The Mathematical Association

Annual Conference 2012

Learning from Others

Keele University 10th-12th April 2012

PROGRAMME

Tuesday 10 April

12.00-1.30	Registration/lunch
1.45-3.00	**Opening lecture: David Bedford**
3.00-3.30	Refreshments
3.30-4.25	Session 1
4.30-5.25	Session 2
5.30-6.30	Open meeting of Teaching Committee
6.45	Dinner
8.00	Opening evening activities

Wednesday 11 April

9.05-10.00	Session 3
10.00-10.25	Refreshments and ***Publishers Exhibition***
10.30-11.25	Session 4
11.30-12.25	Session 5
12.30-1.35	Lunch and ***Publishers Exhibition***
1.40-2.55	**Presidential Address: Paul Andrews**
2.55-3.15	Refreshments and ***Publishers Exhibition***
3.15-4.10	Session 6
4.15-5.05	Session 7
5.10-6.30	AGM
7.30	President's reception
8.00	Annual Dinner (After-dinner speaker: **Marcus Du Sautoy**)

Thursday 12 April

9.05-10.00	Session 8
10.05-10.50	Session 9
10.50-11.15	Refreshments
11.20-12.30	**Closing Lecture: Bob Burn**

At 1.00pm there will be a meeting of Branches Committee. Any delegate is welcome to attend.

About the Sessions

P = Primary, S = Secondary, P16 = Post-16, T = Tertiary, G = General

Tuesday, 10th April

Opening Lecture David Bedford 1.45-3.00pm

Session 1 3.30-4.25pm

1a Mike Ollerton **(DOUBLE continues in 2a)** Aimed at: P, S

Learning with others

This will be a 'traditional' workshop where delegates are invited to work on problems which are intended to be accessible and extendible. Towards the end of the second session we shall discuss what the implications are for adapting/weaving any of the tasks into KS2 to KS4 classrooms.

1b Bill Richardson Aimed at: Newbies

First-Timers Forum

This session will provide an opportunity to uncover and find out how an MA Conference works. A chance to ask and discuss.

1c Alison Kiddle **(REPEAT 1c & 7g)** Aimed at: S, P16

NRICH

Since the last annual conference, the NRICH team have trialled and developed activities with extensive support for teachers. Come and share our latest offerings, many of them 'low threshold, high ceiling'.

1d Rachael Read Aimed at: S

Heads of Department Idea Swap

Predominantly a chance for Heads of Department, new or old to the post, to share ideas, woes and worries. Having problems organising your department, got some good intervention strategies or just need a good moan about your SLT and exam boards? Struggling with the idea that all those modular schemes of work are heading for the rubbish bin? Well this is the session for you! An informal session to discuss issues facing Heads of Department and to voice your ideas on how the MA can help!

1e Chris Pritchard Aimed at: S,P16,T,G

Spinning Pegs and Complementary Areas

This is a third presentation in a series on area, with elementary ideas suitable for Year 7 to serious investigations for senior students. We will explore situations that will feature in articles in Mathematics in School in the coming months, a mixture of geometry, mensuration and algebra, accessible to all delegates at some level.

1f Ben Sparks **(REPEAT 1f & 3f)** Aimed at: S,P16,T,G

Pretty Irrational

Numbers. The Greeks had them all sorted - lovely rational numbers that made sense. Failing to 'learn from others' (Hippasus?) meant they initially ignored the non-rationals. But irrational and transcendental numbers are now non-controversial… or are they? One number in particular might claim the title of Most Irrationally Pretty. Come and see why.

1g Danny Brown co presenter Steven Alcorn **(DOUBLE continued 2j) (REPEAT 6e)** Aimed at: P, S, G

Thinking on your feet

Do you have trouble sitting still? Or, more likely, you teach people who do? This is the session for you. We are going to do some maths on the move, hopefully have some fun, and maybe even gain some ideas for use in the secondary school classroom.

1h Rob Eastaway **(REPEAT 1h & 4c)** Aimed at: G

The Hidden Mathematics of Sport

With the Olympics looming, sport has become the most relevant topic in maths. Why should a shot-putter head for Mexico? Why should the referee have KNOWN that Lampard's shot went in against Germany? And when you're down the pub, should you really aim your dart at treble 20? All this and more in a talk that has something for everyone.

