

Dave Benson's excellent book requires a higher level of mathematical sophistication. Starting with waves and harmonics, he introduces the mathematics of vibrating strings and resonance, Fourier series and Bessel functions, and presents a mathematical analysis of the sounds of various musical instruments. He then turns to tunings and temperaments and gives a thorough treatment of musical scales – from various 18th-century tunings to contemporary microtonal systems. This leads to a study of digital music and the synthesis of musical sounds. The book concludes with a wide-ranging study of symmetry in music. This is an impressive book that no-one seriously interested in the subject should be without.

Robin Wilson
The Open University





References

1. John Fauvel, Raymond Flood and Robin Wilson (eds.), *Music and Mathematics: From Pythagoras to Fractals* (paperback), Oxford University Press, 2006.
2. G. Assayag, H.G. Feichtinger and J.F. Rodrigues (eds.), *Mathematics and Music: A Diderot Mathematical Forum*, Springer, 2002.
3. G. Mazzola, *The Topos of Music: Geometric Logic of Concepts, Theory and Performances*, Birkhäuser, 2002.
4. Erich Neuwirth, *Musical Temperaments* (with CD-Rom), Springer, 1997.

Private Passions with Robin Wilson

9 September 2007, Radio 3

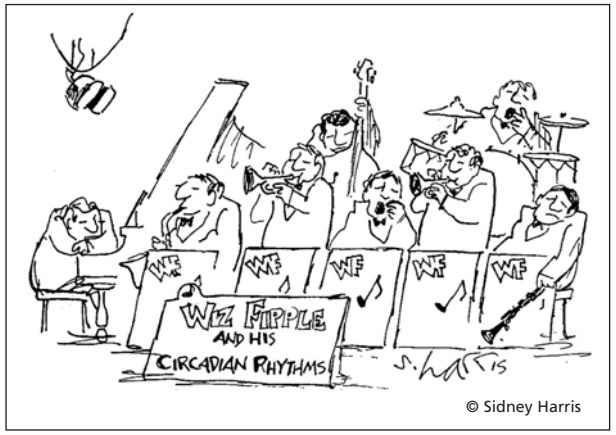
As is noted elsewhere in these columns, the connections between mathematics and music are increasingly the subject of public interest. These connections are explored in the two new books reviewed in this *Newsletter*; Robin Wilson's public lectures have attracted large audiences in several cities; they have been discussed on *In our Time* on Radio 4; and they have been explored by conferences like *Bridges* in London last year, which included a mathematical concert, and the forthcoming meeting on Mathematical and Musical Instruments in Oxford this December, organised by the British Society for the History of Mathematics.

Robin Wilson's appearance as Michael Berkeley's guest on *Private Passions* was timely in this context. And, unlike some of the other items mentioned above, it will have attracted a very general audience expecting (and getting) a programme on music rather than maths. It was therefore a considerable achievement for Wilson, in his conversation with Berkeley, to bring in so many mathematical ideas while conforming to the programme's normal focus on the music. The mathematics, naturally, could not be discussed in any depth but Wilson was able to demonstrate several of the variety of ways in which mathematics occurs in music.

He showed how mathematics underlies the musical structure of pieces by Telemann, Purcell and Haydn, and we heard a mathematically-based piece by the contemporary American composer Carlton Gamer. Bach led to Sullivan and Britten and the programme finished rather unexpectedly with the Fugue for Tinhorns from *Guys and Dolls*. In its course we learned about the place of music in Robin's life, his choral singing and his apparently limited terpsichorean skills.

Such a programme clearly does mathematics a great service. Our subject is too often presented in the media as abstruse and of interest only to specialists. In this context Wilson came across as much the enthusiastic amateur singer and G&S buff as the mathematician, and his and Berkeley's conversation, along with such varied but lovely music in which the mathematical connections were elucidated but not overstressed, can only have improved the listener's appreciation of the value and interest of mathematics.

Tony Mann
University of Greenwich



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A Disappearing Number

Barbican Theatre

There is much in the world of mathematics that can make good theatre. Dramatists who draw on it generally find, however, that at some point they need to explain something to the audience. There are a number of devices they can use, for example a lecture by one of the protagonists, or another character who at appropriate times asks for something to be translated into ordinary language.

A Disappearing Number, which is centred on the story of the collaboration between Srinivasa Ramanujan and G.H. Hardy, begins with a contemporary mathematician, Ruth, giving a lecture in which she does just enough to give the audience some idea of what is going on – including the important fact that problems that can be stated in simple terms can sometimes be solved only by methods totally incomprehensible to the lay person.

