THE LONDON MATHEMATICAL SOCIETY

NEWSLETTER

No. 380 April 2009

Society Meetings and Events

2009

Friday 24 April
Women in Mathematics Day
London [*page* 9]

Friday 3 July
London

Wednesday 15 July
SW & South Wales Regional Meeting
Southampton

Wednesday 16 September
Midlands Regional Meeting, Leicester

Friday 20 November
AGM
Presidential Address
London

4–6 December
Joint meeting with the Belgian Mathematical Society, Leuven

COUNCIL DIARY

6 February 2009

The meeting began, under matters arising, like the last meeting in November, with a report from the Treasurer of a recent meeting of members of the Investment Subcommittee with our advisors Morgan Stanley. Of course, our investments have lost value in the last year, but the news was arguably rather positive relative to the recent financial climate (e.g. the FTSE 100 losing 31% of its value in 2008). The Executive Secretary reported, with respect to the current ballot of members regarding the proposed merger with the IMA, that about 650 envelopes had been returned. Elsewhere in this newsletter (in fact page 2) you will be urged again to make your voice heard on this momentous decision for the LMS and vote on Council's recommendation to go ahead with a merger.

I have not mentioned this explicitly in my reports before, but there are large parts of Council meetings where business is discussed of a sensitive or commercial nature which cannot be reported in detail in these notes. This was one of those occasions, including discussions led by the Publications Secretary and the Society's Publisher on particular publishing opportunities, and on future publishing policy.

One item on the agenda which, while it has controversial aspects, is certainly in the public domain, was a discussion related to the RAE results, with inputs including the summary reports from the pure and applied mathematics subpanels, the letter of 21 January to Hefce from John Denham, the Secretary of State for Innovation, Universities and Skills, announcing Hefce's financial settlement for the coming year, and Hefce's 28 January letter to Universities detailing the main principles regarding how research funding would be allocated following the RAE results. Points made in the discussion included: some mathematics RAE results seemed surprising; it was not clear how grades for research environment were arrived at, or why, for pure and applied submissions in the same department, the profiles for environment varied so widely; that there would certainly be many financial winners and losers in mathematics across the UK; that it was positive for mathematics that Hefce was ring-fencing funding for STEM subjects (responding to strong hints in the letter from the Secretary of State).

Brian Davies reported back from a recent meeting of the Council for the Mathematical Sciences with EPSRC, including its Chief Executive David Delpy. EPSRC emphasised at this meeting that it needs to present plans and proposals to the Treasury that match the Treasury objective of

science research supporting 'UK Plc'. Led by its Chair, Sir David Wallace, the CMS forcefully conveyed the dismay across the mathematics community that EPSRC Mathematics programme funding was decreasing. David Delpy noted that it would help to make the argument for Mathematics if the mathematics community was demonstrably engaging with the EPSRC Mission Programmes (and their huge funding budgets). CMS has responded quickly by organising a meeting between the mathematics community and the Energy and Digital Economy Mission Programmes scheduled for 25 March.

The meeting ended with interesting presentations by the Chairs of both the Education Committee (Chris Budd) and the International Affairs Committee (Stephen Huggett). That by Chris Budd was delivered remotely (and entirely adequately) via speakerphone from a snowed-in Bath, and made clear the wide remit and activities of a busy committee, from responding to government consultations on schools, to activity in HE, to public engagement. The International Affairs Committee is a main link from the UK to the organisations of world mathematics, including the International Mathematical Union, the International Congress of Mathematicians and the International Congress on Mathematical Education.

Simon Chandler-Wilde

SPECIAL GENERAL MEETING

Members are reminded that, subject to a Council decision after this *Newsletter* goes to press, the Society plans to hold the first of two Special General Meetings on 21 April at 3.30 pm in the Chemistry Lecture Theatre of University College London.

Members who cannot attend in person are encouraged immediately to vote by proxy if they have not already done so. If you have not received or have mislaid your Proxy Voting Paper, or in case of any other query or difficulty, please contact me (peter.cooper@lms.ac.uk, 020 7291 9970).

The second Special General Meeting, as required by the Society's Charter, will take place on 29 May. The business for the SGM (provided it goes ahead) will include the confirmation of the election of new members.

Peter Cooper
Executive Secretary

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Typeset by the London Mathematical Society at De Morgan House; printed by Holbrooks Printers Ltd.

Publication dates and deadlines: published monthly, except August. Items and advertisements by the first day of the month prior to publication, or the closest preceding working day.

Charity registration number: 252660.

VACANCIES IN OFFICER POSTS

Professor David Larman (Vice-President) and Professor Kenneth Falconer (Publications Secretary) have indicated that they will not be standing for re-election in November 2009. Following the precedent introduced for the selection of the Presidential nomination in 2007 a small search group has been established, chaired by the General Secretary, Professor Charles Goldie. It will also contain a representative from the Nominating Committee and from Council.

Members who may be interested in either post, or who know of other members who they believe may be appropriate, are invited to contact Charles Goldie (C.M.Goldie@sussex.ac.uk) in confidence. Further details of each Officership will be made available.

ANNUAL ELECTIONS TO LMS COUNCIL

The normal way in which nominations to Council are made is via the Nominating Committee, but there is also provision for all members of the Society to make nominations directly. Anyone who wishes to propose someone for a position as an Officer of the Society or as a member of Council is invited to inform P.J. Giblin, who is the current chair of the Nominating Committee (pjgiblin@liv.ac.uk), or one of the other members of the Committee (M.R. Bridson, C.A. Hobbs, P.H. Kropholler, M. Reid, C.M. Series, A. Truman, A.J. Wilkie) by **31 May 2009**.

Nominating Committee seeks to maintain a balance in gender, subject area and geographical location when drawing up its lists of prospective nominees, and LMS members should bear in mind that it is to the benefit of Council if a wide spread of subjects is represented, including applied mathematics, statistics, operational research and computer science.

"It's agreed then: dogs, cats, gerbils and parakeets will merge, forming an entity which will be called Unipet."

THE CHOICE OF NAME

Although we do not know (as we draft this notice in late February) whether or not the New Unified Mathematics Society will go ahead, if it does then the question of the name will arise.

As stated in the consultation document, the members of the IMA and of the LMS will vote on their preferences for the name and the Councils have agreed that the choice will be between the *British Mathematical Society* and the *Royal Society for Mathematics*.

Voting is expected to open around 2 June and members will have June and July to vote.

As the intention is to make voting as easy as possible, and thereby maximise the return, other voting methods will be provided as alternatives to returning a ballot paper.

Articles about the names will appear in the June issues of the *Newsletter* and *Mathematics Today*. Members are encouraged to submit letters to the Editors of these publications giving their views.

Charles Evans, Honorary Secretary IMA
Charles Goldie, General Secretary LMS

MORE MATHS GRADS

Progress and Future

The LMS was one of the five organisations who devised *more maths grads*, the three-year project which aims to secure the future of the mathematical sciences by increasing the number of students studying mathematical sciences in higher education. The other founders were the IMA, the RSS, HoDoMS and the MSOR Higher Education Academy.

Funded by the Higher Education Funding Council for England, MMG is based at the University of Birmingham. It is in its final year of developing, trialling and evaluating ways of inspiring more students (school leavers and mature candidates) to take a mathematical degree. It is particularly targetting groups of learners who have not traditionally been well represented in higher education.

Nationally, the project visits careers fairs to reach out to young people thinking about their futures. It speaks to teacher groups, arranges lectures and workshops to get school pupils onto university campuses and produces resources which can be used by all teachers.

There are two project officers working in each of Leeds, Coventry and London, covering the Yorkshire & the Humber, West Midlands and East London regions. Each region has been working intensively with a small group of schools, offering workshops which introduce pupils to practical yet fun maths, bringing in local employers to explain how they use mathematics and sending in student ambassadors to talk about what studying mathematics at university is really like.

Another branch of the project began recently in Wales, translating the MMG teaching and careers resources into Welsh (Cymraeg) and making them available to all Welsh secondary schools. The two Welsh project officers are also building up partnerships between schools, universities and employers and enabling school groups to visit universities.

Getting students interested in taking a mathematics degree is the first step. Ensuring the degree they take gives them what they need is another key target for MMG. So a strand of the project, based at Sheffield Hallam University, is re-evaluating the higher education mathematics curriculum to allow real choice for a wide range of undergraduate students.

MMG is due to complete at the end of 2009. All its resources will still be available at www.mathscareers.org.uk and www.ncetm.org.uk. Its work will be taken over by the National STEM programme (www.stemprogramme.com) which aims to increase and widen participation across all of science, technology, engineering and mathematics disciplines in higher education. The interests of mathematics will be represented by the MMG National Project Manager Makhan Singh and Professor Nigel Steele, who will serve on the new project's Advisory and Executive Groups respectively.

For more information, see the website at www.moremathsgrads.org.uk or contact Makhan Singh at m.singh.1@bham.ac.uk or on 0121 414 8798.