Session 2 4.30-5.25pm

2a Mike Ollerton **(DOUBLE continuation 1a)** Aimed at: P, S

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2b Douglas Butler Aimed at: S,P16,T,G

Autograph for 11 - 16

A series of tried and tested lesson plans using Autograph at KS3 and KS4, focussing on transformations, linear and quadratic equations, and data handling.
www.tsm-resources.com/autograph.

2c Peter Ransom **(REPEAT 2c & 6f)** Aimed at: S, P16, G

How's it hanging IKB?

Presented by Isambard Kingdom Brunel (aka Peter), the person who was voted second in the Greatest Briton poll of 2002. This workshop deals with IKB's engineering works, combining all the STEM subjects. After a mental geometry starter we will use hand held wireless technology to explore the properties of a hanging chain. There will be lots of classroom activities illustrated with some of IKB's original calculations. Attendees will receive a CD-ROM packed with things that can be used in any educational environment where cross-curricular mathematical work is encouraged.

2d Rachael Read Aimed at: S, P16

Problem Solving Cards

During this session we will firstly try out a selection of problem solving cards of varying topics and levels. These activities require students to work in small groups, read through a set of clues to solve an ultimate problem. Having tried some of these activities we will look at how to design our own and indeed attempt to do this in order to share our resources.

2e Richard Earl **(REPEAT 2e & 5e)** Aimed at: P16, T, G

A Low Bit-rate Introduction to Information Theory

How much information is there in being told the roll of a die or the colour of a person's eyes? A mathematical theory of information dates to Shannon's seminal 1948 paper. Shannon entropy measures how much information is being conveyed (e.g. by a person speaking) and is a bound to just how quickly that information can be encoded and transmitted. This is an introductory talk that requires no previous knowledge.

2f Jennie Golding with co-presenter Lynne McClure Aimed at: G

Mathematical Needs: Who and What?

During 2010-2011 The Advisory Committee for Mathematics Education consulted widely and produced two reports on Mathematical Needs, aiming to influence policy. One is about workplace and higher education needs; the other is about learners' needs. We shall outline the main messages in the reports and discuss the implications for all teachers of mathematics and their institutions.

2g Tony Robin **(REPEAT 2g & 3b)** Aimed at:P,S,P16,T,G

The year of the Olympic Games, so an analysis of some simple Games

We consider some two-person games which can be easily analysed. Bring along your scientific calculator, and see how to use a facility which you may never have used. Consider how lawyers can make a living, and the Prisoner's Dilemma, as well as the best strategies for robbers and guards.

2h Jenny Gage **(REPEAT 2h & 5d)** Aimed at: S

stemNRICH

On stemNRICH, we have a growing collection of problems which root maths in other STEM subjects, helping students to see why maths is so important, and how it links with what they do in science and design technology. In this session, we will try out some resources, and, drawing on good practice developed at the STEM Teacher Inspiration days, think about how to encourage STEM thinking in schools.

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Wednesday, 11th April

Session 3 9.05-10.00am

3a Ray Huntley Aimed at: P, S, G

Classroom Mathematical Examples – Open Or Closed Case?

Many teachers enjoy mathematics teaching but don't often stop to explore tasks for themselves. This session introduces a number of short mathematical explorations to work on and discuss, with no assumptions that they will be used in the classroom (although they might!!).

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3c Rachael Read Aimed at: S, P16,

A Whistlestop Tour of Ideas in Number and Algebra

During the session we will try out a wealth of resources developed to encourage pupils to engage and enjoy their maths lessons; with the emphasis on problem solving and collaboration. Every attendee is free to receive as many of the resources and ideas for themselves as they wish - just bring a large memory stick in a stamped addressed envelope!

3d Alan Catley Aimed at: S, P16, T,

Autograph in the Classroom - Data Handling and Statistics

This session will focus on the interactive use of real data to enhance the teaching and learning of statistics. From basic data handling to more advanced probability distributions the dynamic features of Autograph make it the ideal classroom tool - come and see why!

