



# ANNUAL REPORT 2006-2007

MATHEMATICAL ASSOCIATION



supporting mathematics in education

## President's Report

It has been a great privilege to serve as your President this year. I have greatly valued the opportunity it has given me to give talks to local branches and meet people across the country to share my enthusiasm for mathematics and my interest in encouraging better teaching and learning. It has also been rewarding to represent the Association at a number of events and to use my position as President in a small way to influence the remorseless drive for superficial change in mathematical education about which more in a moment.

At school I always enjoyed mathematics and went on to do my degree at Bristol University, graduating in 1963. At some time during my undergraduate days I decided that I wanted to become a school teacher, but before embarking on a PGCE course I took the opportunity to spend a year with VSO teaching in Nigeria. This was a fascinating experience which remains fresh in my memory to this day and has had a profound influence on me in many ways. I was placed in a small secondary school in a remote area that was a long way from the nearest tarmac road, although it was not far from the railway which was an important line of communication and resulted in the mail arriving from home remarkably quickly. It was quite an experience to have a large house to myself and my own cook at the age of twenty one! The school had only been established three years previously and had only one form in each year group. I was asked to teach chemistry and some mathematics and had the interesting task of setting up the chemistry laboratory – when I arrived it was a bare room furnished with benches and shelves with all the apparatus and chemicals still in packing cases. Although I liked the chemistry teaching, I preferred teaching mathematics and was able to concentrate on that more as the year progressed. I remember finding a copy of Godfrey and Siddon's *Elementary Geometry*, first published in 1903, in the school library and actually had time to study it and renew my interest in geometry which had first been stimulated when I was at school. I also remember being appalled at the poor mental arithmetic skills of my students and coming to appreciate the key importance of doing calculations in your head as an activity that can develop mathematical understanding as well as fluency. I soon found when I returned home that students in the UK were no better with their number skills than my Nigerian students.



*Doug French - President 2006-2007*

On my return I spent the next year doing my PGCE at Leicester University, where my tutor was Ray Hemmings, who was later one of the editors of the ATM's journal *Mathematics Teaching*. The PGCE course opened my eyes to many aspects of mathematical education and it was during that year that I first became aware of the interesting new courses being developed by the School Mathematics Project (SMP), which had been founded a few years previously in 1961. I started my teaching career at a large comprehensive school on the outskirts of Coventry, which was a much tougher environment than my idyllic school in the Nigerian bush where behaviour was never a problem and all the students worked incredibly hard all the time in spite of their poverty and their often poor health. In 1968 I was appointed as head of department at a secondary modern school at Crowborough in East Sussex. The school

became comprehensive in 1969 and rapidly expanded to take over 2000 pupils by the late 1970s. One of my early moves was to introduce the SMP course to the school which presented many opportunities to introduce new ideas in stimulating ways. As time went on calculators and then computers became available and I was keen to take advantage of the possibilities of this new technology. I have happy memories of a whole class sitting round a single BBC computer while we explored graphs or number patterns on the screen. Alongside this I had all the responsibilities of running a large department, which was stimulating most of the time, but the extreme difficulty of recruiting and retaining good teachers in the affluent south east was a constant frustration. Other opportunities emerged: giving evidence to the Cockcroft committee whose report *Mathematics Counts*, was published in 1982, working with PGCE students from Sussex University, being granted a sabbatical year to do an MA in Mathematics Education at King's College, London and having the opportunity to join one of the writing teams developing the SMP 16-19 A level course. After nineteen years as head of department in Sussex I moved to Hull University in 1987 and became a PGCE tutor. This opened up whole new worlds - Yorkshire with its splendid countryside, no behaviour problems or staff recruitment to worry about, a lot of freedom to teach, to read and to write as I chose and many opportunities to make wider range of contacts with people interested in mathematics education across the country. At that time Humberside had a very active MA branch which included Janet Duffin who was on Teaching Committee at that time. She rapidly proposed that I should join Teaching Committee and thus began my active involvement in the MA of which I had been a member since 1964 during my PGCE year. I edited *Mental Methods in Mathematics: a First Resort* and started writing articles for *Mathematics in School* and have been writing things ever since, including my regular feature *The Creative Use of Odd Moments*, from which a collection of items has just been published in book form with a second volume to appear in a year's time if all goes well. In recent years I have also written two more substantial books, *Teaching and Learning Algebra* and *Teaching and Learning Geometry*, which have been an attempt to bring together my thoughts about teaching those two vital areas of mathematics. Alongside teaching and writing, my MA activity has increasingly become concerned with responding to the seemingly endless initiatives in mathematics education from government and its agencies. It is salutary to remember that prior to the introduction of GCSE in 1988 and the National Curriculum in 1989 there was very little government involvement in the school curriculum: teachers and curriculum development bodies like SMP, MEI and SMILE had almost total freedom to develop their ideas and examination boards were happy to accommodate the assessment arrangements devised for these courses. Whilst I have no objection in principle to a National Curriculum, some national testing and a benign inspection system, it is very difficult to accept that the present all embracing involvement of government and its agencies in education is anything but counter productive. I do not say that in any spirit of pining for the 'good old days', because there was much that was bad and needed changing, but I do seriously question the way that change has been brought about, the form that much of it takes and the absurd pressures that have been put on both teachers and students. It is ironical that alongside so much that is deeply worrying there are so many excellent things happening in mathematical education. I

hope that these good things will prevail much more in the coming years and that there will be a significant reduction in ill considered interference from those who do not have to live with the daily consequences of the policies they espouse.

Having retired from full time paid employment last summer, I am now starting the third phase of my adult life which seems as busy as ever, but has the big advantage that I am free to choose what I do and therefore can avoid mindless bureaucratic chores and boring meetings. It also means that the garden gets more attention, I can see more of my grandchildren, read more and go out walking in the splendid Yorkshire countryside on weekdays when there are few people around. I have plenty of mathematics related things to do as well, so altogether there is much to look forward to in the next thirty years or so. I am grateful to the Association for providing, and continuing to provide, a valued source of friendship and stimulation and my thanks to everybody for making my Presidential year so enjoyable and productive.

*Doug French – President*

### **Chair's Report from Council**

I ended last year's review with a question and a hope. This is what I said, "So what was the year overall? in essence, some really encouraging new initiatives alongside a number of worries. I have no doubt that the challenges thrown up both by the opportunities and the threats will act as powerful motivators for Council, and I am confident of our joint ability to grasp and act on them to the ultimate benefit of the MA." Let us see how that worked out.

At the June Council meeting, we considered the shortlist of presidential candidates. Council whittled down the suggestions to six candidates. These candidates went forward for a final decision at the September meeting.

The Treasurer prepared a report on our finances and it was not pleasant reading. The stark fact is that we are spending beyond our means; at the moment conference and professional development make losses. Membership income has also declined, in part due to a one-off administrative problem and also to unsuccessful marketing. We have substantial reserves and of course, these mean that there is no immediate danger. The clear and present danger, however, is that it is part of a trend, and a trend that we must reverse. Council decided that Standing Committee should act as a Finance committee in the first instance. It should monitor finances and bring remedial proposals to Council for implementation.

On the education front there were many issues to consider: the development of Double Award GCSE; the role of coursework; career patterns for teachers and their retention; the proposed revisions to the Primary framework. We discussed these and much more to ensure that our voice was heard by the bodies that make the final decisions and those that have influence on the discussion.

We also looked forward to the launch of the National Centre for Excellence in the Teaching of Mathematics. Exactly how this will impact on our activities is an emerging, but unfinished story.

We also continued our joint ATM/MA/NANAMIC meetings with QCA. We want to engender a relationship that means we can discuss and learn about policy as it is being developed. This has to be conducted responsibly so that we learn to trust each other. One significant success was the issue of the mathematics team at QCA. At one point it looked as if there would be no team and we raised our grave concerns. The end

of the year and several more meetings saw a senior appointment that responds positively to the problems we raised.

On the publications front our discussions with Hodder Headline continued. In essence we sought them as a partner in our book publication programme us to produce titles and to market them to members; they to promote to the wider school and college market. This has a commercial logic in exploiting our excellent list of books; it also has the potential to boost membership.