MATHEMATICS POLICY ROUND-UP

The Council for the Mathematical Sciences submitted a response to a consultation on *Putting science and engineering at the heart of government policy* by the House of Commons Innovation, Universities, Science and Skills Select Committee. It called for clarity in the use of the word 'science', saying, "For a healthy research base and the construction of coherent government policy it is essential that the remit for any proposed Department for Science includes mathematics, statistics and operational research." The response also pointed out the CMS's concerns that the Research Councils' move towards directed research programmes and away from transformative research contradicts the Haldane principle. It concluded that the CMS "is deeply concerned at the drop in the EPSRC Mathematical Sciences Programme budget from £21M in 2006/07 to £14M in the 2009/10 financial year".

The Advisory Committee on Mathematics Education published correspondence between Lord Rees of Ludlow (President of the Royal Society) and Prime Minister Gordon Brown on the case for the pair of mathematics GCSEs. Writing on 18 December 2008, Lord Rees applauded the Government's announcement to introduce a two-GCSE structure, but voiced concern, from the wider science and engineering community, at the protracted timescale for their introduction in 2015. He also said that the Royal Society would not support a model where a single GCSE track is retained alongside the pair of GCSEs. Gordon Brown replied on 29 January 2009, thanking Lord Rees for writing to him. He suggested the lengthy timescale was necessary and assured a review of whether the single GCSE should continue when piloting of the pair was complete. To read the correspondence see www.acme-uk.org/page.asp?id=122.

The Conservative Party has launched a *Maths Taskforce*, to be led by Carol Vorderman, which will 'examine how to make maths teaching in Britain's state schools as good as anywhere else in the world'. Ms Vorderman famously co-hosted Channel 4's long-running word and number quiz *Countdown*, earning herself a reputation as a mathematics whiz-kid for her ability to perform arithmetical calculations. The Conservatives launched a poster campaign claiming Britain had fallen to 24th in the world at mathematics; Labour's schools minister Jim Knight countered that another international study placed the UK at 7th internationally. To read more about the Taskforce, and to contact Ms Vorderman, see www.conservatives.com/Campaigns/The_Maths_Taskforce.aspx.

In February *New Scientist* magazine published an article entitled *Take me to your mathematician* by Lord Rees, the Cambridge cosmologist, Astronomer Royal and President of the Royal Society. Based on a panel discussion including Sir Michael Atiyah on the relationship between mathematics and science, Lord Rees discusses the "unreasonable effectiveness of mathematics" famously described by physicist Eugene Wigner in 1960. Also in February, the MPU met editors from *New Scientist* and was delighted to hear that mathematics articles in the magazine are the most sought after by readers. The editors are always looking for interesting mathematics news and ideas for features. Members who have research they think might make an interesting read in *New Scientist* should contact the MPU Officer (caroline.davis@lms.ac.uk). To read the *New Scientist* article see www.newscientist.com/article/mg20126951.800-mathematics-the-only-true-universal-language.

Caroline Davis
Mathematics Policy and Promotion Officer

RESEARCH EXCELLENCE FRAMEWORK (REF)

The Higher Education Funding Council for England (Hefce) has established Expert Advisory Groups (EAGs) to help develop proposals for the Research Excellence Framework (the successor to the RAE), with membership drawn from RAE 2008 panels, Research Councils, users of research and other organisations. Professor Ken Brown and Professor Malcolm MacCallum have been appointed as representatives of Panels 20 and 21 and are keen to gather the views of the community on the REF. They will be attending HoDoMS and the BAMC to speak to and listen to those attending. In addition they would be glad to hear from any mathematicians – please contact them direct at kab@maths.gla.ac.uk and M.A.H.MacCallum@qmul.ac.uk.

MENTORING AFRICAN RESEARCH IN MATHEMATICS

Third call for prospective mentors

The Nuffield Foundation and Leverhulme Trust have awarded grants for pilot projects to support mathematics and its teaching in sub-Saharan Africa. These grants have been awarded jointly to the London Mathematical Society (www.lms.ac.uk), the International Centre for Mathematical Sciences, Edinburgh (www.icms.org.uk), the International Mathematical Union (www.mathunion.org), and the African Mathematics Millennium Science Initiative (www.ammsi-maths.org/).

This project is designed to counter the mathematics 'brain-drain' by supporting qualified mathematics professionals *in situ*. Continuing professional links to a centre in the developed world, professional mentoring, and the opportunity for periodic research travel will contribute to the possibility and relative attractiveness of contributing one's mathematical expertise at home rather than moving permanently to the developed world.

AMMSI focuses on building infrastructure and networking in mathematics in sub-Saharan Africa. It offers postgraduate scholarships, visiting lectureships, and conference support for the benefit of advanced students and young researchers in the mathematical sciences.

This project proposes to pilot a mentoring relationship between mathematicians in countries with a strong mathematical infrastructure and their African colleagues, together with their students. Its sharpest focus is on cultivating longer-term mentoring relations between individual mathematicians and students.

Nine mentoring partnerships have already been set up, in Cameroon, Ethiopia, Ghana, Ivory Coast, Kenya, Nigeria, Rwanda and Uganda, and this is third call for prospective mentors.

We are looking for mathematicians interested in being part of these mentoring collaborations. We welcome applications from those with no prior experience of collaborating with research workers in Africa, as well as from those with existing links with African research.

Prospective mentors are asked to indicate any particular institutions (or countries) with which they would like to collaborate, although we naturally cannot make any guarantees. Alternatively, applicants may wish to make a strong case for support for an existing link.

We will expect a willingness to make at least one short visit to Africa and to host a short visit from Africa, as well as a commitment to a continuing mentoring responsibility.

The success of the collaborations will be evaluated by asking the following questions. Has the research collaboration (a) resulted in a mathematical publication in a research mathematics journal of international standing? (b) produced an MSc or PhD thesis? or (c) formed the basis of an on-going research group?

The deadline for the receipt of applications is **15 May 2009**. Forms can be downloaded from the LMS website, and they should be sent to Dr Dave Johnson, The London Mathematical Society, De Morgan House, 57–58 Russell Square, London WC1B 4HS, UK, to whom queries may also be addressed (dave.johnson@nottingham.ac.uk).

WOMEN IN MATHEMATICS DAY 2009

The next Women in Mathematics Day will be held on **Friday 24 April** at De Morgan House. Sessions will include talks and posters by practising women mathematicians in a variety of appointments and at different career stages.

The organisers would be very grateful if members could encourage women mathematicians, particularly students (including final year undergraduates) and those at an early stage in their career, to attend this meeting. It is hoped that an opportunity to see women who are active and successful in mathematics, and to meet them informally, will be beneficial. Feedback from previous meetings has shown that participants find this useful. While this is an occasion particularly for women active in mathematics to get together, men are certainly not excluded.

Any postgraduates, postdocs or research assistants interested in giving a talk or presenting a poster during the afternoon session should contact Dr Susan Pitts (S.Pitts@statslab.cam.ac.uk), ideally before **27 February**.

Programme

10.30–11.00	**Registration and coffee**
11.00–13.00	**Morning Session (timings tbc)**
	Helen Webster (Met Office) *Atmospheric dispersion modelling*
	Beatrice Pelloni (Reading) *Generalised Fourier transforms and boundary value problems*
	Eugenia Cheng (Sheffield) *An introduction to higher-dimensional category theory*
13.00–14.15	**Lunch and Poster Session (starting 13.45)**
14.15–16.15	**Afternoon Session** Postgraduate/Postdoc speakers
16.15–16.45	**Tea and end of Poster Session**

Followed by a meal for those able to stay.

To encourage high-quality posters, a £50 book token will be awarded for the poster that is judged to be the WiM Day Best Poster 2009.

Limited funds are available to help with the travel costs of students attending the event. Further details are available from Isabelle Robinson at the Society (contact details below).

To register please contact Isabelle Robinson (email: isabelle.robinson@lms.ac.uk).

The day is free for students and £5 for all others – payable on the day.

MAURICE CAMPBELL AUSTIN

Following the brief notice in the January Newsletter, Walter Hayman has kindly sent the following article.

Maurice Campbell Austin was born in Harrow and went from school straight into the RAF where he worked for a while on radar in the North of Scotland. After the war he studied under L.S. Bosanquet at UCL. He published two papers on summability (and joined the Society in 1949). After working for two years at Aberdeen he joined the Mathematics Department at Imperial College in 1953 where he stayed until retiring in 1983 except for a year as a Fulbright Scholar at Wisconsin.

Maurice was an excellent lecturer, and when I arrived at Imperial in 1956 I was advised to observe his undergraduate lectures as a model. He had four PhD students: K.G. Binmore, M. Grannell, D. White and C.H. Yong. He served as Senior Tutor, Admissions Tutor and undertook the thankless task of timetabling.

In 1962 Maurice married Moira Macdonald. They met at Dartington Summer School and were united by a love of music. Maurice's interests also included art, poetry and sport: as a student he played cricket for UCL.

During his long final illness Maurice remained optimistic and cheerful with a natural charm that friends often commented on: he will be sadly missed.

I am most grateful to Trevor Stuart, Geoffrey Stephenson, Michael Grannell and above all Maurice's widow Moira for help with this article.