3e Farzana Aslam **(REPEAT 3e & 9g)** Aimed at: S, P16

Facilitating transition of students from GCSE to A-Level Mathematics

The session will showcase the activities for secondary and post -16 students in order to facilitate the Transition of students from GCSE to A- level mathematics . I will highlight the learning outcomes achieved and collaborations between ourselves and different institutions.

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3g Alison Clark-Wilson **(REPEAT 3g & 8d)** Aimed at: S, P16

Digital technologies in secondary mathematics – how do they do it in other countries?

The recently published JMC report *Digital technologies and mathematics education* made a series of recommendations concerning the need to develop pupils' access to and uses of technology within their secondary mathematics educational experience. This session will provide an insight into approaches that have been developed in a number of other countries as a means to inform the debate about the mathematics curriculum and its assessment in the 21st century.

3h Mark McCourt **(REPEAT 3h & 8h)** Aimed at: P, S, P16, T, G

iPad in the mathematics classroom

Touch technology is what mathematics education has been waiting for – it breaks down the barriers to using technology in the mathematics classroom because it is intuitive, portable and easy to maintain. A hands-on workshop exploring a set of mathematics apps. iPads will be provided so that all delegates are able to engage with the software.

Session 4 10.30-11.25am

4a Andrew Jeffrey Aimed at: P

Turning The Tables

Teaching multiplication facts to primary children has always been as vital as it is tricky. In this session the MA and ATM Primary Working Group have collated some of their favourite ideas to make this task a pleasure rather than a pain. Delegates will leave with a reminder of old but effective strategies, as well as some exciting additions to their arsenal.

4b Tony Gardiner Aimed at: P, S, P16

Let's write a textbook: learning from others

What makes a textbook liberating and refreshing - for both the teacher and the pupils? This session will look at some examples and then present participants with a detailed curriculum covering a year-group of their choice (age 5-16) and invite them to devise an outline plan, with rough notes, for a chapter or group of chapters in a potential textbook for that year-group.

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4d Jennie Golding Aimed at: G

Murder Most Mathematical

A 'murder mystery' is a format for revision or synthesis of ideas, and can be engaging for learners of any age. Experience a short murder mystery based on level 5 mathematics, write one in a group (template provided), and take away a selection of ready-made and session-produced materials. Bring a laptop if you can.

4e Michael Fox Aimed at: S,P16

Surprising Stacks of Bottles

Some stacks of bottles have unexpected properties that can be proved with GCSE maths. This workshop session shows how. The topic is useful enrichment material and is far more interesting than doing yet more text-book questions. (It is based on a conference talk given a few years ago.)

4f Lloyd Stagg **(REPEAT 4f & 9h)** Aimed at: S,P16,G

Animation, iteration and tool making with dynamic geometry software

Dynamic geometry software replaces "compass and ruler" to provide a powerful avenue for easy examination of classic geometric phenomena like Euler's Line. It facilitates exploration of geometric design and creativity. Dynamic geometry's capacity to animate, iterate and create tools enhances this software's power as a teaching and learning resource.

4g Adam McBride **(REPEAT 4g & 9d)** Aimed at: S,P16,T,G

Irrational thoughts and transcendental meditation

We shall go on safari into the jungle of irrational numbers and make some strange but beautiful discoveries, with continued fractions playing a prominent role. We shall meet old friends like π and e, which leads to some transcendental meditation! Finally we shall throw i into the mix and find another surprise or two, as well as paying homage to what is, for many people, the most beautiful and elegant formula in the whole of Mathematics. The material in the first half of the talk has been classroom tested on 14-year-olds. So, don't be frightened! Climb aboard and enjoy the ride.

4h James Afaloyan (for Texas Instruments) Aimed at: S, P16

TI-Nspire in the mathematics classroom

This session will explore a wide range of ways in which TI-Nspire technology can be used in the mathematics classroom to support learning.

Session 5 11.30-12.25am

5a Christopher Hallion **(REPEAT 5a & 8f)** Aimed at: P

My 6 Favourite Key Stage 2 Maths Lessons

A selection of number, shape and space and problem solving lessons suitable for Key Stage 2 children. Including a new number pattern described by David Wells as 'simple but elegant'.