And so to our September Council meeting, before the meeting itself, we held an Extraordinary General Meeting. This was part of the process of the conversion of the Association to a Company Limited by Guarantee. The purpose of the EGM was to confirm the recommendations made by Council concerning the Memorandum and Articles of Association. We had also taken the opportunity not only to make the necessary legal and administrative changes but also to redraft these into a more coherent and clear whole.

The first item of Council business was to consider the six candidates for President. These were supported by CVs and very impressive they all were. In the event, the ballot chose Robert Barbour, and Robert was delighted to accept. He comes back to Council with a wealth of experience and authority.

A proposal was also made to Council to consider the toast at the Annual dinner. Evidence was given that it did not enjoy universal support; it also came as a surprise that it was only instituted in the 1960s. When the results of the ensuing ballot were announced there was a substantial majority that favoured replacing the toast by one to a suitable mathematician. It was left to the Conference Committee to decide who this might be for each conference.

Attention then turned to the website. A thorough overhaul of the contents had been undertaken, removing much outdated material, and seeking to update current information. The plan for the implementation of e-commerce was also reviewed. A target date of the end of the year was set, with phased introductions for conference, then publications and finally membership.

Conferences bought its own surprises. First that the conference in Loughborough had made a substantial loss. This was caused partly by the limited number of delegates (120 in all) but also by the high costs of the venue. There is a growing suspicion that university conference costs are growing alarmingly as they seek to extract the maximum revenue from this source. Costs not only match but, in some instances, exceed hotels. What was once an inviting educational environment with acceptable accommodation, is now a commercial venue with matching prices.

The December meeting prepared for the forthcoming AGM so we spent some time deciding who Council would recommend as their nominations for office and membership. There are a number of changes that are taking place. Our treasurer Michael Fox is obliged to stand down on the completion of his five years. It is easy to suppose that his task is a job with a limited vocabulary - all that is required is the simple word "no". But of course, it's not as simple as that. Thank you Michael for all your efforts. I am delighted to say that we do not lose his experience as he moves on to Chair Publications.

That is the Chair vacated by Paul Metcalf who is now timed out by his five years in Publications. And what a difference he has made. Look at the books and the impact they make, now consider the partnership with Hodder Headline. These are real

achievements with enormous potential; so thank you Paul.

Paul moves on to become the Editor-in-Chief, where he takes over from Peter Bailey. Peter is a powerhouse of ideas and activity who has carried through a root and branch look at all our journals, their costs, their marketing and their audience. They are now better placed to face the challenge of their competitive market places. He continues to drive the development and the continuing success of the Primary Mathematics Challenge.

Jennie Golding steps down from chairing Teaching Committee, but remains committed to its vital work and remit. We rely on their deliberations to inform our policy and thence to exert influence on all the proposed changes underway in mathematics. I am delighted that Doug French has agreed to be put forward as the Chair.

Alan Camina had intended remaining as Chair of Conferences, and was nominated by Council. Unfortunately, his professional life has changed and he no longer feels that he can carry this burden. For this reason, there was no nomination for the post since such nominations have to be received by 31<sup>st</sup> December. As an interim measure we relied on Martin Bailey both to take over – at a very late stage – this conference, and to see through the plans for 2008. We owe him an enormous debt of gratitude for stepping in to the breach in this way.

Sue Singer agreed to be Council's nomination as Chair of Membership and Publicity. She has already helped to construct a detailed picture of membership and is keen to tackle the difficult task of retaining existing members and recruiting new ones. I am sure she will bring her usual determination and considerable expertise to this vital activity.

Finally, we have two new members without office, Lynn McClure (who also edits *Primary Mathematics*) and Catherine Ogden; fresh faces to bring new perspectives to our work. I must also give thanks to Dr Tony Barnard who retires after his stint as member without office.

Council also approved the new Annual dinner toast the first of which would be dedicated to Euler. This year marks his tercentenary.

Finally, there are two excellent pieces of news. Firstly, the Hodder Headline partnership has at last been finalised and agreed by contract. It commences at the beginning of 2007, and we will feature in their catalogues. Secondly, the *Gazette* is now available via JSTOR on-line. So every issue right back to the first in 1894 up to five years ago can be searched and consulted.

The final meeting of the year took place at the beginning of March. We commenced by appointing Council members as Directors of the Company Limited by Guarantee. This was a technical operation so that as certain stages are reached we have in place the administrative structure, regulations and Directors necessary to pursue our aims. This was followed by another report from the Treasurer where we considered the final set of accounts for 2006. We also agreed the allocation of resources into designated funds that are then used in pursuit of their dedicated objectives - an example is the Life Members fund.

As importantly, we considered the overall finances of the Association. While we had sufficient reserves to cover the deficit from 2006, if such losses continued there would come a point, at which we would face insolvency. Corrective action was necessary. A number of suggestions were offered – increase in membership fees, changing the model for conference. Council felt that a more measured and wide-

ranging review was necessary, and therefore referred the matter to Standing Committee. It asked Standing Committee to look at all aspects of activities and to propose to Council in time for its June meeting a set of measures that would minimise losses this year, and restore balance to its budget in future years.

Another positive development comes from a group called the Subject Associations Working Group (SAWG). This had been galvanised by a speech given by Lord Adonis, who committed DfES support to the idea that all teachers should belong to a subject association. He asked in return how this could be implemented. There are a number of initiatives as a result.

The first is a website funded by the DfES [www.subjectassociation.org.uk](http://www.subjectassociation.org.uk) that provides a link to the website of every subject association. To exploit this, there has also been a poster campaign to all secondary schools and colleges that gives the benefits of membership of subject associations and the address of the website. There is also a proposal for a new body, the Council for Subject Associations the so-called CfSA. This would initially be funded by the DfES and then by Subject Associations themselves. Its task would be to drive membership of subject associations across the board and build on the existing website. Finally, there is an exciting plan to offer primary schools joint membership of ALL subject associations. Again, the proposal is that the DfES would fund the costs initially. Its overriding objective is that ultimately, primary schools and teachers should take up full membership of individual subject associations. These are exciting ideas, and ideas that Lord Adonis has said he is, "minded to approve". There are tempting possibilities and some dangers. We will see what comes of them.

I think the year has exposed some complacency first in not spotting the deteriorating financial position quickly enough and second by not being ruthless enough in managing our affairs. We can change that. But the real challenge is making the Association appealing to all teachers of mathematics in all sectors of education. Our current membership represents a diminishing and extremely small fraction of all practitioners; we haven't even begun to think about the new sectors emerging such as Teaching Assistants. But this is only one side of the coin. We must not only make membership appealing and instinctive in its own right but we must offer members an attractive portfolio of opportunities to build their careers and widen their professional horizons. That must be, and will be, our focus.

*Barry Lewis (Chair of Council)*

### **Branches Committee**

This MA committee has met twice recently. The last meeting was at the end of the MA Annual Conference at the University of Keele in April. The other meeting was the annual Branches Day at Leicester HQ last October. At the latter meeting some time was spent looking at the Local Activities section of the MA website. There was also a very useful exchange of programmes from all those attending as Branch representatives. Some ways forward related to future strategy were decided at the far shorter April meeting and these are reflected below.

During the period between these two meetings all the Branches listed in MA News were contacted by a variety of means to request programmes and other details for uploading to the Local Activities section of the MA website. Some impressive responses have been forthcoming but by no means all replied and so it was agreed that this request will be made again in the

very near future. It is essential for efficiency of colleague workloads that these updates are sent in to us by electronic means.

During the year a number of people have showed an interest in setting up new MA or Joint MA/ATM Branches. It was agreed at the April meeting to contact these people again to follow up this interest.

One positive step in this regard was the first meeting of the new Joint MA/ATM Marches Branch which held a first meeting in March. This Saturday morning meeting attracted around 40 participants.

The committee chair has agreed to write a discussion document on the current state of MA Branches and possible ways forward. This will be distributed to colleagues for their views and responses. This should culminate in the Branches Day next October drawing up proposals for a future strategy in relation to the MA Branch network.