W.K. Hayman

Michael Grannell writes: When I was an undergraduate at Imperial Maurice gave the introductory Real Analysis course, a course designed and delivered with meticulous care. When I was a postgraduate it was clear to me that Maurice had a wide knowledge of his subject, and that he set a high standard for written mathematics both in terms of accuracy and use of English. He was always good-humoured and I remember him with affection.

DOUGLAS MUNN

Professor W. Douglas Munn, FRSE, former professor of mathematics at the University of Glasgow, who was elected a member of the London Mathematical Society on 20 February 1964, died at home in Troon, Ayrshire on 26 October 2008. He served on the LMS Council.

John Hickey writes: Douglas Munn was born in Kilbarchan, Renfrewshire, in 1929. He studied mathematics and natural philosophy at the University of Glasgow, and took his PhD at Cambridge in 1955. After a short spell at GCHQ in Cheltenham he returned to Glasgow as a member of staff, but moved to the new University of Stirling, as its first professor of mathematics, in 1966. Seven years later he returned to Glasgow once more, this time to a chair in mathematics, and he remained in that post for the rest of his career.

He published over 80 papers on semigroups and semigroup algebras, and had a major influence on these areas, providing much of their essential framework. His exceptional originality is apparent in all of his output, not least in the ground-breaking work on inverse semigroups that he carried out in the 1960s and 70s. His papers were always stylish, with the flawless clarity and precision that became his trademark.

His home university awarded him a DSc, and in 1965 he was elected to a fellowship of the Royal Society of Edinburgh. He was President of the Edinburgh Mathematical Society in 1984–85.

Music was an essential part of Douglas's life, and was just as important to him as mathematics, neither of them being ever far from his thoughts. By his early twenties he had composed a number of pieces of music for the piano and he was himself a fine pianist.

Douglas was a dedicated teacher, a much-valued colleague and a man whose personal qualities earned him universal affection, respect and trust. He is survived by his wife Clare.

RONALD MAUDE

Dr Ronald Maude, former Lecturer in the School of Mathematics, University of Leeds, who was elected a member of the London Mathematical Society on 19 February 1982, died on 15 March 2008.

Colleagues at the University of Leeds write: Grandson of Aylmer and Louise Maude, who were friends of Tolstoy and acclaimed translators of his works, Ronald was educated at Bedford Modern School. On leaving school in 1946, he took up a post as Laboratory Assistant with ICI (Plastics) Ltd. Two years into his duties, he enrolled at Birkbeck College as a part-time student on the BSc (Special Mathematics) programme of the University of London. In his third and final year he was able to devote himself full-time to his studies, at Sir John Cass College, and graduated with a First in 1951. He went on to gain an MSc in the following year and then spent three years as a research student at Birkbeck, where he successfully completed a doctorate on aspects of the theory of functions of several complex variables.

Ronald held posts of Assistant Lecturer and Lecturer in the Department of Pure Mathematics at the University College of Wales, Aberystwyth between 1955 and 1959. He came to Leeds as a Lecturer in Pure Mathematics in January 1960. His particular interests lay in the field of mathematical analysis and his publications include a textbook *Mathematical Analysis* (1986), designed to introduce new approaches to the teaching of the fundamentals of a notoriously challenging area of mathematics. During the course of his career at Leeds, he held visiting appointments overseas on two occasions: at the University of Ibadan, Nigeria, during session 1967–68 and, in 1972–73, at the Pontifical Catholic University of Peru. In the latter institution, with its campus located in Lima, hometown of his wife Rita, he had the opportunity to deliver his lectures in Spanish.

An active and enthusiastic member of the Staff Drama Society at Leeds, Ronald served on the Society's committee for a number of years, and as senior treasurer for the University Union's Theatre Group. He was also a keen sailor who, with his yacht *Mhurain*, frequently challenged the vicissitudes of the North Sea, and he was for a period staff president of the Union's Sailing Club. Ronald took early retirement in 1992 but returned on a part-time basis as Senior Fellow until 1994; in retirement, much of it spent in Ely, he was also still to be encountered at British Mathematical Colloquia and International Congresses of Mathematics. He is survived by Rita, daughter Natalie, and son Arnold.

SIGMA PRIZE

Nominations are being sought for the award of two personal prizes to individuals who have made outstanding contributions in the fields of mathematics and statistics support. Nominations will be welcomed in respect of candidates who:

- have made a sustained contribution to mathematics or statistics support over a period of at least 5 years
- can demonstrate positive impact upon students
- have championed mathematics or statistics support inside and outside their own institution

The personal prizes of £1,000 will be awarded by a specially convened panel. One prize will be made to a person from a UK higher education institution and one to a person based in a higher education institution based outside the UK. Both award winners will be named *sigma Outstanding Contributor 2009*. Further details, including a nomination form may be found at www.sigma-cetl.ac.uk/index.php?section=100.

The sigma Prize was established by the joint Centre for Excellence in Teaching and Learning (CETL) in the provision of mathematics and statistics, operated by the Universities of Loughborough and Coventry.

William Benter Prize in Applied Mathematics

Call for NOMINATIONS

The William Benter Prize in Applied Mathematics has been set up by the Liu Bie Ju Centre for Mathematical Sciences (LBJ Centre) of City University of Hong Kong in honor of Mr. William Benter for his dedication and generous support to the enhancement of the University's strength in mathematics.

The Prize

The prize recognizes outstanding mathematical contributions that have had a direct and fundamental impact on scientific, business, finance and engineering applications.

It will be awarded to a single person for a single contribution or for a body of related contributions of his/her research or for his/her lifetime achievement.

The prize will be given once every two years. The prize amount is US$100,000.

Nominations

The right to nominate is open to everyone. Nominations should not be made known to the nominee and self-nominations are not acceptable.

Nominations, with justifications and CVs of the nominees as well as two supporting letters, should be sent to:

Selection Committee
c/o Liu Bie Ju Centre for Mathematical Sciences
City University of Hong Kong
Tat Chee Avenue
Kowloon
Hong Kong

Or **by email to: mclbj@cityu.edu.hk**

Deadline for nominations: 30 September 2009

Presentation of Award

The LBJ Centre will present the prize at an international conference at City University of Hong Kong in June 2010. The prize winner is expected to attend the award ceremony and to present a lecture at the conference .

The Liu Bie Ju Centre for Mathematical Sciences was established in 1995 with the aim of conducting first-class research in applied mathematics and in computational mathematics. As a leading research centre in the Asia-Pacific region, its basic objective is to strive for excellence in applied mathematical sciences. For more information, visit ***http://www6.cityu.edu.hk/rcms/***

香港城市大學
City University of Hong Kong

LBJ

VISIT OF DR J. COSSEY

Dr John Cossey (Australian National University, Canberra) will be visiting Warwick from 10 May to 7 June 2009. He is a specialist in finite soluble groups, finite p-groups and representation theory. During his visit he will give three talks:

- Tuesday 19 May, University of Manchester; contact Charles Eaton (charles.eaton@manchester.ac.uk)
- Thursday 28 May, University of Birmingham; contact Simon Goodwin (goodwin@for.mat.bham.ac.uk)
- Thursday 4 June, University of Warwick; contact Inna Korchagina (I.Korchagina@warwick.ac.uk)

For further details contact Stewart Stonehewer (S.E.Stonehewer@warwick.ac.uk). The visit is supported in part by an LMS Scheme 2 grant.

VISIT OF PROFESSOR G. ROZENBLUM

Professor Grigori Rozenblum (Chalmers University of Technology and University of Gothenburg) will be visiting Cardiff, Bristol and King's College London from 12 to 27 May 2009. He is an expert in spectral theory of partial differential operators, particularly in the areas concerning estimates and asymptotics of eigenvalues. During his visit he will give three talks:

- Thursday 14 May, *A theorem on finite-rank Toeplitz operators in Bergman spaces and applications*, London Analysis seminar at University College London
- Friday 15 May, *Eigenvalue estimates for the discrete Schrödinger operator*, Cardiff University; contact Michael Levitin (levitin@cardiff.ac.uk)
- Tuesday 26 May, *The spectrum of the Landau Hamiltonian perturbed by a weak magnetic field*, University of Bristol; contact Isaac Vikram Chenchiah (isaac.chenchiah@bristol.ac.uk)

For further details contact Alexander Pushnitski (alexander.pushnitski@kcl.ac.uk). The visit is supported in part by an LMS Scheme 2 grant.

RESEARCH SCHOOLS

Call for Projects

The aim of the International Centre for Pure and Applied Mathematics ICPAM–CIMPA is to promote international cooperation in higher education and research in mathematics and their interactions, as well as related subjects, particularly computer science, for the benefit of developing countries. Their action concentrates at the places where mathematics emerges and develops, and where a research project is possible.

ICPAM–CIMPA is a UNESCO centre located in Nice, with financial support from the French *Ministère de l'enseignement supérieur et de la recherche*, the Université de Nice Sophia Antipolis, and UNESCO.