5b Alan Catley Aimed at: S, P16, T,

Autograph in the Classroom - Algebra and Calculus

I have been using Autograph to support teaching and learning for over 10 years. This session will focus on a selection of approaches to enhance the teaching and learning of algebra, graphing and calculus. From KS3 through to more advanced calculus the dynamic features of Autograph make it the ideal classroom tool – come and see why!

5c Lara Alcock with co-presenters Danielle Hyde & Anna Chiparo Aimed at: P16, T,

Drawing graphs: Skills for making the transition to undergraduate mathematics

In this session, participants will collaboratively construct diagrams to represent general statements about functions and will discuss qualities that a good diagram should have. The presenters will relate this experience to a research study investigating students' productions of such diagrams.

5d Jenny Gage **(REPEAT 2h & 5d)** Aimed at: S

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5f Lynne McClure co-presenters Jenni Back, Jennie Pennant **(REPEAT 5f & 8a)** Aimed at: P

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5g Andrew Taylor **(REPEAT 5g & 8b)** Aimed at: S, P16, G

Developments in mathematics assessment

A look at the emerging qualification landscape in mathematics, considering changes in GCSE structures, the implications of the national curriculum review and widening participation in post 16 mathematics.

5h Jane Jones WITHDRAWN

Learning from others: good practice in primary mathematics

This session will consider the findings of Ofsted's report, *Good practice in primary mathematics*, and what might be learnt from the schools' effective ways of building pupils' secure knowledge, skills and understanding of number so that they demonstrate fluency in calculating, solving problems and reasoning about number.

Presidential Address Paul Andrews 1.40-2.55pm

Session 6 3.15-4.10pm

6a Emma Low with co-presenter Maria McArdle Aimed at: P, S,

Paper Windmills

Practical collaborative session exploring one way to give purpose to developing accuracy in measurement, understanding of shapes and angles, multiplication, division, handling data and maybe more. Most appropriate for KS2 and KS3.

6b David Acheson Aimed at: G

Surprising Connections

Some of the greatest moments in mathematics are when unexpected connections are found between completely different parts of the subject. I will discuss, briefly, lots of examples, ranging from primary level to a proof of an infinite series using fluid mechanics.

6c Sidney Tyrrell **(REPEAT 6c & 8g)** Aimed at: S,P16,T,G

'Stats ideas' - ideas for teaching statistical concepts

Simple practical ideas which I have found helpful for teaching statistical concepts to students who find statistics boring, hard or both. Take away ideas together with a disk with resources to use, links to web based resources, useful real data sets, and DIY investigations using Excel.

6d Douglas Butler Aimed at: S, P16,T, G

Best of the Web on computers and mobiles

A tour through the collection of web-based resources on www.tsm-resources.com, including web broadcasting, apps for mobile devices (phones and pads), great sets of data and images.

6e Danny Brown co presenter Steven Alcorn **(DOUBLE continues 7h) (REPEAT 1g &6e)** Aimed at: P, S, G

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6g Jenni Back Aimed at: P, S, G

Learning from Hungary: Exploring tensions between mathematics and approaches to teaching and learning in English and Hungarian classrooms

We will look at video clips from English and Hungarian classrooms and some practical resources from both settings to examine some approaches to teaching and learning and explore some tensions between the mathematics and classroom practice. We will discuss how to make use of our observations in our classrooms.

Session 7 4.15-5.05pm

7a Andrew Jeffrey Aimed at: P

...And Maths

The MA and ATM Primary Working Group has been working together on a project entitled '...And Maths'. The vision was to produce a book of truly cross-curricular ideas, rather than maths lessons with 'a bit of art/history etc.' The result of their work is a fabulous resource, jointly published by the MA and the ATM. In this session members of the group will discuss the finished project, and demonstrate some of the great ways in which maths can be effectively integrated into all areas of the key stage 2 curriculum. There will be a chance to try out and discuss the various activities.

7b Steve Chinn Aimed at:P,S,P16,T,G

So, what about the bottom quartile of learners?