What I found especially fascinating is how the device is made to work in both directions. For the play is at least as much about mathematicians in general as it is about two famous ones from the past. Ruth is someone who experiences in her life many of the same things that everyone else does and yet at the same time has this other reality that is so important to her and that most people know nothing about.

It would have been difficult to have made Ruth talk enough about mathematics and what it means to her and at the same time come across within the play as largely an ordinary, normal person, as she is meant to be. Instead, the compulsion and the fascination for mathematical ideas are mostly expressed by Ramanujan and Hardy, and she has to say comparatively little for the audience to understand that she too shares that world – if not quite to the degree that they did. Ruth helps the audience to understand Ramanujan and Hardy, but even more importantly, they are crucial if the audience are to understand her.

The play takes place in two different times and several different locations and all this is interwoven into two hours with no interval and no breaks between scenes. Yet the pace is kept up throughout and everything seems to flow naturally. The performances are also first rate. In particular I found Saskia Reeves entirely convincing as Ruth, even in the opening lecture.

The timing of the *Newsletter* means that by the time you read this, *A Disappearing Number* will be almost at the end of its run at the Barbican. If you do get the chance, however, I strongly recommend it.

Peter Saunders
King's College London

Dangerous Knowledge

8 August 2007, BBC4 TV

It was a big night for mathematics and madness. After another chance to see Russell Crowe as John Nash in *A Beautiful Mind*, the programme *Dangerous Knowledge* pursued the theme that too much mathematics can be bad for your sanity – or at least, the kind of abstract mathematics that probes the nature of logical thought itself.

Engagingly presented by David Malone, after the breathless quotation from Blake

> *To see the world in a grain of sand,*
> *and to see heaven in a wild flower,*
> *hold infinity in the palm of your hands,*
> *and eternity in an hour*

and suitably spooky visuals the programme began with Georg Cantor and his quest to make logical sense out of infinities of different sizes. Some clever graphical devices were used to try to show where paradoxes lie, and how it is that there are more points on a line than those with rational coordinate, but it was all pretty impressionistic. There was a chance to put across some serious mathematics, such as Cantor's argument that there are more decimal expansions than integers, but no attempt was made. The Continuum Hypothesis, identified as responsible for Cantor's mental instability and eventual suicide, was described as trying to 'join up' one infinity to the next: not wrong, but it could have been explained better. However, we shared a few aspirational mountain views with Malone so it wasn't too gloomy.

Next in line was Boltzmann, for his insights into the foundations of Physics rather than mathematics. Here the false certainties of Hapsburg Vienna were undermined by Boltzmann's introduction of probability and entropy to the basic physical laws. Plenty of scope here for well-ordered Viennese ballroom scenes, ominous music and overlaid visuals of the sands of time. Also Malone had a trip to Duino on the Adriatic where Bolzmann took his own life, perhaps (as it was suggested) the only way for him to halt time's arrow.

We remained in Vienna with Gödel, attempting to clarify what could or could not be known by mathematical logic. Here the broad direction of Gödel's ideas came over quite well (Hilbert had a walk-on role) although as so often the sharpness of the Incompleteness Theorem was allowed to fuzz into "there are some truths that cannot be proved by logical thought". Gödel's sad decline into paranoia leading to his death through malnutrition soon after the death of his wife, who used to prepare his food, was well conveyed. A startling clip of a home movie of Gödel, Einstein and others livened up the story for a few seconds.

Finally to Turing, not as the wartime codebreaker but as a deep thinker about thought itself: Can thought be automated? Are our brains computers? How can such questions be formalised mathematically? There was no suggestion here that he declined into madness, but the combined pressures of intense abstract thought and the humiliation of being 'treated' for homosexuality appear to have driven him to eat the poisoned apple.

None of the main characters here did any significant talking, the programme being full of scenes of intense staring into the distance with furrowed brow. Commentary from current experts included arm-waving excitement from Gregory Chaitin and sage observations from Roger Penrose.

These four thinkers had in common an obsession with abstract and fundamental ideas and eventual suicidal mental imbalance. But which comes first: do you need a precarious relationship with your own consciousness in order to pursue abstract foundational questions in the first place? This rather long programme did little to dispel the popular notion that deep thinking must be bad for you, while at the same time it missed opportunities to convey in clear terms some important mathematical ideas. The attractive though repetitive visual images failed to make up for the thin scientific content.

David Chillingworth
University of Southampton

INVITED LECTURES 2008

Professor Andrew Okounkov
Random Surfaces

7–11 April 2008

The 2008 LMS Invited Lectures will be given by Professor Andrew Okounkov (Princeton) on *Random Surfaces*. The lectures will take place at the Institute for Mathematical Sciences, Imperial College London from 7–11 April 2008.