Research schools of about two weeks are organised in developing countries. The purpose of these schools is to contribute to the research training of the new generation of mathematicians, women and men. Once selected by the Scientific committee and the Governing board of ICPAM–CIMPA, research schools are organized locally with the help of ICPAM–CIMPA. ICPAM–CIMPA's financial contribution is essentially for young mathematicians from neighbouring countries to be able to attend the research school. ICPAM–CIMPA can help with obtaining funds from other sources. Additional information can be found in the roadmap (available on the web site of ICPAM–CIMPA). You can also write to ICPAM–CIMPA. The research schools' call for projects begins on 1 March 2009.

The deadline for a pre-proposal is **15 June 2009**. The complete proposal is due 1 October 2009. The application form can be found on the website at www.cimpa-icpam.org, or email cimpa@unice.fr.

The London Mathematical Society

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

The Inaugural Christopher Zeeman Medal Lecture

Professor Ian Stewart, FRS

Tuesday 9 June 2009 at 6:30 pm followed by a reception at the Science Museum, Exhibition Road, London SW7 2DD

The Curious Case of the Courant-Robbins Train

In their classic 1941 work "What is Mathematics?" Richard Courant and Herbert Robbins describe an apparently complex problem in mechanics. It concerns a train and how its motion, and the influence of gravity, would affect a rod pivoted on the floor. They ask if it is possible to place the rod in such a position that, if it is released when the train starts, it will not fall to the floor during the entire journey. Avoiding the complexities of mechanics, they assert that the answer is 'yes', using a simple application of the concept of continuity. Courant and Robbins answer is certainly correct if the continuity assumption is justified. But is it? This is not obvious. In particular, does the shape of the floor make any difference to the answer?

Before the lecture, Professor Ian Stewart will be presented with the 2008 Christopher Zeeman award. This new medal will be awarded triennially to recognise and reward the contributions of mathematicians involved in promoting mathematics to the public, and to encourage others to work in this area by demonstrating that such activities are valued and are a part of a mathematician's roles and responsibilities. It is jointly awarded by the London Mathematical Society and the Institute of Mathematics and its Applications.

Admission to the lecture is by ticket only. For tickets, please contact Antony Bastiani at the LMS (antony.bastiani@lms.ac.uk or De Morgan House, 57-58 Russell Square, London WC1B 4HS) by Monday 25 May. Tickets are free of charge and will be allocated on a first come, first served basis.

science museum

With grateful thanks to the Science Museum for co-sponsoring this event

The London Mathematical Society

GRESHAM COLLEGE
Founded 1597

THE LONDON MATHEMATICAL SOCIETY
JOINTLY WITH GRESHAM COLLEGE

Tuesday 5 May 2009

1pm and 6pm at Barnard's Inn Hall, Holborn

(The same lecture will be delivered at 1pm and 6pm)

Mathematics and Smallpox

Professor Tom Körner
University of Cambridge

250 years ago Daniel Bernoulli used mathematics and statistics to try to weigh the risks and benefits of innoculation against smallpox. The arguments of Bernoulli and his critics remain relevant today.

ADMISSION FREE

NO RESERVATIONS REQUIRED – FIRST COME, FIRST SERVED

Gresham College, Barnard's Inn Hall, Holborn, London EC1N 2HH
Nearest underground: Chancery Lane
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NEWS FROM THE INTERNATIONAL MATHEMATICAL UNION

ICM 2010

Last month I visited India, and among others, I was shown the site of our 2010 Congress in Hyderabad. I also attended a 'Pre-ICM' conference in Delhi.

The ICM is the single most important event in mathematics every four years, and its organization, from the work of the local organizers to the Program Committee to the Prize Committees to the publishers of the Proceedings (and many others) is the most important task for our community.

There is sometimes scepticism about the Congress, quoting its large dimensions (for a mathematics meeting), and the fact that a single participant will know only a small fraction of the other participants, and will be able to follow only a small fraction of the section talks. But if you talk with somebody from physics or computer science, or from other branches of science, he or she will be envious of the fact that we mathematicians have such an event, where we can listen to carefully chosen speakers describing the latest developments, where we can award our most important prizes, have panel discussions about important issues, and so on.

The Fields Medal and the Nevanlinna Prize themselves are unique in their scope: they award the highest recognition not to senior people whose work is known and well recognized already, but to young people and new results, thereby calling the whole community's attention to these young mathematicians and their achievement.

Before I left for my trip to India, several friends wondered about such a trip, mentioning all sorts of dangers from snakes to malaria. If you recall, the particular time was also burdened by the terrorist attacks in Mumbai, and indeed quite a few participants of the conference cancelled their trips. Needless to say, the terrorist attacks had no influence on my visit, except for some increased security at public buildings. And with some caution, it is easy to avoid infections. India is a country where crime, especially violent crime, is rare, and it is a country of fantastic sceneries, buildings, and people.

So I can recommend visiting India very warmly to everyone, and hope to see you at ICM 2010 in Hyderabad!

László Lóvász
IMU President

Hyderabad ICM 2010 Posters

The organizers of the International Congress of Mathematicians (ICM) 2010 have produced three posters (*one of which is shown on the opposite page – Ed.*) to advertise the next ICM which will be held in Hyderabad, India from 19 to 27 August 2010. All mathematical institutions in the world are asked to download, print and post them. Download the posters at www.mathunion.org/activities/icm/icm-2010/poster. Information about the ICM 2010 can be found on the ICM 2010 server: www.icm2010.org.in.

Digital Library of Mathematical Functions

The *Digital Library of Mathematical Functions* (DLMF) is a new reference work modelled on the highly referenced 1964 Abramowitz and Stegun *Handbook of Mathematical Functions*. Its 36 chapters, which survey current knowledge about special functions, were written by distinguished experts, validated by other experts, and supervised by the National Institute of Standards and Technology (NIST) editorial board, consisting of Frank Olver, Dan Lozier, Ron Boisvert and Charles Clark. The DLMF is scheduled to appear later this year in a print version, as well as to be released as a free public web resource at dlmf.nist.gov, which currently contains a preview of five of the chapters. Among its distinguishing features are references to available software instead of voluminous numerical tables, inclusion of recently established properties, coverage of special functions not previously represented, and extensive and innovative two- and three-dimensional graphics. Motivated by the Web's potential to radically change

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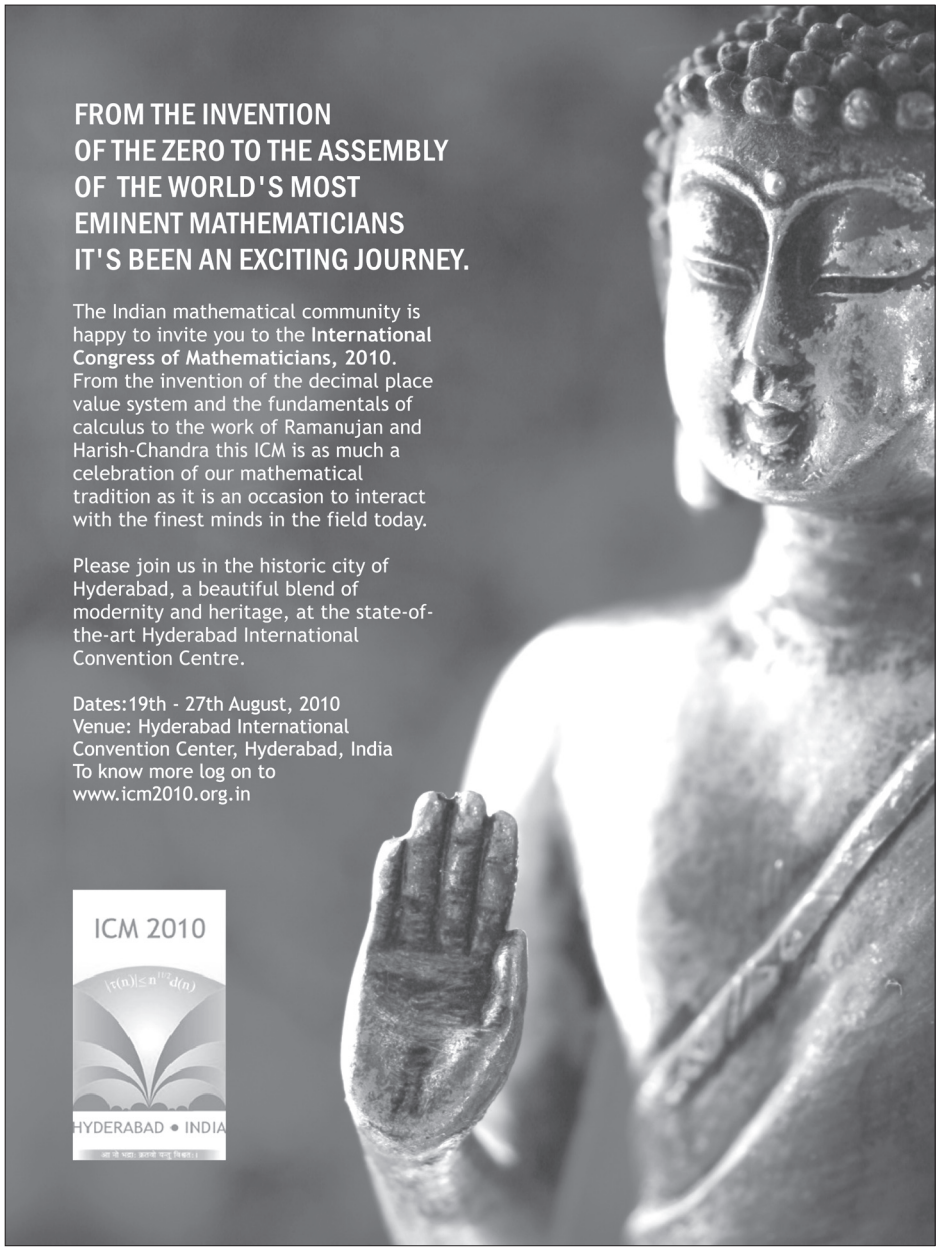

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the way mathematics is disseminated and used, the DLMF project has inspired NIST to develop new techniques and software for semantically marked-up representations of mathematical formulas, mathematically aware search, and mathematical graphics. These innovations were designed to be used in the DLMF, and also serve as models for similar developments in other areas of mathematics and its applications.