The next Branches Day is arranged for Saturday 13 October 2007 at Leicester HQ starting at 11am. Lunch and other refreshments will be provided as usual.

*Keith Cadman (Chair of Branches)*

### **Conferences Committee**

The Annual Conference was held at Keele University on 11<sup>th</sup> – 14<sup>th</sup> April, and what a conference it was. Keele turned out to be a hidden gem; an attractive campus with a perfect suite of lecture rooms, social areas and lecture halls all close enough together to make it a compact and comfortable venue. Backed up by excellent university hosts and MA Conference staff who went out of their way to make things run smoothly and efficiently. And yet it could have been so different. Just before conference Professor Alan Camina had to pull out; luckily for us Martin Bailey stepped in and simply took over the running. We owe Martin an enormous debt.

The programme kicked off with the opening talk from Steve Abbott an HMI and former President of the Association. He spoke about classroom mathematics - the joys, the pitfalls; what works, what doesn't; what might be. Steve's perspective and authority made this an enjoyable, inspiring and entertaining look at school mathematics against the backdrop of formal curricula, strategies, extension and other forces.

From then on, the full programme of individual sessions continued. In each of nine session slots there were six choices. The programme sought to offer strands that made up a continuous thread of interest to the defined sets of delegates that attend conference, spanning all sectors of education and interest in mathematics. Each session offered something for each of them.

Bob Sawyer provided the primary plenary. Bob is currently Headteacher of a secondary school but has also been a Regional Director for the National Numeracy Strategy. He showed how to bring humour, magic and motivation to mathematics teaching. His final 'turn' was to fold his own tie into thirds by an iterative process, and it's worth recording to give a flavour of his magic. Select any part of the tie as the first approximation to a third of the tie. So the rest is two-thirds. Half it by a fold. That gives another third - this time closer to the real third. Now repeat - and you only need to repeat it twice to be sufficiently close to the real third as makes no difference. Then he showed how to find a fifth ... genius, and truly inspirational.

Doug French concluded his year as President at this conference. His Presidential Address took the title, *Simplicity*

and Surprise in School Mathematics and its starting point was an intriguing question, “Why is it so easy to solve problems when you can; and so hard, when you can’t.” In drawing out some answers he drew inspiration from Euler, road signs (in Hull) and footballs. But the gem for me was this, “When next after midday are the hands of a clock together?” And here’s one stunning answer from a student. The hands of the clock are together 11 times in every 12 hours, and they do this at equal intervals. Now read that again. Then as  $60/11 = 5 + 5/11$ , the next occurrence is slightly before five and a half minutes past one; and so on.

Sir Peter Williams, the Chair of the Advisory Committee on Mathematical Education, gave the after dinner speech. Sir Peter trained as a physicist but has spent most of his career working in industry. He spoke without notes for half an hour, but it seemed much less, given the nature of what he had to say and the style in which he delivered it. He had anecdotes about his contacts with government and the dangers of doing international business - how do you explain the term ‘full monty’, just used by the Prime Minister making an address to Japanese businessmen? But most of all he made an eloquent case for the importance and relevance of mathematics in education, not just in motivating future mathematicians but in equipping and inspiring engineers, accountants and everybody with the necessary and vital skills that modern life and future prosperity demands.

The conference concluded with an address by Jane Imrie of the National Centre for Excellence in the Teaching of Mathematics. She described the role of the Centre and the power of its portal as a means to focus resources and information about professional development for all those engaged in mathematics education. The Centre is a natural outcome of the Smith enquiry and has been welcomed by the whole community - Jane shared the excitement of bringing such a complex idea to fruition and the ways in which address its basic mission.

*Barry Lewis on behalf of Conference Committee*

### **Professional Development Committee**

The activities of the committee in 2006-7, always focussed on the principle objective “to promote and support the professional development of teachers”, have been many and varied. In what seems a particularly active time in the post-Smith and post-Tomlinson era, and with the establishment of the National Centre for Excellence in Teaching Mathematics (NCETM) we are well placed to further the Association’s aim to improve the teaching of mathematics and its applications. However, the resignation of the Association’s full-time professional officer, John Leigh, in December 2006 has hampered some of the developmental work that was underway. Over the past year members of the committee have continued to work with a range of bodies including The British Educational Communications and Technology Agency, The Training and Development Agency, The KS3 Strategy, The Department for Education and Skills, The Specialist Schools Trust and the Subject Associations Working Group (SAWG), Steljes Ltd, Intel plc, London Grid for Learning, General Electric, SETNET and the NCETM. There follows a summary of activity over the period.

**BECTa (2006/7):** The contract for the financial year to April 2007 was signed in September 2006. We work in close collaboration with the ATM on this project, which has two strands:

#### *Strand 1: Consultancy days.*

The focus for these days is to inform policy development with respect to developing the e-Mature learner and workforce, developing a mathematics subject matrix. The consultancy also includes attendance at key conferences, for example developing the “personalising learning” agenda with respect to mathematics and ICT. This funding also supports the MA to lead a subject expert workshop at the BETT exhibition - in January 2007 the session was led by Alison Clark-Wilson and attracted an audience of over 50 participants despite being the very final session on the Saturday afternoon!

#### *Strand 2: CPD activities to support the effective use of ICT in the teaching and learning of mathematics.*

These activities include one-day conferences (DfES/BECTa ICT Roadshows for mathematics), providing regional expert support and the development of two regional ICT Network groups for mathematics in the South East and North West.

In addition to the above, the committee was represented at the judging process for the KS3/4 BETT Awards at which the key role/responsibility was to produce, in agreement with other judges and the allocated moderator, a shortlist of products, selected from those entered, for recommending to the next stage of the judging process.

#### **GE SETNET AiM London Pilot**

The MA is coordinating the “Achievement in Mathematics” London pilot, sponsored by GE and in collaboration with SETNET, which aims to produce innovative resources to support the development of functional mathematics at Key Stage 4. These resources will be trialled by schools in the London Boroughs of Hounslow and Hillingdon before being made available nationally in 2007-8.

#### **The Mathematical Association second Scottish Secondary Education Mathematics Conference**

The first MA one-day event for Scottish secondary mathematics teachers was held on Saturday 9th September 2006 at Stirling University and was deemed a huge success. The event attracted over 220 delegates who benefited from a wide range of talks, presentations and workshops. Delegate feedback from the day, both informal and via the evaluation forms, was hugely positive and the MA stand did brisk business selling publications and welcoming new members. A second event is being planned on Saturday 15th September 2007 at the same venue with current president Rob Eastaway giving the keynote address.

#### **BETT Award Winning Software for KS3/4 The Mathematical Toolkit and Numberline Tool**

The MA and LGfL continue to disseminate the Mathematical Toolkit through a 2-year partnership to develop online CPD resources for the Mathematical Toolkit and Number Line Tool through the Virtual Maths Staffroom area of the website. A Teachers TV offering (‘KS3/4 Maths - New Maths Technology In the Classroom’) has a section that depicts use of the ‘Number Line Tool.’

[www.teachers.tv/searchArchive.do?submitted](http://www.teachers.tv/searchArchive.do?submitted) ) Hosted on the London Grid for Learning website at <http://lgfl.skool.co.uk/index.aspx> the software is available free. It is hoped that a version 2 of the software with additional save out functionality will be launched by LGfL by the beginning of the summer term.

#### **Interactive whiteboards**

In partnership with Steljes Ltd, MA colleagues have completed a range of exemplar lesson resources to support teachers to get the most from their SmartBoards within secondary

mathematics lessons. The MA/Intel 'Toolkit' and 'Number Line Tool' (2006 Bett Award Winners) are now bundled in with the content of the Smartboard Notebook.

A one-day professional development course has also been developed and full details can be found on the Steljes website. <http://www.steljes.co.uk/ProductsServices/Services/Training/MatthsonaSMARTBoardInteractiveWhiteboard.htm>

The first event on July 3rd 2007 is already fully booked. Further events will be offered in the 2007-8 school year and the course is booked via the Steljes website. It is also possible to book one-day events in school to enable the whole mathematics department to benefit from the training. We also plan to offer workshops from this programme to members attending MA's annual conference in 2008.