The core data for this session was collected by Steve over a period of 2 years from over 2500 pupils and adults from over 50 schools and colleges around the UK as he set up a norm-referenced test. An analysis of the results will be presented, providing information about performance levels in basic maths for children and adults.

7c Alan Catley Aimed at: S, P16, T

Autograph in the Classroom - Shape, Space and Measures

This session will focus on a selection of approaches to enhance the teaching and learning of geometry. From transformations and circle properties through to 3D Vectors the dynamic features of Autograph is the ideal classroom tool - come and see why!

7d Stella Dudzic Aimed at: S, P16,T,G

Real Statistics

This session will look at some real applications of GCSE and A Level Statistical Techniques. The focus will be on gaining insight from data. It will be assumed that participants are comfortable with the statistical content of GCSE Mathematics.

7e Paul Shepherd Aimed at: older S, P16, T, G

How Maths Built The Olympic Stadium

Maths is playing a critical part in the design and construction of the stunning venues being built for London 2012. This talk shares the secrets behind the building of the Olympic Park and explores the practical ways that mathematics is being used in the construction and operation of this spectacular event.

7f Tom Button **(REPEAT 7f & 9b)** Aimed at: P16,

Using ICT in A level Maths: effective tasks

MEI is developing support materials for using ICT in A level Mathematics. A variety of student-centred and teacher-centred tasks will be demonstrated with opportunities to try the tasks and take some resources away. There will also be a discussion about how to integrate effective tasks into a scheme of work.

7g Alison Kiddle **(REPEAT 1c & 7g)** Aimed at: S, P16

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8c Douglas Butler Aimed at: S,P16,T,G

Autograph for 16-19

A series of tried and tested lesson plans using Autograph at KS5, focusing on sound methods to introduce calculus, advanced trigonometry, vectors (2D and 3D) and probability.
www.tsm-resources.com/autograph.

8d Alison Clark-Wilson **(REPEAT 3g & 8d)** Aimed at: S, P16

Digital technologies in secondary mathematics – how do they do it in other countries?

The recently published JMC report *Digital technologies and mathematics education* made a series of recommendations concerning the need to develop pupils' access to and uses of technology within their secondary mathematics educational experience. This session will provide an insight into approaches that have been developed in a number of other countries as a means to inform the debate about the mathematics curriculum and its assessment in the 21st century.

8e Peter McOwan Aimed at: G

The Magic of Maths

Magic helps make maths exciting and drives student curiosity. Come along and learn some fascinating tricks you can easily perform and discover the maths behind them.

8f Christopher Hallion **(REPEAT 5a & 8f)** Aimed at: P

My 6 Favourite Key Stage 2 Maths Lessons

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Session 9 10.05-10.50am

9a David Crawford Aimed at:P,S,P16,T,G

Magical Mathematics

In this session I will present a number of mathematical tricks suitable for use in the classroom to grab attention or to act as a starting point for mathematical investigation. Bring a pen and paper (and a calculator) and prepare to get involved.

9b Tom Button **(REPEAT 7f & 9b)** Aimed at: P16,

Using ICT in A level Maths: effective tasks

MEI is developing support materials for using ICT in A level Mathematics. A variety of student-centred and teacher-centred tasks will be demonstrated with opportunities to try the tasks and take some resources away. There will also be a discussion about how to integrate effective tasks into a scheme of work.

9c Jenny Orton, Bernard Murphy, Nathan Ngaiah, Nadia Dellagana, Anne Baker, Anna Foreman

Aimed at: P16

Meet the Hookers

Since it re-invented itself in September 2011, the Post-16 subcommittee has been producing some Hooks – images, photos, diagrams, anything really – with which to engage or intrigue or challenge (or preferably all three) A level / Higher students. We'd like to share the first few, along with some feedback from their initial trialling and get you hooked on writing some yourselves.

9d Adam McBride **(REPEAT 4g & 9d)** Aimed at: S,P16,T,G

Irrational thoughts and transcendental meditation

We shall go on safari into the jungle of irrational numbers and make some strange but beautiful discoveries, with continued fractions playing a prominent role. We shall meet old friends like π and e, which leads to some transcendental meditation! Finally we shall throw *i* into the mix and find another surprise or two, as well as paying homage to what is, for many people, the most beautiful and elegant formula in the whole of Mathematics. The material in the first half of the talk has been classroom tested on 14-year-olds. So, don't be frightened! Climb aboard and enjoy the ride.