LaTeX was designed to produce beautiful mathematical documents, but lacks means of encoding semantics, that is, the mathematical meaning of the symbols on the page. Since one of its long-term goals is full semantic mark-up, the DLMF became one of the first large projects to commit to preparing its entire website in XML/MathML, which is specifically designed to provide superior rendering of type-set mathematics (the Presentation form of MathML) as well as the encoding of semantic mathematics (the Content form of MathML). To generate the XML/MathML from the LaTeX source, Bruce Miller, the DLMF's information architect, undertook the task of developing a suitable processor, named LaTeXML. It soon became clear that LaTeXML had much wider potential applications. For example, in a joint project with the Jacobs University in Bremen, LaTeXML has been applied to more than 400,000 documents in the preprint archive at arxiv.org. For more information, see dlmf.nist.gov/LaTeXML.

Another goal of the DLMF project was to develop a more powerful mathematical search engine, beyond simple bibliographic queries such as author, title and keywords. In collaboration with Abdou Youssef of George Washington University, NIST undertook a project to provide for search within the DLMF based on queries that contain mathematical fragments. Examples are *Ai*^2+*Bi*^2, for formulas containing a sum of squares of Airy functions, *int*_0^*infinity BesselJ*, for infinite integrals with the *J*-Bessel function of order zero in the integrand, and *int*?^? for finite or infinite integrals whose integrand contains any variable raised to any power. As with the LaTeXML processor, the mathematical search engine has the obvious potential for applications far beyond the DLMF. For more information, see dlmf.nist.gov/help/search.

Dan Lozier and Peter Olver

The above items are taken from the 33rd issue of the IMU electronic newsletter *IMU Net* (see www.mathunion.org/IMU-Net).

EWM SUMMER SCHOOL FOR PHD STUDENTS

The 3rd Nordic *European Women in Mathematics* (EWM) Summer School for PhD students will be held at the University of Turku, Finland, from 22 to 27 June 2009. PhD students in pure mathematics, applied mathematics, mathematical statistics, mathematics education or history of mathematics are invited to participate. The summer school is especially aimed at encouraging female students and researchers in their early careers, but the organisers also want to warmly welcome male students. Students outside the Nordic countries, post-docs or advanced undergraduates thinking of PhD studies are invited to attend as well.

The programme of the meeting is broad and will be of interest for students working in different research areas. Mini-courses will give an introduction to and overview over three topics from different areas of mathematics. The mini-courses will be aimed at all students with a general mathematical background, yet come to touch questions of current research. Internationally recognized mathematicians will give the mini-courses and special lectures. The participants are invited to contribute to workshops and seminars with their own presentations.

For more information contact Camilla Hollanti (cajoho@utu.fi). The summer school is supported by the European Mathematical Society, Google, University of Turku, the Finnish Cultural Foundation, the Otto A. Malm Foundation, Nokia, the Oskar Öflund Foundation, the Finnish Centre of Excellence in Analysis and Dynamics Research and the Turku Centre for Computer Science (TUCS).

EPSRC

The London Mathematical Society

QUANTUM CHAOS

LMS–EPSRC Short Course

University of Nottingham, 22–26 June 2009

Organiser: Dr Sven Gnutzmann

Course outline and prerequisites

The methods and ideas of Quantum Chaos can be applied to a large variety of physical problems. This course gives an introduction to some of the mathematical and physical background of quantum chaos. The course is aimed at PhD students in Mathematics and Theoretical Physics who have some (not necessarily central) connection to the fields of Quantum Chaos, Semiclassical Quantum Mechanics, Random-Matrix Theory, Disordered Systems, Spectral Theory of Riemannian Manifolds or Number Theory (Riemann zeta-function). No background in these fields will be required – though a basic knowledge of quantum mechanics and Lagrangian mechanics will be assumed. The course will be organised around four lecture series.

1. *Semiclassical Methods in Quantum Chaos* (5 lectures)
   Uzy Smilansky (Weizmann Institute of Science, Israel and Cardiff University)
2. *Introduction to Random-Matrix Theory* (5 lectures)
   Yan Fyodorov (Nottingham University)
3. *Quantum Chaos and the Riemann zeta function* (3 lectures)
   Jon Keating (Bristol University)
4. *Quantum Ergodicity* (3 lectures)
   Jens Marklof (Bristol University)

Each course will be complemented by project and example classes. More details are available at the website: www.maths.nottingham.ac.uk/research/conferences/quantumchaos-school.

Application

Applications should be made using the registration form available on the Society's website at: www.lms.ac.uk/activities/rmc/sc/46poster.html.

The closing date for applications is **Friday 24 April 2009**. Numbers will be limited and those interested are advised to make an early application.

Fees

- All research students registered at a UK university will be charged a registration fee of £100 (in the case of EPSRC-funded research students, this fee should be paid by their departments from their Doctoral Training Account; for non-EPSRC research students, their department might be prepared to pay the fee). **They will not be charged for subsistence costs.**
- UK-based postdocs will be charged a registration fee of £100, plus half the subsistence costs (£192), making a total of £292.
- All other attendees (overseas students and postdocs, those working in industry) will be charged a registration fee of £250 plus the full subsistence costs (£385), making a total of £635.

All participants must pay their own travel costs (for EPSRC-funded students, this should be covered by their DTA). Fees are not payable until a place on the course is offered. In the event of oversubscription, preference will be given to UK-based research students.

LMS–EPSRC Short Courses aim to provide training for postgraduate students in core areas of mathematics. Part of their success is the opportunity for students to meet other students working in related areas as well as the chance to meet a number of leading experts in the topic.

GRAPH THEORY

A three-day workshop on techniques and problems in *Graph Theory* will be held from Wednesday 1 to Friday 3 July 2009 at the University of Bristol. The aim of the workshop is to promote discussion and collaboration between researchers working in graph theory. Particular topics of interest include problems of an extremal nature, algebraic and combinatorial techniques, and the use of computational methods as a tool to gain insight into solving problems.

Researchers at any stage of their career are invited to register. There will be several informal sessions where participants are encouraged to present and discuss current research or ideas, in addition to a number of talks given by invited speakers. For further information and registration details visit www.maths.bris.ac.uk/~marjw/workshop/. This workshop is supported by the Heilbronn Institute for Mathematical Research.

SHEFFIELD PROBABILITY DAY

There will be two talks on probability at Sheffield University on 23 April 2009. Goran Peskir (Manchester) will speak on *The British Put-Call Symmetry* at 2 pm and Gennady Samorodnitsky (Cornell) will deliver the 2009 Applied Probability Trust lecture *Large Deviations for Point Processes Based on Stationary Sequences with Heavy Tails* at 3.30 pm. Both lectures with take place in Hicks Building Lecture Theatre 7. For further information see www.maths.dept.shef.ac.uk/pas/sem_semester.php or contact Christopher Drew (c.drew@sheffield.ac.uk, tel. 0114 222 3763).

SET THEORY MEETING

The ESF–EMS–ERCOM Second European *Set Theory Meeting* in honour of Ronald Jensen will take place from 5 to 10 July 2009 at the Mathematical Research and Conference Center, Będlewo, Poland.

Over the last century set theory has developed into a vibrant and important subject. On the one hand, it deals with questions of mathematical logic of deep foundational importance, such as the choice of axioms for mathematics and the questions of relative consistency of mathematical theories. On the other hand, techniques of set theory are applied in many areas of mathematics such as classical analysis, general topology, measure theory, Banach space theory, abstract algebra, ergodic theory and dynamical systems. Conference topics will include:

- Inner model theory and large cardinals
- Descriptive set theory
- Combinatorial set theory
- Applications to Banach spaces, measure theory, general topology, and other neighbouring areas.

Grants are available for young researchers to cover the conference fee and travel costs. The application deadline is **8 April 2009**. For programme and applications visit the website at www.esf.org/conferences/09306 or contact Ms Anne Guehl, ESF Conference Officer (aguehl@esf.org).