There will also be lectures by Nekrasov, Szendröi and others. For further information contact Richard Thomas (richard.thomas@imperial.ac.uk) or visit the website www.ma.ic.ac.uk/~rpwt/LMS.html.

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

MARKOV-CHAIN MONTE CARLO METHODS

25–28 March 2008

in association with: Newton Institute programme entitled
Combinatorics and Statistical Mechanics (14 January to 4 July 2008)

Workshop organisers: Mark Jerrum (Queen Mary, London), Elchanan Mossel (Berkeley) and Yuval Peres (Microsoft and Berkeley).

Theme of workshop: Markov-Chain Monte Carlo (MCMC) is a technique for generating random samples from a specified probability distribution – often one of a combinatorial or statistical-mechanical nature – by simulating a Markov chain whose state space includes the structures of interest. MCMC methods are widely applied in diverse areas such as computational biology, astronomy, finance, statistics, computer science and statistical physics. MCMC methods are only applicable when the Markov chain converges rapidly to the target distribution. The mathematical analysis of MCMC methods, focusing on the rate of convergence to equilibrium, has become a highly developed branch of probability theory and theoretical computer science. Lately, ideas from statistical physics and elsewhere have led to a number of variants and alternatives to the MCMC methodology. The study of these alternatives requires the development of new mathematical techniques.

This workshop aims to bring together researchers from all the above-mentioned areas with the goal of deepening cooperation and promoting the cross-fertilization of ideas.

Topics will include (but are not limited to):

- The context: models, problems and ideas from physics and elsewhere
- Probabilistic and analytic techniques for MCMC (sophisticated couplings, Martingale methods, log-Sobolev, cutoff)
- Developments of MCMC, and competing techniques
- Computational perspectives (including fundamental complexity-theoretic barriers)

Keynote speakers will include: Eric Vigoda (Georgia Tech) and Fabio Martinelli (Rome).

Further information and application forms are available from the web at: www.newton.cam.ac.uk/programmes/CSM/csmw02.html. Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email to: t.andrew@newton.cam.ac.uk.

Closing date for the receipt of applications is **30 November 2007**.

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Postdoctoral positions
in the Department of Mathematics
for the academic year 2008-2009

The Department of Mathematics at ETH Zürich invites applications for two one to two years postdoctoral positions with term running from September 2008 till August 2009 or 2010. Preference will be given to applicants no more than 5 years past the Ph.D. In accordance with the commitment of the ETH Zürich to increasing the number of women in academic positions, female scientists are specifically encouraged to apply. To be assured of full consideration, applications should be received by November 30, 2007, since the selection process will begin shortly thereafter. Later applications are nevertheless welcome and will be considered for any positions remaining open at the time they are received.

To apply, send a cover letter together with
- a curriculum vitae specifying citizenship, year of birth, academic degrees with institution and year awarded and, for the doctoral degree, the dissertation title, year of graduation and the name of the dissertation supervisor.
- a list of publications.
- a survey of past research activities and a description of current research interests.

You should also arrange to have three letters of recommendation sent directly to us. It is very much in your interest to have these letters of recommendation arrive by the time the selection process begins.

Applications and letters of recommendation should be sent to:
Search Committee
Department of Mathematics
ETH Zentrum/HG G33.3
CH-8092 Zürich/Switzerland

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

HIGH DIMENSIONAL STATISTICS IN BIOLOGY

31 March to 4 April 2008

in association with: Newton Institute programme entitled *Statistical Theory and Methods for Complex, High-Dimensional Data* (7 January to 27 June 2008)

Workshop organisers: Peter Bickel (UC Berkeley), Ewan Birney (EBI), Wolfgang Huber (EBI) and Richard Durbin (Sanger Institute).

Theme of workshop: The study of biological systems has been revolutionized by the advent of large scale systematic data gathering. Led by the Human Genome project, but extending across many biological disciplines, an increasing number of large and complex datasets has been developed which inform our biological understanding of both the normal workings of organisms in biology and processes which cause disease.

The analysis of these datasets, which has become an increasingly important part of biology, poses a number of interesting statistical problems, largely driven by the complex inter-relationships between measurements. The size and complexity of these datasets make even adaptation of existing statistical techniques to biological problems novel. In some cases, the development of entirely new statistical methods is necessary. Methods developed and developing for high dimensional (large p) and possibly small sample size (small n) inference seem particularly germane. So do methods such as FDR for simultaneously testing many hypotheses.

In this workshop we aim to provide a collegial, interdisciplinary group of both statisticians and biologists to exchange ideas and challenges at the Newton Institute in Cambridge UK. Drawing on both nearby expertise at the Hinxton Campus (the EBI and the Sanger Institute) and worldwide expertise in statistics the workshop will involve short talks from both biologists and statisticians and less structured, collaboration-based time.