9e Lydia Showan Aimed at: tba

Introduction to the National STEM Centre

The National STEM Centre is home to the UK's largest resource collections for STEM subjects ages 5-19. Come along to investigate:

- a treasure chest of inspirational resources, including hands-on kit
- how our online community can support your school/college and networks
- where to look for wider STEM support.

9f Tony Gardiner WITHDRAWN

Let's write a textbook: learning from others

What makes a textbook liberating and refreshing - for both the teacher and the pupils? This session will look at some examples and then present participants with a detailed curriculum covering a year-group of their choice (age 5-16) and invite them to devise an outline plan, with rough notes, for a chapter or group of chapters in a potential textbook for that year-group.

9g Farzana Aslam **(REPEAT 3e & 9g)** Aimed at: S, P16

Facilitating transition of students from GCSE to A-Level Mathematics

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Closing Lecture Bob Burn 11.20am-12.30pm

About the Speakers

David Acheson
David writes and lectures on maths for the general public, and is the author of 1089 and All That. He was the Mathematical Association's President for 2010 - 11.

James Afolayan
James is a secondary maths teacher at Bacon's College, London

Lara Alcock
Lara teaches mathematics and mathematics education at Loughborough University. She conducts research on students' thinking in undergraduate mathematics, with a focus on comprehension and construction of proofs and definitions.

Paul Andrews
Paul works in the Faculty of Education at the University of Cambridge. His research focuses primarily on how mathematics is taught in different European countries although he retains a particular interest in mathematical problems and their integration into mainstream mathematics teaching. He is the MA President for 2011-12.

Farzana Aslam
Farzana is currently working as Senior Lecturer at Coventry University. Prior to this she worked in the More Maths Grads as subject Coordinator at Coventry University. Prior to this she has also worked as research associate in the Widening Participation and Outreach Programme of the Faculty of Engineering and Physical Sciences at the University of Manchester. Farzana is also an active researcher in Physics and Applied Mathematics.

Jenni Back
Jenni works with teachers and children from 3 to 18 years, but has a special interest in encouraging the development of mathematical thinking and reasoning through talking about mathematics. She is part of the team at the Centre for Innovation in Mathematics Teaching at Plymouth University.

David Bedford
David is a Senior Lecturer in Mathematics at Keele University with over 20 years' experience of lecturing to undergraduates. Alongside his research interests in Combinatorics, he has been actively involved in encouraging school children to explore the world of mathematics beyond the curriculum. He has jointly organised, and delivered, Royal Institution Masterclasses for Year 8 pupils; given numerous talks to GCSE and A-level students as well as teaching Further Mathematics through the Further Maths Support Programme. David is interested in the paradoxical or counter-intuitive results which occur in all branches of the subject and, in particular, why it is that our intuition frequently lets us down. David is married with 5 children and hence has no social life of his own but takes great pleasure in driving his children to and from their social lives.

Danny Brown
Danny is a teacher in a London secondary school who likes to experiment with new and interesting ways to teach.

Bob Burn
Bob is working on a step by step progress through plane symmetry. Symmetries with a point have already been published by ATM. Symmetries along a line (friezes) are freely available on the ATM website. His session will be the first step with wallpaper.

Douglas Butler
Teacher, teacher-trainer (TSM), software developer, collector of web resources.

Tom Button
Tom is Student Support Leader for the Further Mathematics Support Programme. In addition to this he has a keen interest in the use of ICT for the teaching and learning of mathematics and has written software and presents professional development courses on the use of ICT.

Alan Catley
Alan recently completed 30 years of teaching in the North East of England. For the last 6 years he has been mixing teaching with working closely to support teachers around the UK and abroad - developing many ideas that make effective use of computer technology to enhance 'traditional' teaching at all levels of mathematics.