ICMP09

The XVI International Congress on Mathematical Physics (ICMP09) will be held in Prague, Czech Republic, from 3 to 8 August 2009. The plenary speakers are:

- V. Bazhanov (Australian National University, Canberra)
- D. Christodoulou (ETH Zürich)
- L. Dixon (SLAC)
- B. Duplantier (CEA Saclay)
- L. Erdös (Ludwig-Maxmilians-Universität München)
- A. Guionnet (École Normale Supérieure de Lyon)
- P. Holmes (Princeton University)
- R. Longo (Università di Roma "Tor Vergata")
- J. Marklof (University of Bristol)
- V. Mastropietro (Università di Roma "Tor Vergata")
- A. Pizzo (UC Davis)
- P. Šeba (Czech Academy of Sciences)
- R. Seiringer (Princeton University)
- S. Serfaty (Courant Institute)
- S. Shatashvili (Trinity College Dublin)

For further information visit the website at http://www.icmp09.com.

MODELS IN DEVELOPING MATHEMATICS EDUCATION

The *Mathematics Education into the 21st Century Project* and the University of Applied Sciences, Dresden (Germany) announce the 10th international conference on *Models in Developing Mathematics Education* to be held from 11 to 17 September 2009 in Dresden, Saxony, Germany, in full cooperation with the Saxony Ministry of Education. The Second Announcement can be downloaded from the website at www.informatik.htw-dresden.de/~paditz/SecondAnnouncementDresden2009.doc. For all further conference details and updates email alan@rogerson.pol.pl.

OPENING WINDOWS ON MATHS & STATS

The CETL–MSOR 2009 conference on *Opening Windows on Maths & Stats* will take place at the Open University, Milton Keynes, from Monday 7 to Tuesday 8 September 2009. The aim of the CETL–MSOR conference is to promote, explore and disseminate emerging good practice and research findings in Mathematics and Statistics teaching, learning, support and assessment. The conference will appeal to all those teaching Mathematics, Statistics or Numeracy, whether this is to specialist mathematical sciences students or students studying components of mathematics or statistics within their degree programmes. A call for abstracts is now open, and for further details, visit www.mathstore.ac.uk/conference2009.

PRIMA CONGRESS

The inaugural Pacific Rim Mathematical Association (PRIMA) Congress will be held at the University of New South Wales, Sydney, Australia, from 6 to 10 July 2009. PRIMA is an association of mathematical sciences institutes, departments and societies from around the Pacific Rim, established in 2005 with the aim of promoting and facilitating the development of the mathematical sciences. The plenary speakers are:

- Myles Allen (Oxford University)
- Federico Ardila (San Francisco & Los Andes)
- Kenji Fukaya (Kyoto University)
- Nassif Ghoussoub (UBC)
- Seok-Jin Kang (Seoul National University)
- Yujiro Kawamata (University of Tokyo)
- Shige Peng (Shandong University)
- Cheryl Praeger (Univ. of Western Australia)
- Gang Tian (Princeton University)
- Gunther Uhlmann (University of Washington)

For further information visit the website www.primath.org/prima2009 or email the organizing committee (prima2009@pims.math.ca).

STOCHASTIC PROCESSES AND THEIR APPLICATIONS

The 33rd conference on *Stochastic Processes and their Applications* (SPA 2009) will take place from 27 to 31 July 2009 in Berlin. The conference is organized under the auspices of the Bernoulli Society for Mathematical Statistics and Probability and is co-sponsored by the Institute of Mathematical Statistics. It is the major annual meeting for researchers working in the field of Stochastic Processes and their Applications.

The conference covers a wide range of active research areas, in particular featuring 20 invited plenary lectures presented by leading specialists. In addition, there will be a large variety of special sessions, consisting of three talks each, contributed sessions and talks, and posters. We invite you to submit abstracts for contributed talks and posters, as well as proposals to organize a contributed session.

In addition to its scientific programme, the conference will feature several special events. In particular it will host the award ceremony for the Itô Prize 2009. On this occasion, Masatoshi Fukushima will commemorate in his talk the life, work and recent death of Kyoshi Itô, the most outstanding pioneer of stochastic analysis. The tragic life of the Berlin-born mathematician Wolfgang Doeblin will be presented in a recent documentary. Hans Foellmer will talk about the late discovery of Doeblin's mathematical legacy, and its surprising links to Itô's work.

The SPA 2009 conference is jointly organized by the research groups in probability of the Humboldt-Universität, Technische Universität and Universität Potsdam, collaborating in the various Berlin research and teaching networks. The main venue will be the Mathematics Institute of the Technische Universität, conveniently located in the centre of Berlin.

For further information visit the website at www.math.tu-berlin.de/SPA2009.

MODERN MATHEMATICAL METHODS IN SCIENCE AND TECHNOLOGY

An international conference on *Modern Mathematical Methods in Science and Technology* (M3ST '09) will take place from 3 to 5 September 2009 at the Poros Image Hotel, Poros Island, Greece. The conference topics will be:

- Differential equations and mathematical models
- Numerical analysis
- Mathematics of computation
- Applications of mathematics in economy
- Stochastic analysis
- Modelling optimization
- Control theory
- Image and signal processing

The Invited Speakers are:

- H. Ammari (CNRS, France)
- G. Bellettini (Roma "Tor Vergata", Italy)
- N. Bouleau (ENPC, France)
- G. Dassios (Patras, Greece)
- P. Imkeller (Humboldt University, Berlin, Germany)
- O.A. Karakashian (Tennessee, Knoxville, USA)
- L. Kirousis (Patras, Greece)
- D.J.N. Limebeer (Imperial College, UK)
- F. Murat (Paris VI, France)
- E.M. Ouhabaz (Bordeaux, France)
- G. Papanicolaou (Stanford, USA)
- J.-C. Saut (Paris Sud 11, France)
- A.K. Tertikas (Heraklion, Greece)
- A.E. Tzavaras (Heraklion, Greece)

Extended abstracts (not exceeding two PDF pages) should be submitted to M3ST '09 via the easychair.org system. Participants should register online. The registration fee is €100 paid in cash at the conference desk. Graduate students will have their conference fees waived. The registration deadline is **Wednesday 10 June 2009**.

M3ST '09 will be published. Details on the full paper submission for this issue will be given after the conference. For further information email m3st@math.uoa.gr or visit the website at www.math.uoa.gr/M3ST09/index.html.

ALGEBRA AND ANALYSIS AROUND THE STONE–ČECH COMPACTIFICATION

A conference on *Algebra and Analysis around the Stone–Čech Compactification* (in honour of the 75th birthday of Dona Strauss) will take place from 5 to 8 July 2009 at the Centre for Mathematical Sciences, Cambridge. Talks are by invitation only. The speakers are:

- Mathias Beiglböck (Vienna University of Technology)
- Vitaly Bergelson (Ohio State University)
- Timothy Carlson (Ohio State University)
- Wis Comfort (Wesleyan University)
- Garth Dales (University of Leeds)
- Stefano Ferri (Universidad de los Andes, Bogotá)
- Chris Good (University of Birmingham)
- Neil Hindman (Howard University)
- Anthony Lau (University of Alberta)
- Imre Leader (University of Cambridge)
- Matthias Neufang (Carleton University)
- Igor Protasov (Kiev University)
- John Pym (University of Sheffield)
- Wolfgang Ruppert (Universität für Bodenkultur, Vienna)
- Dona Strauss (University of Leeds)
- Yevhen Zelenyuk (University of the Witwatersrand, Johannesburg)

Everyone is welcome to attend. To register contact Chris Good (c.good@bham.ac.uk). For details visit the website at http://matematicas.uniandes.edu.co/~stferri/donaconference.html or contact the main organiser Imre Leader (I.Leader@dpmms.cam.ac.uk). The conference is supported by an LMS Scheme 1 conference grant.

MODEL THEORY

A conference on *Model Theory* will take place at the Mathematical Research and Conference Center, Będlewo, Poland, from 9 to 14 August 2009. Model theory is a branch of mathematical logic dealing with mathematical structures (models). Model theory is traditionally divided into two parts; pure and applied.

Pure model theory studies abstract properties of first-order theories, and derives structure theorems for their models. Originally, a good description of models was available only for so-called superstable theories, which is quite a restricted class. Nowadays, there is a great progress in extending the methods and results of pure model theory to wider and wider classes of theories (e.g. dependent, simple). There are also interesting new connections between pure model theory and descriptive set theory.