#### **Specialist Schools and Academies Trust (SSAT)**

We continue to work closely with the Trust, with Adrian Oldknow providing a series of mathematics workshops at the SSAT ICT conference: Towards a 2020 vision on June 7-8th 2006 in Milton Keynes.

#### **National Centre for Excellence in Teaching Mathematics (NCETM)**

The MA has been represented at Stakeholder conferences and regional events hosted by the NCETM and continues to develop a healthy collaborative relationship with the newly established Centre.

*Alison Clark-Wilson (Chair of Professional Development)*

#### **Publications Committee**

Publications Committee continues to meet regularly to deal with the considerable amount of business turning ideas for publications and resources into stock on the shelf. Our agreement with Hodder Murray is signed and I am grateful to Martin Davies for his invaluable support, advice and encouragement.

These are exciting times for our publications and we are most grateful to Hodder Murray in ensuring that our publications get the exposure in schools which they so clearly deserve. There continues to be plenty of writing work and proof reading to be done if you fancy volunteering?

Recent publications include Doug French's inspiring *Creative Use of Odd Moments*, and a book containing 200 multiple choice problems which aim to interest and motivate pupils called *Challenge Your Pupils*. We are even in the process of negotiating an MA calendar.

In the meantime, we have a number of publications in the pipeline and Sue Waring has been cajoled to revise *Can you prove it?*, Martin Bailey is working hard on *50% Proof* and we are very much looking forward to Nick Lord's work entitled *25 Years of Problem Corner*.

Mary Ledwick is working hard with the Teaching Committee on the *Secondary Maths Club Pack version 2* and she is also involved in a rewrite of the popular *Numeracy Handbook*, although we intend to rename it *Mathematics across the curriculum: A practical guide for secondary schools*.

In my last report as Chair I would like to commend their hard work, enthusiasm and determination of the Publications Committee including Peter Bailey, Richard Kirby, Mary Ledwick, Barry Lewis, Bill Richardson and Sue Waring.

I am very grateful for their hard work, enthusiasm and the wealth of ideas which they bring to our meetings.

*Paul Metcalf (Chair of Publications)*

#### **Editorial Happenings**

Thanks are due to all who work on the MA journals, especially

the editors. The high quality of the journals has been maintained over the year. There are lots of people who do work which supports the editors in many ways. They all do a great job.

The editors are:

*Mathematical Gazette* – Gerry Leversha

*Mathematics in School* – John Berry and Chris Pritchard

*Primary Mathematics* – Lynne McClure

*Equals* – Ray Gibbons

*MA News* – Barbara Cullingworth

*Mathematical Pie* – Wil Ransome

*SymmetryPlus* – Martin Perkins

Website – Martin Bailey and Keith Cadman

One or two people have changed roles. Thanks are to Peter Huckstep for his excellent work as Reviews Editor of *MiS*. He is replaced by Rebecca Artiss, already on the review team. Barbara Cullingworth has served her time as editor of *MA News* for a few years, and we will (hopefully) be welcoming a new editor shortly. Martin Bailey has worked very hard on the MA website – many thanks to him.

Past copies of the *Mathematical Gazette* can be accessed via JSTOR for a small subscription (available with MA *Gazette* membership). There will soon be exchange advertisements for the *Mathematical Gazette* with journals of the MAA (USA), now that our on-line subscriptions will shortly be available.

During the year we have developed new promotion materials and had a major mailing to secondary schools with fliers for *MiS* and *Equals*. Fliers for *Primary Mathematics* and *Equals* also went to PMC schools. Promotions for *Mathematical Pie* and *SymmetryPlus* have raised subscription numbers.

SYMS (The Society for Young Mathematicians) is being developed with on-line problems and a forum in September. We expect that this will lead to increased membership of SYMS and therefore sales of *Mathematical Pie* and *SymmetryPlus*.

Janet Powell has returned as Advertising Manager following John Day's work for a few years. She will also now be seeking adverts for the MA website.

The matter of costs has been considered much recently, with the treasurer, Michael Fox, providing some figures at the Editorial Board meeting last November. It is clear that we need to sell more of some journals or there will have to be rationalisation in a few areas, which will result in reduced expenditure.

I have enjoyed my two years assisting these journals. I give Paul Metcalf all good wishes for his work as incoming Editor-in-Chief. I know he will do an excellent job!

*Peter Bailey (Editor-in-Chief)*

#### **Publicity and Membership**

Activities of this committee are central to the continuing success of The Mathematical Association. Its role is to promote the activities of the Association and thereby attracting new members by showing them that there are benefits to be gained by joining the Association. However, when I took over there was some uncertainty as to who were the members of the committee. Therefore, one of the first tasks this year was to properly reconstitute the committee, and this has now been done. For convenience most of the work and correspondence of the committee will be done electronically by e-mail.

Council is currently concerned about general fall in membership levels that the Association has experienced in the last few years. There was also a feeling that we do not know that much about the make-up of our current membership (such as age-group, occupation etc). In order to remedy this, the committee produced a questionnaire that was piloted at the

2007 conference in Keele. If it is felt that this was a useful source of information about our membership, the questionnaire can be sent to all members so that we can get a broader idea of the make up of the current membership. Once we have this information, we can use it to target areas of mathematical education where the Association is under-represented.

On the publicity side, we need to do more to tell members what the Association has been doing on their behalf. To this end, I wrote a notice for inclusion with either *MA News* or the annual membership renewal notices, which outlined the main activities that the Association engaged in during the previous year. However, in my view more needs to be done to properly publicise the work of the Association.

This will be the only year that I have chaired this committee as I took over as Treasurer at the 2007 AGM, and I hope that I have made a useful contribution to successful running of the Association during the year.

*Paul Harris (Chair)*

### Primary Mathematics Challenge

Feedback for the November 2007 challenge was once again very good.

#### Some pupil's comments:

*Challenging but not impossible. Wow that made me think.*

*Who puts on a cap before their pants?*

*Now I know what a nonagon is! Sneaky!!*

*In a funny way I enjoyed it*

*Too easy (this pupil got a low mark)*

*Aaaaaghhhhh!!!! This was evil but loads of fun.*

*It made my mum think too!*

*The PMC is my favourite maths test*

*I liked the cheesy jokes like Doctor When*

*Logic Required. Challenging without being too scary.*

#### Some teacher's comments:

An excellent paper this year It made the pupils think

*It helped raise the profile of maths.*

*A good mix of challenging questions.*

*We really look forward to the PMC.*

*Really motivating for the children.*

*A real maths challenge. Another cracking paper.*

*Lots of scrap paper required.*

*Lots of animated discussion after the challenge.*

*A great enrichment exercise.*

*Where do they keep finding these questions?*

97080 PMC papers were sold to 2561 schools with 67956 certificates for presentations in assemblies. 1425 highest scoring pupils were invited to take the PMC finals in February this year (1021 in 2006) and 329 medals were awarded in March.

We have reviewed the publicity material and design certificates. The cost per pack of ten PMC papers, certificates etc are going up to £8 for November 2007. The use of OMR sheets for marking the finals has proved difficult. Assistance from the UKMT is most helpful. Snow increased postal problems in December. We have strengthened the PMC management and Problem Teams and are pleased that Alan Slomson and Alex Voice (both representing the UKMT) are now members. The second book of PMC problems will be published by the MA shortly.

*Peter Bailey (Chair of PMC Management Team)*

### Library Committee

The Committee met on two occasions and comprises Mike Price (Librarian and Chair), Marcia Murray (Secretary), Mary

Walmsley (Archivist), Evelyn Cornell (University of Leicester Library), Mike Dampier and Howard Fay.

**John Hersee Collection Management:** All the post-1850 Hersee books have been transferred for cataloguing, offered as duplicates to local teachers and teacher trainees, or included in the list of duplicates for disposal (see below). The older books (around 550) are gradually being cleaned, annotated on the spreadsheet listing and processed in preparation for their eventual 'homes': the University's Special Collection (around half of the books), the University's new open stack shelves (around one seventh), and the John Hersee Room bookcases (around one third).