Invited speakers: R. Aebersold (ETH, Zürich), J. Ahringer (Cambridge), P. Bertone (EBI, Cambridge), E. Birney (EBI, Cambridge), S. Brunak (Denmark), M.L. Bulyk (Harvard), G. Crawford (Duke), M. Dermitzakis (Sanger, Cambridge), R. Durbin (Sanger, Cambridge), M.B. Eisen, (Berkeley), J. Ellenberg (EMBL), A. Enright (Sanger, Cambridge), A. Fraser (Sanger, Cambridge), E. Furlong (EMBL), R. Gentleman (Harvard), W. Huber (EBI, Cambridge), M. Hurles (Sanger, Cambridge), T. Hyman (MPI, Dresden), D. Koller (Stanford), N. Luscombe (EBI, Cambridge), E.M. Marcotte (Texas at Austin), E. Margulies (NHGRI), L. Pachter (UCB), E. Segal (Weizmann), M. Snyder (Yale), T. Speed (UCB), H. Stunnenberg (NCMLS), S. Tavare (Cambridge), W.H. Wong (Stanford).

Further information and application forms are available from the web at: www.newton.cam.ac.uk/programmes/SCH/schw02.html. Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email to: t.andrew@newton.cam.ac.uk.

Closing date for the receipt of applications is **30 November 2007**.

CALENDAR OF EVENTS

This calendar lists Society meetings and other events publicised in the *Newsletter*. Further information can be obtained from the appropriate LMS *Newsletter* whose number is given in brackets. A fuller list of meetings and events is given on the Society's website (www.lms.ac.uk/newsletter/calendar.html).

OCTOBER 2007

3 4000 Years of Geometry, Gresham College Lectures, London (362)
7-11 Pacific Rim Conference, Hong Kong (353)
8 Gauge Theory, String Theory and Unification, LMS Spitalfields Day, INI Cambridge (362)
12 Edinburgh Mathematical Society AGM, Edinburgh (363)
17 4000 Years of Algebra, Gresham College Lectures, London (362)
22 Technical Publishing in New and Old Media, Open University (362)
24 Centre for Nonlinear PDE Launch Meeting, Oxford (363)
24 LMS Northern Regional Meeting, Sheffield (363)

NOVEMBER 2007

1-5 Recent Advances in Functional and Delay Differential Equations Workshop, Halifax, Canada (361)
7 4000 Years of Numbers, Gresham College Lectures, London (362)
9 Edinburgh Mathematical Society Meeting, Glasgow (363)
21-22 Mathematical Thinking Workshop, Nottingham (362)
21-23 Computat, Cuba (363)
23 LMS AGM, London (363)

DECEMBER 2007

7 Edinburgh Mathematical Society Meeting, Strathclyde (363)
10-14 Integrability and the Gauge/String Correspondence INI Workshop, Cambridge (358)
15-17 Recent Advances in Mathematics and its Applications International Symposium, Calcutta (360)
17-21 Future Directions in Phylogenetic Methods and Models INI Workshop, Cambridge (358)
18-20 Cryptography and Coding Conference, Cirencester (362)

JANUARY 2008

7-11 Contemporary Frontiers in High-Dimensional Statistical Data Analysis, INI Workshop, Cambridge (359)
7-11 Algebraic and Symplectic Geometry UK-Japan Winter School, Warwick (362)
16 Squaring the Circle and Other Impossibilities, Gresham College Lectures, London (362)
18 Edinburgh Mathematical Society Meeting, Edinburgh (363)
21-25 Zeros of Graph Polynomials INI Workshop, Cambridge (361)

FEBRUARY 2008

6 A Millennium of Mathematical Puzzles, Gresham College Lectures, London (362)
8 LMS Mary Cartwright Lecture, Oxford
15 Edinburgh Mathematical Society Anniversary Meeting, Edinburgh (363)
27 From Hilbert's Problems to the Future, Gresham College Lectures, London (362)

MARCH 2008

9-12 Mathematics and its Applications in Information Technology, Lahore, Pakistan (362)
14 Edinburgh Mathematical Society Meeting, Dundee (363)
25-28 BMC, York
31 LMS Northern Regional Meeting, Manchester
31-4 Apr High Dimensional Statistics in Biology, INI Workshop, Cambridge (362)

APRIL 2008

7-11 LMS Invited Lectures, A. Okounkov, Imperial College London (363)

A.R. CLARKE

LMS member 1874-1880

Alexander Ross Clarke, RE, CB, FRS, Hon. FCPS
Corresponding Member of the Imperial Academy of Sciences, St Petersburg