Applied model theory on the other hand studies concrete algebraic structures from a model-theoretic point of view, and uses results from pure model theory to get a better understanding of the structures in question. The conference aims to treat these different sub-branches of model theory rather equally. Leading world specialists in each sub-field of model theory have already accepted to give lectures about newest developments in their respective fields. Invited speakers will include:

- M. Bays (Oxford University)
- J. Burdges (Manchester University)
- M. Edmundo (Lisboa University)
- D. Evans (University of East Anglia)
- M. Gavrilovich (St Petersburg University)
- B. Hart (McMaster University)
- P. Hieronymi (McMaster University
- E. Hrushovski (Hebrew Univiversity)
- E. Jaligot (CNRS)
- M. Kamensky (Waterloo University
- J. Kirby (Oxford University)
- K. Krupiński (University Wrocławski)
- C. Laskowski (University of Maryland)
- F. Maalouf (Université de Paris VII)
- J. Marikova (McMaster University)
- A. Onshuus (Universidad de los Andes)
- M. Otero (Universidad Autónoma de Madrid)
- A. Pillay (Leeds University)
- T. Scanlon (University of California, Berkeley)
- T. Servi (Lisboa University)
- K. Tent (Münster Universität)
- G. Terzo (UNINA II, Italy)
- A. Usvyatsov (Lisboa University)
- L. van den Dries (University of Illinois at Urbana-Champaign)

The conference is organised by the European Science Foundation (ESF) in partnership with the European Mathematical Society (EMS) and the European Research Centres on Mathematics (ERCOM). For further information visit the website www.esf.org/conferences/09305 or contact jkelly@esf.org.

THE STORY OF MATHS

The DVD of Professor Marcus du Sautoy's recent television series *The Story of Maths* is now available to buy from the Open University at www.ouw.co.uk/products/XM004_DVD01.shtm. It contains the four, one-hour episodes:

- *The Language of the Universe* (the base 60 system of Babylonian mathematicians, still used to measure time, and the ancient Egyptians)
- *The Genius of the East* (the creation of the decimal place during construction of the Great Wall of China, and the discovery of zero)
- *The Frontiers of Space* (how Isaac Newton's development of calculus began to explain the movements of the planets)
- *To Infinity and Beyond* (the most important unsolved mysteries still confronting maths in the 21st century).

It costs £54.99 (plus VAT), but LMS members can receive a 10% discount by quoting MATHS01 (www.ouw.co.uk/products/XM004_DVD01.shtm).

LEEDS SYMPOSIUM ON PROOF THEORY AND CONSTRUCTIVISM

A two-week symposium on *Proof Theory and Constructivism* will be held in the Research Visitors' Centre of the School of Mathematics at Leeds, from 3 July (arrival) to 16 July (departure) this year. It will comprise three connected events:

Proofs and Computations. An LMS-funded conference to be held from 4 to 5 July. This meeting will be in honour of Stan Wainer on the occasion of his 65th birthday. The speakers are W. Buchholz (Munich), E.A. Cichon (Nancy), D. Normann (Oslo), W.W. Tait (Chicago), J.V. Tucker (Swansea), A. Weiermann (Ghent). Limited support is available for younger researchers, who are encouraged to attend. Basic accommodation is available at modest cost, at Lyddon Hall on the Leeds University Campus close to the School of Mathematics. For further information visit the website at www.personal.leeds.ac.uk/~matptw/index.html or contact the organisers at matptw@leeds.ac.uk.

Gentzen Centenary Conference. Funded by the Gödel Society, celebrating 100 years since the birth of Gerhard Gentzen, the founder of structural proof theory, to be held from 5 to 6 July. The speakers who have so far agreed to come are: M. Baaz (Vienna), G. Mints (Stanford), J. von Plato (Helsinki), G. Sundholm (Leiden).

Proof Theory and Constructivism. An EPSRC-funded research workshop to be held from 7 to 16 July. Though each day will begin with two plenary sessions, the emphasis will be on research activity within the areas: Ordinal Analysis, Proof Mining and Complexity, Constructive Foundations, and Constructive Methods in Mathematics. In addition to many of those aforementioned, the following have already indicated their intention to participate, and others (yet to be announced) are expected to come: P. Aczel (Manchester), T. Arai (Kobe), A. Beckmann (Swansea), U. Berger (Swansea), D. Bridges (Christchurch), S. Buss (San Diego), A. Cantini (Florence), R. Constable (Cornell), T. Coquand (Gothenberg), H. Friedman (Columbus), N. Gambino (Leicester), M. Hyland (Cambridge), G. Jäger (Bern), H. Ishihara (JAIST), U. Kohlenbach (Darmstadt), R. Lubarsky (Florida), G. Sambin (Padua), P. Schuster (Munich), A. Setzer (Swansea), T. Strahm (Bern), W. Tait (Chicago), S. Tupailo (Tallinn), A. Weiermann (Ghent).

Limited support is available for younger researchers, who are encouraged to attend. Basic accommodation is available at modest cost, at Lyddon Hall on the Leeds University Campus close to the School of Mathematics. For further information visit the website at www.personal.leeds.ac.uk/~matptw/index.html or contact the organisers (matptw@leeds.ac.uk).

Organisers of the LMS meeting are Michael Rathjen and Laura Crosilla. Organisers of the other events are Michael Rathjen, Laura Crosilla and Stan Wainer.

PATTERNS, NONLINEAR DYNAMICS AND APPLICATIONS

The second PANDA (Patterns, Nonlinear Dynamics and Applications) meeting of 2008–9 will be held on Monday 27 April 2009 in the School of Mathematics, University of Leeds, starting at 11.00. The theme of the meeting will be Patterns in Complexity. The meeting will include two pedagogical talks:

- Robert MacKay (Warwick) *Space-time phases for spatially extended nonlinear dynamics*
- David Broomhead (Manchester) *Digital complexity*

as well as shorter research talks, including:

- Chris Budd (Bath) *Emergent scaling laws in electrical networks*
- Henrik Jensen (Imperial) *Networks: How dynamics shapes topology*
- Wolfram Just (QMUL) *MANMADE: complexity and criticality of real infrastructure networks*

There is time for one or two additional research talks. Contact Alastair Rucklidge (A.M.Rucklidge@leeds.ac.uk) if you would like to offer one.

Research students and postdocs are encouraged to attend and will be given preference in regard to the financial support from the LMS. PANDA is organised by Rebecca Hoyle, Jon Dawes, Paul Matthews and Alastair Rucklidge. This workshop is organised by Mauro Mobilia, Robert MacKay and Alastair Rucklidge and is supported by an LMS Scheme 3 grant. Further details will be posted at www.maths.leeds.ac.uk/~alastair/09_panda.

WOMEN AND SCIENCE AND BEYOND

A conference on *Women and Science and Beyond* will take place in Prague from 14 to 15 May 2009 in collaboration with the Czech EU Presidency. It will analyse 10 years of EU activities within 'Women and Science', and beyond. The conference aims at encouraging public and private research institutions to reflect on the role that an appropriately gendered management plays in the provision of genuine equal opportunities, and the benefit that this could have for science and technology.

Human resource managers from universities and other research institutions, school-level science education experts, researchers, representatives from EU member states and non-European countries, policy makers and other stakeholders will come together to look at how young people can be attracted into research in the first place, and then how research organisations can improve their working environments in order to keep these women and men in research careers.

Since the conference will also be marking ten years of activities for the European Union in the field of Women and Science, the plenary sessions will include presentations that analyse the results of past activities and also look to the future. Practical information about the conference can be found at http://ec.europa.eu/research/science-society.

LOW-DIMENSIONAL GEOMETRY AND TOPOLOGY MEETINGS

Two related meetings will take place from 1 to 2 May 2009 at the Mathematics Institute, University of Warwick. Each day will start with introductory lectures suitable for non-experts.

Dehn Filling Day – Friday 1 May

- Michel Boileau (Toulouse)
- Steve Boyer (UQAM)
- Stefan Friedl (Warwick)
- Marc Lackenby (Oxford)

Cannon-Thurston Day – Saturday 2 May

- Brian Bowditch (Warwick)
- Mahan Mj (Kolkata)
- Makoto Sakuma (Hiroshima)
- Caroline Series (Warwick)

Contact the organisers S. Friedl, S. Schleimer or C. Series if you are interested in attending. The organisers have applied for funds to support UK travel and subsistence. For further information and registration visit www2.warwick.ac.uk/fac/sci/maths/research/events/2008_2009/ldgt09.

25TH NORDIC AND 1ST BRITISH–NORDIC CONGRESS OF MATHEMATICIANS

The 25th Nordic and 1st British–Nordic Congress of Mathematicians will be held from 8 to 11 June at the University of Oslo, Norway. This is a general mathematical congress arranged by the mathematical societies of Denmark, Finland, Iceland,Norway and Sweden as well as the London Mathematical Society and the Edinburgh Mathematical Society.

There will be 11 main speakers each giving 50-minute talks in the morning sessions, as follows:

- Martin Bridson (Oxford) *Geometric group theory*
- Olle Häggström (Göteborg) *Probability*
- Niels Peter Jørgensen (Newcastle) *Homological algebra*
- Dominic Joyce (Oxford) *Differential geometry*
- Frances Kirwan (Oxford) *Algebraic geometry*
- Ib Madsen (University of Copenhagen) *Algebraic topology and K-theory*
- Nils Henrik Risebro (Oslo) *Differential equations*
- Mikael Rørdam (University of Copenhagen) *Operator algebras*
- Erkki Somersalo (Case Western Reserve University) *Mathematics and the brain*
- Carsten Thomassen (DTU, Copenhagen) *Graph theory*
- Hermann Thorisson (University of Iceland) *Probability theory*

In addition there will be seven parallel special sessions each afternoon. For further information and registration visit the website at www.math.uio.no/2009. The registration fee is NOK 1500 until 15 April and NOK 2000 thereafter.