Steve Chinn
40 years experience as a teacher and Head, Steve has researched and written about dyslexia and maths, dyscalculia and maths learning difficulties. He lectures across the UK and worldwide. His new book on diagnosis/assessment of maths LD will be published in April

Alison Clark-Wilson
Alison is a principal lecturer in mathematics education at the University of Chichester (UoC) where she coordinates the work of The Mathematics Centre, a curriculum and teacher development and research centre. Alison was a member of the JMC working group that investigated digital technologies and mathematics education and was an editor of the final report alongside Professors Adrian Oldknow and Ros Sutherland.

David Crawford
David is Head of Maths in an independent school in Leicester where he has taught for the last 15 years. He regularly gives conference sessions and masterclasses on mathematical tricks. As well as involvement with the MA, David is also involved with UKMT setting questions and marking Olympiads.

Stella Dudzic
Stella is MEI's programme leader for curriculum and the author of the MEI S1 and S2 revision guides. Prior to working for MEI, she worked as a teacher of mathematics in secondary schools for 22 years, including 9 years as head of department.

Richard Earl
Richard is currently the Director of Undergraduate Studies in the Mathematics Department, Oxford University and a Tutor in Worcester College. He was formerly the Admissions Coordinator and Schools Liaison Officer in the Department.

Rob Eastaway
Rob is the author or co-author of several books including the bestselling "Maths for Mums and Dads" and "Why do Buses Come in Threes?". He is Director of Maths Inspiration, and regularly appears on radio to talk about the maths of everyday life.

Michael Fox
Michael is a former secondary school maths teacher and a regular contributor to the MA Conferences.

Jenny Gage
Jenny co-ordinates the Clothworkers funded STEM project for NRICH

Tony Gardiner
Tony Gardiner has spent 40+ years trying to bridge the gulf between mathematics and schools.

Jennie Golding with Lynne McClure
Jennie and Lynne are both members of the 8-strong Advisory Committee for Mathematics Education. Jennie is an Advanced Skills Teacher in the South-West; Lynne directs the NRICH project in Cambridge (nrich.maths.org). Both have worked throughout the age range in mathematics education, and in teacher education, in this country and internationally.

Jennie Golding
Jennie is an Advanced Skills Teacher in the South-West. She has taught learners aged 3-93, and teachers at various stages of their careers, in this country and internationally. She is a member of ACME, the Advisory Committee for Mathematics.

Christopher Hallion
Christopher is a primary teacher with 25 years experience in the classroom. He enjoys teaching maths across the junior age range particularly nunmber patterns, which will feature in the session.

Ray Huntley
Ray has worked as a teacher in primary and secondary schools in the UK and Australia. He is passionate about mathematics teaching and learning and enjoys solving problems as well as teaching budding mathematicians of all ages!

Andrew Jeffrey & others
The session will be delivered by members of the MA/ATM working group, all of whom have contributed to the project in some way.

Jane Jones HMI
As National Adviser for Mathematics, Jane leads Ofsted's curriculum and dissemination work in mathematiss. This role includes provision of advice on matters mathematical, managing Ofsted's annual programme of mathematics inspections in primary and secondary schools, reporting on and disseminating the findings. Prior to her appointment to HMI, she taught and led mathematics in a range of schools and was a senior GCSE examiner.

Alison Kiddle
Alison works across the secondary phase and post-16 and co-ordinates the KS4 activities for NRICH.

Emma Low
Emma is a mathematics teacher, writer and consultant. She inspires teachers and children through engaging activities and contexts, and creative use of resources. Emma specialises in supporting teachers with practical classroom ideas, including the uses of ICT in mathematics, developing intervention strategies, and encouraging collaboration and reasoning.

Adam McBride
Past President of the MA and of the Edinburgh Mathematical Society. Past Chairman of the Scottish Mathematical Council and the British Mathematical Olympiad Committee. Currently Chair of MA Council and Treasurer (formerly Vice-Chairman) of the United Kingdom Mathematics Trust. And from 01/10/11 Adam became Emeritus Professor.

Lynne McClure
Lynne directs the NRICH project and the University of Cambridge.