**Other Donations:** Small donations, including runs of the periodicals *Mathesis*, the *Mathematical Gazette*, *Mathematical Pie*, *Raising Achievement in Maths* and *Infinity* have been received from Mr C F Parry, Helen Housego, Nancy Johns, Howard Fay and Ian Evans. A larger donation of 122 books has been received from the widow of Keith Barnett; 73 of these books (undergraduate and postgraduate texts and some popularisation) have been transferred for cataloguing.

**Duplicate Management:** Around a dozen crates of duplicate books gave accumulated in the John Hersee Room. Following a visit and the advice of a specialist dealer, these book have been listed by Mary Walmsley on a spreadsheet and put on offer in exchange for suggested donations to the MA library fund. The list was first made available at the Annual Conference and then advertised on the MA website and in the *MA News*. The initial publicity produced over £150 income from around sixty books and further income on this scale is anticipated.

**Cataloguing:** A growing backlog of several hundred donated books, not duplicates, has accumulated since 2004 and the annual allowance of 140 catalogue records cannot accommodate this scale of donations. Additional cataloguing for 300 more records has been funded and completed, and a similar scale of catch-up cataloguing is planned for 2007. Progress has been affected by major building works at the University's Library, but the MA's collection of books now exceeds 9000 records on the University catalogue. A laptop computer has been purchased for use in connection with both library and Archive records, particularly in the John Hersee Room.

**Service Level Agreement:** A new agreement for 2007 to 2010 has been accepted by the University and the MA. It includes a postal borrowing facility for MA members (up to four MA items excluding the Special Collection).

An attractive **Special Collections Calendar** for 2007 has been produced by the University of Leicester Library. The feature for February is the rare and colourful 1847 *Euclid of Oliver Byrne*, two copies of which are held in the MA Special Collection at the University.

*Mike Price (Librarian, and Chair of Library Committee)*

### Teaching Committee News 2006 – 2007

The role of Teaching Committee is to keep under review all matters relating to the teaching and learning of mathematics at all levels, to advise Council on responses and representations to outside bodies and to generate appropriate material for publication or dissemination in other ways. The committee meets three times a year and holds a collection of open meetings at the Annual Conference. Much of our work is done by subcommittees, which have either been set up to carry out a particular task or have a standing brief in relation to a particular area. These have been streamlined over the past year and

currently comprise the Primary, 11–16, Post-16, TALUM (Teaching and Learning Undergraduate Mathematics), ICT, and Beginning as a Maths Teacher subcommittees. Most of these are actively engaged in producing appropriate materials, as well as feeding into other Teaching Committee work in their field of focus. Some meet face-to-face on a regular once-a-term basis, some ‘meet’ electronically, and some employ a variety of methods. More detailed reports from each active subcommittee, follow. In particular, the ‘Beginning as a Maths Teacher’ group is just beginning its work, and if you have a particular interest in the input needed by inexperienced maths teachers in schools or colleges in the UK, please contact Jennie Golding, who chairs this subcommittee (and is running a related, informal, session the first evening of the 2007 conference).

Teaching Committee also maintains close links with other committees, especially Publications and Professional Development, for obvious reasons.

2006–2007 has seen continued work to try to smooth the introduction of the many changes currently on the horizon, particularly for secondary schools and colleges in England and Wales. MA representatives from Teaching Committee have contributed to several discussions relating to changes to Key Stage 2, 3 and 4 Programmes of Study, changes to GCSE, Functional Skills qualifications and 14-19 Pathways. We remain convinced that in many cases these initiatives have not been adequately thought through, let alone the trials sufficiently substantial to evaluate the effects on teaching and learning, and have continued to press for decisions based on more comprehensive evidence. Once decisions about trialling and timescales were made, MA representatives have worked to try to optimise the outcomes for the classroom teacher, and hence the student. Given the almost overwhelming scale of the imminent structural changes, it seems clear that one positive way forward, is to increase teachers’ confidence and skills to effect quality teaching and learning in the classroom, so that organisational changes become secondary and therefore manageable. Teaching Committee has worked, and will continue to work, with the Professional Development Committee, the Secondary National Strategy team, ACME, NCETM and others to promote these aims.

The MA viewed with concern the dismantling of the Maths Team at QCA, in the sweeping organisational changes undertaken in 2006, and, with other mathematics education professional associations, lobbied persistently for the restoration of mathematics-specific expertise close to the decision-making at QCA, so that curricular changes are fit for purpose. We were very pleased to see the recent appointment of Sue Pope as Programme Manager for 14-19 Mathematics, and intend to try to cultivate a positive working relationship with her: persistent lobbying does appear to bear fruit! 2006 also saw, more positively, the fruition of a Teaching Committee-steered, Gatsby Charitable Foundation-funded, research report on Career Patterns of Maths Teachers in England, and this is about to be followed up by the dissemination to all English secondary schools, colleges, LAs, and many other stakeholders including a number of government ministers and departments, of a summary leaflet suggesting positive steps that subject leaders, senior management, and government can take to retain good mathematics teachers.

Teaching Committee, and in particular the Post-16 Subcommittee, has also worked to encourage more young people to continue their study of mathematics at university. Inspirational teaching obviously helps, and we have welcomed

the catalyst of the Standards Unit professional development materials encouraging much greater active engagement at all levels of mathematics education. We have discussed with the past and current chairmen of the British Association for Science Education how we can best move our national culture towards more greatly valuing science, technology, and in particular, mathematics expertise, and we are actively working with NAGTY to evaluate and promote the most fruitful ways of working with the most able of our young mathematicians. Politicians come and go, but a poor supply of young mathematicians is apparently an intractable long-term problem at a national level. Retaining good maths teachers at all levels is a medium-term goal which surely must help; meanwhile, those in or near classrooms, recharged by their Easter MA Conference, need to believe that they are valued, and that they do make an enormous difference to the individual young people who are choosing the directions for their future lives.

Teaching Committee, then, is alive and busy. It is kept functioning in particular by the Secretary, and mention should be made of Geoff Tennant’s sterling work over his years in that role – thank you Geoff! As I hand over the chair to Doug French, I should like to thank all those who serve on the committee or its subcommittees, sometimes both, for their hard work and good humour, and time freely given.

*Jennie Golding (Chair of Teaching Committee)*

### Subcommittee Reports

118 ICT

*Chair* - Adrian Oldknow, tc-118@m-a.org.uk

The subcommittee was originally formed to write a report (on Symbol Manipulation), and has continued as a standing group which discusses issues by e-mail when they arise. It has convened a couple of working of conferences – to produce a report for the Teacher Training Agency and lesson materials for the maths strand of the KS3 Strategy. Since the re-orientation of DfES policy on embedding ICT in subjects, the ATM and MA have worked together on a series of funded projects administered by the professional officers, drawing on the expertise of individuals within the group, rather than with the committee itself. In the current climate, that is without professional officers for either ATM or MA, with DfES playing a less hands-on role for ICT, with Becta having an enhanced remit, with the development of the National Centre for Excellence in the Teaching of Mathematics, with the new focus on STEM etc. it appears more likely that the subcommittee will have an important role to fulfil – and hence its current review of membership. The first task for the group is to advise Becta on mathematics specific issues concerning video conferencing in supporting teaching and teachers in schools.

120 Leading a Mathematics Department

*Chair* - Robin Bevan

A full six years after the idea of a new (updated and revised) handbook for Heads of Mathematics was first suggested, and *Leadership to Count On* rolled off the press during 2005. The process of generating the new handbook brought together a diverse team of dedicated mathematics teachers, all of whom seemed to relish the opportunity to share ideas and approaches from their own recent experiences. It was particularly satisfying to know that every idea in the book is based on something that is actually done by a Head of Mathematics somewhere in the UK. Thanks are due to each and every person who was involved along the way: from the first phone call from Doug French, through Will Connolly’s expert initiation of the project, to the

final assistance from headquarters staff and punctilious proof reading!

The handbook seems to be selling well, and has sustained (for what it's worth!) an Amazon sales rank in the top 750,000 ... almost certainly the UK's best-selling guide for Heads of Mathematics.