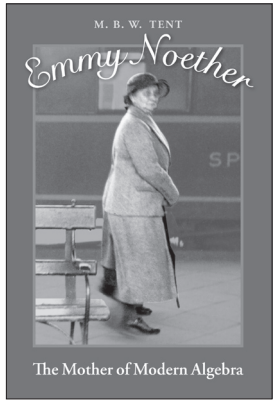
REVIEW

Emmy Noether: the mother of modern algebra by M.B.W. Tent, A.K. Peters 2008: 177 pp, US$29, ISBN 978-1-56881-430-8.

The mother of modern algebra: that was Irving Kaplansky's description of Emmy Noether in 1973. It is just right as sub-title for this delightful book. In her preface M.B.W. Tent explains herself as follows:

> *The story I have written is based on the scraps of information that we have, but of themselves those tidbits do not present a coherent story. I wove the story of her life around the events that appear in the oral and written records, fleshing out the story with what I know of life in Germany at the time and what I know of how bright children explore mathematics. In other words, although this is a biography of Noether, it has an element of fiction as well.*

The author has produced a very clear pen-portrait that emphasises the main elements of Emmy Noether's life and career. She makes clear in an immensely civilised (and almost understated) style how her severe disabilities – being a woman in a chauvinistic men's world, being of Jewish family in an antisemitic world – were, for her, of no real consequence. Noether just did her mathematics, discussed it extensively with senior colleagues and junior colleagues and students and anyone interested, lectured badly but taught well, created, supported and encouraged her famous family of *Noether-Knaben* (the young men who studied with her, went on walks with her, and became well-known and influential mathematicians themselves), and lived her domestic life simply and privately.



There is little mathematics here. What there is is mainly at school level, and what is not at that level is not entirely correct. But (and who would have imagined that a member of the LMS could take such a view?) it really does not matter one bit. The book succeeds in portraying one of the greatest of algebraists – and not just an algebraist either, for although Emmy Noether's greatest achievement was (for many of us) the work from 1915 to 1930 that gave algebra its modern shape, she is famous also for her application of aspects of invariant theory to theoretical physics and for her applications of algebra in topology and number theory. All this comes across very attractively. The story-telling is sympathetic, graphic and convincing.

The book is written by an enthusiastic mathematics teacher with, it seems, her Alabama high-school pupils in mind. The publicity describes it as "written primarily for the young adult reader", but it will be read with pleasure and profit by anyone, of any age, who loves mathematics, and it should be given by those who do to those who don't. You should buy this book and give it as a present to children, their parents and grandparents, their uncles and aunts – but most especially to anyone who might ever have thought or said "maths is not for girls".

I can find only one significant fault. The dust-jacket is illustrated with a beautiful photograph (credited to Peter Roquette) in which Emmy Noether looks eye-catchingly like Miss Marple as played by the late Joan Hickson in the classic BBC television series of the Agatha Christie novels. Most books outlast their dust-jackets: let us hope that in future editions this lovely picture is incorporated into the book itself.

Peter M. Neumann
Queen's College, Oxford

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).

APRIL 2009

6-7 Representations and Asymptotic Group Theory Workshop, Southampton (378)
6-9 BMC, Galway (379)
6-9 BAMC, Nottingham (379)
7 **Note date change** Calculus of Variations, Wales Analysis Workshop, Swansea (379)
13-18 Categorification and Geometrisation from Representation Theory Meeting, Glasgow (378)
14-17 Elementary Operators and Applications Workshop, Belfast (378)
20-22 Atiyah80: Geometry and Physics Workshop, Edinburgh (375)
23 Semigroups of Operators with Application to PDEs, Wales Analysis Workshop, Swansea (379)
23 Sheffield Probability Day, Sheffield (380)
24 Women in Mathematics Day, London (379)
27 Patterns, Nonlinear Dynamics and Applications Meeting, Leeds (380)

MAY 2009

1-2 Low-Dimensional Geometry and Topology Meetings, Warwick (380)
5 *Mathematics and Smallpox*, LMS–Gresham College joint lecture, London (380)
9-17 Variational Analysis and Applications Workshop, Sicily (378)
11-13 Mathematical Models of Collective Dynamics in Biology and Evolution Meeting, Leicester (377)
13 Spitalfields Day: Automorphic Forms and the Langlands Programme, INI, Cambridge
14-15 Women and Science and Beyond Conference, Prague (380)
14-15 Causal Inference LTCC Intensive Course, London (379)
14-16 Variational and Topological Methods and Water Waves Workshop, Bath (379)
18-19 *L* functions LTCC Intensive Course, London (379)
21-22 Nonlinear Waves and Solitons LTCC Intensive Course, Kent (379)
25 North British Functional Analysis Seminar (NBFAS), Lancaster (379)
26 Graham Jameson Meeting, Lancaster (379)
28-29 From Quantum Algebras to Total Non-Negativity LTCC Intensive Course, Kent (379)

JUNE 2009

8-9 Lattice-Boltzmann Methods LTCC Intensive Course, London (379)
8-11 British–Nordic Congress of Mathematicians, Oslo (380)
9 Inaugural Christopher Zeeman Medal Lecture, London (380)
9-12 Mathematics of Finite Elements and Applications Conference, Brunel University (378)
9-15 Algebraic Topology, Group Theory and Representation Theory Conference, Isle of Skye (376)
15-19 Nonlinear PDE and Free Boundary Problems, Warwick
22-26 Quantum Chaos LMS–EPSRC Short Course, Nottingham (380)
22-26 Representation Theory and Lie Theory Workshop, INI, Cambridge (376)
22-27 EWM Summer School for PhD Students, Turku, Finland (380)
29-3 July Discrete Systems and Special Functions Workshop, INI, Cambridge (375)
29-3 July Stochastic Analysis and Finance Workshop, City University of Hong Kong (379)

JULY 2009

1-3 Design Theory and Applications Conference, National University of Ireland, Galway (379)
1-3 Game Theory SING5, Amsterdam, The Netherlands (379)
1-3 Graph Theory Workshop, Bristol (380)
3 LMS Meeting, London
3-16 Proof Theory and Constructivism Symposium, Leeds (380)
4-5 Proofs and Computations Conference, Leeds (380)
5-8 Algebra and Analysis around the Stone–Čech Compactification Conference, Cambridge (380)
5-10 22nd British Combinatorial Conference, St Andrews (378)
5-10 Set Theory Meeting, Będlewo, Poland (380)
6-10 PRIMA Congress, Sydney, Australia (380)
6-10 26th Journées Arithmétiques, Saint-Étienne, France (379)
13-18 7th ISAAC Congress, London (377)
15 LMS SW & South Wales Regional Meeting, Southampton
15-16 Sparse Matrices for Scientific Computation Meeting, Abingdon, Oxford (377)
20-24 The Cardiac Physiome Meeting, INI, Cambridge (378)
20-24 Probability at Warwick Young Researchers Workshop, Warwick (379)
27-31 Stochastic Processes and Their Applications Conference, Berlin, Germany (380)
27-31 Non-Abelian Fundamental Groups in Arithmetic Geometry Introductory Workshop, INI, Cambridge (379)

AUGUST 2009

1-15 Groups St Andrews 2009, Bath (372)
3-7 Logic and Mathematics 09, York (379)
3-8 Pan African Congress of Mathematicians, Ivory Coast (378)
3-8 ICMP09, Prague, Czech Republic (380)
9-14 Model Theory Meeting, Będlewo, Poland (380)
17-21 The Dynamics of Discs and Planets Conference, INI, Cambridge (378)
24-28 Anabelian Geometry Workshop, INI, Cambridge (379)
25-28 European Women in Mathematics General Meeting, Novi Sad (379)

SEPTEMBER 2009

3-5 Modern Mathematical Methods in Science and Technology Conference, Poros Island, Greece (380)
7-8 Opening Windows on Maths & Stats, Open University (380)
11-17 Models in Developing Mathematics Education, Dresden, Germany (380)
16 LMS Midlands Regional Meeting, Leicester
28-30 Planetesimal Formation Workshop, INI, Cambridge (379)

NOVEMBER 2009

20 LMS AGM and Presidential Address, London

DECEMBER 2009

4-6 LMS–Belgian Mathematical Society joint meeting, Leuven

AUGUST 2010

19-27 International Congress of Mathematicians 2010, Hyderabad, India (380)

DECEMBER 2010

6-10 Australian Statistical Conference 2010, Australia (375)

W.J. IBBETSON

LMS member 1885–1888

London Stereoscopic and Photographic Company, Regent Street, London W. (1887)

William John Ibbetson, MA, FRAS, FCPS
Senior Scholar, Clare College, Cambridge
'On the Airy–Maxwell solution of the equations of equilibrium of an isotropic elastic solid, under conservative forces', *Proc. London Math. Soc*. (1) 17 (November 1885) 296–309