Mark McCourt
Mark was formerly Senior Director at Tribal, an international education and technology company, Director at NCETM, school leader, AST and inspector. He now works with a range of organisations worldwide on innovative technology solutions for education and teacher professional learning. Mark owns the website emaths.co.uk and tweets as EmathsUK.

Peter McOwan
Peter is currently a Professor of Computer Science School of Electronic Engineering and Computer Science at Queen Mary, University of London. He researches in visual perception and biologically inspired hardware and software. He is also active in science outreach through various projects such as cs4fn (www.cs4fn.org) and Sodarace (www.sodarace.net).

Mike Ollerton
Mike has spent 24 years in classrooms, 10 years in ITE, 6 years freelancing and continues to be passionate about making mathematics accessible and extendible.

Jenny Orton, Bernard Murphy, Nathan Ngaiah, Nadia Dellagana, Anne Baker, Anna Foreman
This session arises out of work with the new Post-16 subcommittee, and various members of the committee will be presenting elements from this our latest project and encouraging audience participation! Jenny Orton is chairing the committee.

Chris Pritchard
Chris is the Chair of the MA's Teaching Committee and one of the editors of Mathematics in School. He is the author of well over a hundred articles for mathematics teachers and the editor of The Changing Shape of Geometry.

Peter Ransom
Peter joined the MA in 1980 and takes risks. He left the chalk/whiteboard/IWB-face recently to do freelance consultancy, part-time work at Bath Spa University and grandson-sit. He spends many Saturdays doing mathematics masterclasses in period costume. He was not arrested on the tube carrying a sword and cannonball in 2006.

Rachael Read
At 14 Rachael was teaching in France, at 18 in Hong Kong and at 20 in Spain. She has taught in a large comprehensive in Saffron Walden, and in a boys' grammar in Chelmsford, as Head of Department and an AST. Rachael is now Head of Maths and Assistant Head at Mount Grace School, Potters Bar. Rachael is also Chair the 11 – 16 sub-committee of the MA.

Bill Richardson
Bill is a long time MA member and has been to many conferences but he can still remember the excitement of his first one!

Tony Robin
Tony was a teacher of mathematics and Head of Department at a Secondary School. Semi-retired he marks A-level papers a few times per year. A regular attender at MA conferences.

Paul Shepherd
Paul is Research Fellow in the Architecture and Civil Engineering Department at the University of Bath. He has worked with leading architects such as Frank Gehry and Richard Rogers, designing a wide range of structures from sewage tanks to international stadiums.

Lydia Showan
Lydia is the mathematics specialist at the National STEM Centre. Her background is secondary mathematics education, as a subject leader and assistant headteacher, and mathematics consultancy.

Ben Sparks
Ben works part-time at Canford School in Dorset, part-time for the Further Maths Support Programme – delivering maths enrichment, and part-time as a freelance maths speaker. He dabbles in music and photography and can occasionally be found busking in city centres. He says it keeps him off the streets.

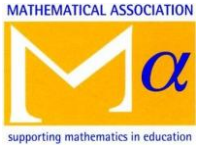
Lloyd Stagg
Over thirty years teaching secondary school mathematics in Victoria, Australia, Lloyd has maintained a passion for enhancing his teaching with learning technologies. These have included spreadsheet and database, Turtle LOGO, graphing calculators and now dynamic geometry using Geometer Sketch Pad. Lloyd considers GSP to be an amazing piece of mathematical software.

Andrew Taylor
Andrew is Head of mathematics at AQA, the largest provider of general qualifications in England. He is responsible for the development and support of all AQA's mathematics and related specifications from Entry 1 functional skills to A-level further mathematics.

Sidney Tyrrell
Sidney is an Honorary Teaching Fellow at Coventry University, engaged in outreach work to schools. A National Teaching Fellow she taught statistics to undergraduates for many years from mathematicians to nurses and town planners, and enjoyed the challenge of making stats interesting and sensible, which it is.

Changes to the speakers and sessions may occur, and the MA cannot be held responsible if speakers withdraw their sessions.

The MA would like to thank all speakers, delegates, and exhibitors for supporting its 2012 Annual Conference. Particular thanks are given to OCR for the generous sponsorship of certain activites.



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