During 2006, building on the success of the publication, three related training events were planned for aspiring, new and experienced Heads of Mathematics. The huge variations in contexts and needs for the delegates was a sustained challenge but the material was readily adapted for the smaller audiences in Leicester and Sheffield; and support from one of the other contributory authors – Fiona Hogg (<http://www.fionahogg.com/>) – ensured that the larger London event met most requirements.

The subcommittee's work is done (but see below).

121 Primary

*Chair* - Lynne McClure, [tc-121@m-a.org.uk](mailto:tc-121@m-a.org.uk)

The last time this subcommittee met face to face was in 2005. However the virtual communication has been maintained, and has been mostly in the form of requests for responses to government documents or intended actions as well as sharing information of topics of interest. The membership of this virtual group has increased over the year to include other interested practitioners. Many of the subcommittee members are regular contributors to the *Primary Mathematics* journal.

The next face-to-face meeting will take place at the 2007 MA Annual Conference, and in May there will be a meeting to take forward the embryonic plans for a new publication for the primary audience.

129 Post-16

*Chair* - Peter Thomas, [tc-129@m-a.org.uk](mailto:tc-129@m-a.org.uk)

The subcommittee addresses issues in non-university post-16 mathematics education and develops materials to enhance provision. Its members, from schools, further education and higher education, meet once a term in London.

Much of the subcommittee's time has been taken up with discussing proposed and impending developments in mathematics education; this discussion has helped to inform the Association's position on several of the issues involved. The subcommittee also circulates an email newsletter, to keep people up-to-date, about once a month.

A second series of five posters for the A-Level mathematics classroom was published at the Association's 2006 Annual Conference. They are on *Continuous Data*, *Discrete Data*, *Radians*, *The Cosine Function* and *The Sine Function*. It is hoped that they will prove as successful as the first series. At the conference, the subcommittee organised a *Post-16 Forum*, on current developments in post-16 mathematics, and a session on *Advanced Revision*.

This year has also seen the publication in *Mathematics in School* of series of articles written by Graham Winter to provide background and enrichment for GCE Mathematics.

At present, the subcommittee is revising its booklist for sixth-formers. The new edition is to be published at the Association's 2007 Annual Conference, where the subcommittee will lead a *Post-16 Open Meeting*. The subcommittee is also beginning a project to publish a collection of comprehension exercises for A Level based on those used in past MEI examinations.

During the year, Jennie Golding left the subcommittee, on becoming Chair of Teaching Committee; we are very grateful to her for her substantial work over the years for the subcommittee. More recently, Brian Brooks has joined the

subcommittee, giving us again an input from the independent sector. The subcommittee has several long-serving members but it is also keen to recruit new members.

132 11 – 16

*Chair* - Mary Ledwick, [tc-132@m-a.org.uk](mailto:tc-132@m-a.org.uk)

The subcommittee is very active and several new members have joined the subcommittee over the last year, including some early in their careers.

The subcommittee has been much involved in helping to formulate the Association's response to several government initiatives and consultations. The subcommittee is concerned at the pace of reform and the seeming lack of weight placed on the views of teachers in designing the reforms. Nevertheless, it will continue to participate in the Association's engagement with Government whenever the opportunity arises.

At present the subcommittee is working on its activities pack for maths clubs, multi-faith resources, posters, materials relating to the *Beyond the Bar Chart* project and a new edition of *Can You Prove It?* Some of these are resources are nearing completion and it is hoped that they will be published in the coming year.

Members of the subcommittee are also running several sessions at the 2007 MA Annual Conference, including an *Assessment for Learning Workshop* and a session on *Mathematics across the curriculum*.

#### **Subcommittees New and Old**

Subcommittee 120 is being re-formed as the Beginning as Mathematics Teacher Subcommittee, with Jennie Golding ([tc-120@m-a.org.uk](mailto:tc-120@m-a.org.uk)) as chair, with a view to producing new guidance to those beginning their careers as mathematics teachers.

The Teaching and Learning Undergraduate Mathematics (TALUM) Subcommittee (Subcommittee 93) is dormant but new ways are being explored of developing the MA's engagement with higher education.

The Spreadsheets 14 – 16 Subcommittee (Subcommittee 123) has been dissolved.

The Mathematics for World Faith Festivals Subcommittee (Subcommittee 131) has been dissolved and its work has been subsumed into that of Subcommittee 132.

Membership: March 2006 – February 2007

#### **Officers**

*Chair* - [tc-chair@m-a.org.uk](mailto:tc-chair@m-a.org.uk)

Charlie Stripp, MEI, *to 11.04.06*

Jennie Golding, The Woodroffe School, Lyme Regis, Dorset *from 11.04.06*

*Vice-Chair* - Jennie Golding, The Woodroffe School, Lyme Regis, Dorset, *to 11.04.06*

*Secretary* - [tc-secretary@m-a.org.uk](mailto:tc-secretary@m-a.org.uk)

Geoff Tennant, University of Leicester, *to 19.06.06*

Peter Thomas, Hills Road Sixth Form College, Cambridge, *from 20.06.06*

*Treasurer* - [tc-treasurer@m-a.org.uk](mailto:tc-treasurer@m-a.org.uk)

Lynne McClure, University of Edinburgh

#### **Elected Members**

Sue Forrest, The Piggott School, Wargrave, Berkshire, *from 27.01.07*

Jane Imrie, National Centre for Excellence in the Teaching of Mathematics

Mary Ledwick, Colne Park High School, Colne, Lancashire

Susan Wall, Wilberforce Sixth Form College, Hull, *from 27.01.07*

**Ex-Officio Members**

Secretary of the Association, Bill Richardson  
 Representative of Branches Committee, Anna Dunlop to  
 13.04.06 and Geoff Tennant from 13.04.06  
 Editor-in-Chief, Peter Bailey  
 Chair of Publicity and Membership Committee, Paul Harris  
 from 11.04.06  
 MA Senior Administrator, Marcia Murray  
 Peter Thomas (secretary)

**Curriculum Policy Group**

The Curriculum Policy Group, which works closely with Teaching Committee, exists to coordinate the Association's responses on matters relating to the curriculum. There continue to be a vast array of changes in varying stages of formulation or implementation and it is increasingly difficult to keep track of everything and respond appropriately. It is perhaps noteworthy that ACME, in response to this continuing process of excessively rapid change, has embarked on a project to investigate the management of change. The Association is well represented on ACME and its Outer Circle and we have contributed widely to its debates on many issues so the development of this project will be watched with interest.

The three subject associations – MA, ATM and NANAMIC – have established a pattern of regular meetings to discuss curriculum issues with Mick Waters, Head of Curriculum, QCA and Tina Isaacs, who is responsible at QCA for strategic management of post 14 qualifications. The MA has been represented at each meeting by two of Sue Singer, Barry Lewis and Doug French depending on availability. These meetings originated because of concern about the demise of mathematical representation on the permanent staff of QCA. We are pleased that Sue Pope has now been appointed as Programme Manager with responsibility for mathematics.

We have used the opportunity presented by these meetings to debate a wide range of concerns particularly those relating to the development of 14 to 19 pathways as recommended in the Smith Report. A lot of debate has focused on a second GCSE in mathematics where many details remain to be decided, although it has been decided that both GCSEs will cover the whole of the current National Curriculum and that there will be two tiers in line with the recent change to the current GCSE. We submitted a set of example questions to QCA and others to present our view as to how the second GCSE should be developed with a focus on solving problems. Our approach seems to have been viewed favourably. The decision by QCA to abandon GCSE coursework with effect from the 2009 examinations was welcomed by many teachers, although concerns remain about how Using and Applying Mathematics will now be assessed through written papers. Functional skills remain a very worrying problem area where it is far from clear what is happening and what form final decisions will take, particularly with regard to how their assessment will be linked to GCSE assessment. New proposals on post-16 mathematics are also being worked on and we continue to monitor what is happening and seek to influence events.

A wide range of MA members have been present at ACME day conferences held at the Royal Society during the year. These contacts are particularly important because ACME's chair, Sir Peter Williams, together with Adrian Smith and Celia Hoyles, have regular meetings with Lord Adonis, the schools minister. The Association responded to the review of the Primary National Strategy Framework, to QCA's Review of Key Stages

3 and 4 and to the DfES's consultation on *Making Better Progress*, which appears to be advocating more, but shorter tests, as a way of monitoring students' progress, something about which we have grave reservations since it will only add to pressures to 'teach to the test'.

Written evidence was submitted to the House of Lords Select Committee on Science and Technology who were investigating the fall in the number of A level entries in science and mathematics and the role of teachers and teaching methods in reversing this decline. Teaching Committee is working on a response to an inquiry on testing and assessment by the House of Commons Select Committee on Education and Skills.

We welcomed the Ofsted Report *Evaluating Mathematics Provision for 14-19 Year Olds*, which included interesting comments on 'teaching to the test' accompanied by useful examples of good and bad practice.

Free copies of the report of our project funded by the Gatsby Foundation, *Career Patterns of Secondary Mathematics Teachers*, have been distributed widely and a follow up project is producing a leaflet, *Retaining Good Mathematics Teachers in Schools and Colleges*, which will be distributed to all secondary schools and colleges and other appropriate individuals and groups.

Doug French

**The British Mathematical Olympiad Sub-trust**

The July 2006 international Mathematical Olympiad was held in Slovenia. The UK team of six emerged with four silver medals and one bronze, and an honourable mention (indicating full marks on a question), to put the UK 19<sup>th</sup> equal out of the 90 countries participating.

This summer's IMO is due to take place in Vietnam in July. Preparation for this has included training camps in this country and in Hungary, together with problem sheets for those likely to qualify. The team is selected on the basis of the Trinity College Training session at Easter, following the two rounds of the British Mathematical Olympiad.

The BMO is now open access, with a charge, which is waived for students who have scored highly in the previous round (SMC or BMO1) and who would qualify by residence to represent the UK in the IMO. For the second year a CD of solutions to BMO1 was produced and sent to all participating schools.

The mentoring scheme continues with four levels now, covering Years 7 to 13.

The Summer School at Birmingham for pupils from Years 10 to 11 ran well last July. It is planned to run two separate weeks this year to benefit a larger number of pupils.

Philip Coggins (MA representative)

**United Kingdom Mathematics Trust (UKMT)**

The number of students taking these challenges continues to rise. This year the numbers were as follows:

JMC (April 2007) entries: over 287,500; marked: over 248,000 students took part.

IMC (February 2007) entries: 252,860; marked: over 202,000 students took part.

SMC (November 2006) entries 80,660; marked: over 57,000 students took part.

As well as the main challenges, UKMT also offer a range of other events and activities for students and for teachers. There is now an established Team Competition each year for teams of four 12 to 14-year olds progressing from regional competitions to the big national final. In addition, the popular teacher meetings continue to take place.

Students continue to benefit from the mentoring scheme.

In 2007, the IMO was held in Hanoi and the team came back with 1 gold and 3 bronze medals and two Honourable Mentions.

The dates for the challenges in 2006-2007:

Junior Challenge (ages 11-13) Thurs. 1st May 2007

Intermediate Challenge (ages 13-16) Thurs. 7th Feb 2007

Senior Challenge (ages 16-18) Thurs. 8th Nov 2007

In addition to these three challenges, students who do well are invited to take part in the follow-on rounds, the Junior, Intermediate and British Maths Olympiads and the European Kangaroo.

The Chair of UKMT is still Professor Bernard Silvermann. (For more details look on the UKMT website: [www.ukmt.org.uk](http://www.ukmt.org.uk))

*Bill Richardson*

## **Court of Loughborough University**

### **Report of the Court of Loughborough University held 16 February 2007**

The Annual Report to court for 2006 was presented by the Vice-Chancellor, Prof. Shirley Pearce, following her first full year in office. She noted that it was a significant year in HE with £3000 top-up fees introduced and industrial action *almost* leading to universities not being able to graduate their students. Nevertheless Loughborough recruited to all its targets and maintained good relations with staff and students!

In this second year of the government initiated National Student Survey the overall results to date put Loughborough in first place. The Times Higher Education Supplement's "Best Student Experience Award" based on students voting – was won by Loughborough, and the University was placed sixth in the Times Good University Guide, the highest placed provincial university.

Loughborough continued to combine its excellent teaching performance with strong research – income at £31.5 million in 2006 representing a 31% increase over the past 4 years, with an average of over 2 postgraduate research students per member of staff.

Sporting achievement flourished – with 30 medals won at the commonwealth games by Loughborough sportsmen and women. 1600 school pupils attended the campus during the year for sports development activities.

To end on a mathematical note, the HEFCE-funded Centre for Excellence in Teaching and Learning for Mathematics and Statistics Support (Joint with Coventry University) continued to flourish and develop, and Loughborough's "A-Level Maths Card" – a credit card size folded A4 sheet containing basic information – which many schools have received – won the most recent HEIST Gold Award for best Direct Marketing Campaign.

*David Green (MA representative on the Court)*

## **Headquarters**

Another busy year completed and the diversity of work remains unchanged. Having put in place successful procedures to avoid the membership administration problems experienced in 2004-2005, it is with frustration that I have to apologise for the error in the 2007 direct debit collections for personal members. This was a software design problem, for which, retrospectively, the company provided a correcting patch.

Khurshid Sheikh left the Association in June 2006. For a six month period commencing 30<sup>th</sup> October 2006, Cheryl Dwyer provided some additional clerical assistance. After fifteen years working for the Association, Ann Goddard left to live on the

Isle of Wight. Emma De Riso increased her part-time hours to full-time hours, and took over sales administration. Thanks to HQ staff for their hard work and commitment.

### **At April 2007, the Headquarters Team is:-**

Senior Administrator - Marcia Murray

Finance Officer - Linda Medhurst

Membership Officer - Brett Richardson

Clerical Administrator - Cheryl Dwyer

Clerical Assistant - Anne-Marie Brown

Clerical Assistant - Emma de Riso

*Marcia Murray (Senior Administrator)*

## **Rules & Regulations**

Rules and Regulations can be viewed at: <http://www.m-a.org.uk/association/organisation/regulations/>

<http://www.m-a.org.uk/association/organisation/rules/>

Please contact Headquarters if you require a hard copy of the page.

## **The Council (April 2006 to March 2007)**

President	Mr Doug French
Immediate Past President	Mrs Sue Singer
President Designate	Mr Rob Eastaway
Chair of Council	Mr Barry Lewis
Secretary	Mr Bill Richardson
Treasurer	Mr Michael Fox

## Chairs of Committees

Branches	Mr Keith Cadman
Conferences	Prof. Alan Camina
Editorial Board	Mr Peter Bailey
Professional Development	Mrs Alison Clark-Wilson
Publications	Mr Paul Metcalf
Publicity and Membership	Dr Paul Harris
Teaching Committee	Mrs Jennie Golding

## Members without Office

Mr Martin Bailey
Dr Tony Barnard
Mrs Jane Imrie
Mr Nick Lord
Mrs Mary Ledwick
Prof. Adrian Oldknow
Mrs Helen Russell
Mr Charlie Stripp
Mrs Ruth Swinton

## REPORT OF THE COUNCIL: YEAR ENDED 31 DECEMBER 2007

The Council, who are also trustees, present their report together with the financial statements of the Charity for the year ended 31 December 2006. The financial statements have been prepared in accordance with the accounting policies set out on pages 10 to 11 and comply with the Charity's trust deed and applicable law.

### Governing Document

The Mathematical Association was founded in Great Britain in 1871 and is a registered Charity governed by its Rules and Regulations (charity number 313281). Anyone can become a member of the Association, and there are currently 4,784 members.

### Objectives and activities

The objects of the Association are to effect improvements in the teaching and learning of mathematics and its applications; and to provide means of communication among students and teachers of mathematics and other interested persons.

In furtherance of the objects but not otherwise the Council may exercise the following powers:

- ◆ To publish periodicals and other items
- ◆ To provide and maintain a library.
- ◆ To employ staff including a chief executive (who shall not be members of the Council) as are necessary for the proper pursuit of the objects and to make all reasonable and necessary provision for the payment of pensions and superannuation for staff and their dependants.
- ◆ To provide professional development opportunities through annual conferences and other courses.
- ◆ To do all such other lawful things as are necessary for the achievement of the objects.

### Appointment of Trustees

The elected twenty-two members of Council are its trustees and monitor the business of the Association. There are three officers, the Chair, Treasurer and Secretary, each elected annually and not allowed to hold office for more than five years. There is a President, President Designate and Immediate Past President, who each hold office for a period of one year; there are seven Chairs of Committees elected annually and who may serve one term of four years, and nine Members-without-office who may serve two terms of three years. The Association members at the Annual General Meeting elect all members of the Council, with the exception of the President who is elected by Council.

All members, via the October MA News, are advised of any retiring trustees and invited to nominate trustees by notifying the Senior Administrator by the 31st December. The agenda for the AGM is published in the February MA News. Currently, the AGM is held during the Annual Conference and this takes place during the school Easter holiday. Council is mindful of the benefits of it having representatives from primary, secondary, further and higher education.

### Trustee induction

New trustees, if they are to be unopposed at the AGM, are invited to sit in on the March Council meeting. Each receives a folder with pertinent information regarding the Association. From time to time they are given Charity Commission update leaflets to brief them on their legal obligations under Charity law. At the moment there is no formal induction day held to train new Trustees but the Association Officers are available to

mentor new trustees.

### Organisation

The Council, which can have up to twenty-two members, administers the Charity. Council meets four times a year. There is a Standing Committee, made up of the three officers, the President and one nominated Member-without-office, empowered by the Council to conduct business on its behalf, which also meets three times a year. In addition, there are seven committees, branches, conference, editorial board, publications, publicity and membership, professional development and teaching. There are seven employees on the payroll based at MA Headquarters in Leicester. To facilitate effective operations the Senior Administrator has delegated authority, within terms of delegation approved by the trustees, for operational matters including finance, employment and work performance related activity.

### Risk Management

The trustees have examined the major strategic, business and operational risks which the Charity faces and through regular reports to the Council and Standing Committee meetings, and dialogue between the Treasurer and Senior Administrator, confirm that systems are established to lessen these risks.

The trustees have a risk management strategy comprising of: -

- ◆ An annual review of the risks the Charity may face;
- ◆ The establishment of systems and procedures to mitigate any risks;
- ◆ The implementation of procedures designed to minimise any potential impact on the Charity should any risks materialise.

This work has identified several non-financial risks during 2007; most notably attention has focussed on risks arising from fire, and staff health and safety. Trustees annually agree the setting of a reserves policy in order to manage aspects of financial risks.

### Achievements and performance

In 2006 the MA has achieved the following for its members and the UK mathematics community in general:

- ◆ Organised the annual conference.
- ◆ Been invited to help the QCA gather data on the impact of assessment.
- ◆ Raised a number of issues (including coursework, functional maths and double award for example) with the QCA, and it has established regular meetings with key personnel at the QCA.
- ◆ Published letters in the press responding to government initiatives.
- ◆ Delivered DfES funded 'Embedding ICT Roadshows' in 7 of the 9 regions of England which is focused on raising the level of effective use of ICT in Mathematics.
- ◆ With partners Intel, awarded the BETT Award 2006 for best KS3/4 mathematics software. This free software is hosted on the London Grid for Learning (LGfL) website.
- ◆ Provided a professional presence throughout the whole of the BETT Show and the Education Show, giving presentations at both events.
- ◆ Held the Primary Mathematics Challenge (PMC) 2005-2006 Finals in February, and the PMC 2006-2007 Challenge in November.

In addition the Mathematical Association has published the following books and other materials in 2006:

- ◆ *Career Patterns Of Secondary Mathematics Teachers* (free publication funded by the Gatsby foundation).
- ◆ *Raising The Profile*
- ◆ *Resource Pack For Assessment For Learning*
- ◆ Posters: A Level Posters Series 2.

The Mathematical Association also publishes the following journals and newsletter:

- ◆ *Mathematical Gazette* – 3 issues
- ◆ *Mathematics in School* – 5 issues
- ◆ *Primary Mathematics* – 3 issues
- ◆ *Equals* – 3 issues
- ◆ *Mathematical Pie* and *Pie Notes* – 3 issues
- ◆ *SymmetryPlus* – 3 issues
- ◆ *MA News* – 3 issues

During 2006 JSTOR, an organization that has a dual mission to create and maintain archive of important scholarly journals, asked the MA if it could include the Mathematical Gazette in its archives. As JSTOR offers researchers the ability to retrieve high-resolution, scanned images of journal issues and pages as they were originally designed, printed and illustrated, Council welcomed this. After a lot of work, issues from 1894 to 2001 are now included on the JSTOR website.

#### Financial Review

Members of Council are mindful of the on-going need to improve the financial standing of the Association. Council has a rigorous policy towards the management of its resources and finances.

The long-term future of the Association depends upon its ability to maintain and strengthen its membership base, as well as ensuring that sufficient funding is secured to support its various undertakings. A marketing consultant has been working with the Association for a number of years and continues to advise on how to maintain and increase membership. In 2005 Council decided that the membership recruitment mailing campaign should be rested in 2006. However, at the end of 2006 Council agreed to a secondary school recruitment mailing in February 2007, and to further ones being carried out later in the year if resources permit.

Council has encouraged professional development activities to take place and has recognised that the various projects and the one-day conferences have been a good source of income, and importantly have helped to raise the profile of the Association across the mathematics community. During 2006 it employed a Senior Professional Officer to seek out and manage projects.

In 2005 a deficit of £87,169 was reported, whilst in 2006 a deficit of £95,043 is reported. Council acknowledge that during these two years reduced professional development funding, one-day conferences income, significant loss on the Annual Conference and falling membership, have all contributed to the situation, whilst at the same time increased expenditure on staffing costs, print, paper and post etc., has increased.

#### Reserves policy

It is the policy of the Association to maintain sufficient general funds to cover management, administration and support costs, and to enable it to respond to any further approved projects which may arise from time to time.

#### Plans for future periods

The major financial concern for the Association will be to avoid future deficits in its year-end accounts. This means the Association needs to actively increase its membership base, continue to provide one-day conferences and courses and increase the Primary Mathematics Challenge school participation, in order to generate income.

During 2006 work has been going on with regard to the Association becoming a company limited by guarantee. This has been handled by Nelsons Solicitors and overseen by the Association Secretary. It is anticipated that completion will be in time for the announcement to be made at the April 2007 AGM.

#### Provision of information to auditors

So far as each of the members of Council are aware at the time of this report is approved:

- ◆ there is no relevant audit information of which the Charity's auditors are unaware, and
- ◆ members of Council have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditors are aware of that information.

By order of the Council  
Mr. B. Lewis  
Chair of Council

**INCOME AND EXPENDITURE ACCOUNT: YEAR ENDED 31 DECEMBER 2006**

	2006	2005
<b>INCOME</b>		£
Members' subscriptions	250,662	261,921
Transfer from Life Membership Fund	2,928	6,417
Donations	1,153	7,155
Editorial board	22,291	26,725
Publications	40,181	26,762
Annual conference	38,117	69,937
Branches' income	2,732	3,241
Miscellaneous income	629	2,630
Professional Development income	110,736	118,101
Primary Maths Challenge	69,500	71,266
	<u>538,929</u>	<u>594,155</u>
<b>EXPENDITURE</b>		
Editorial board	141,323	146,362
Publications	18,141	12,977
Publicity expenses	7,469	12,913
Annual conference	45,767	56,056
Teaching Committee	4,635	4,748
Council, branches and other Committee meeting expenses	14,197	10,947
Administration	201,011	186,173
Designated Fund expenditure	19,596	42,529
Depreciation	8,653	8,653
Professional development costs	138,883	164,436
Branches' expenditure	2,287	4,651
Website expenses	2,593	473
Primary Maths Challenge	40,925	43,788
	<u>645,480</u>	<u>694,706</u>
<b>OTHER INCOME</b>		
Rents receivable	3,392	2,679
Interest receivable	8,116	10,703
	<u>11,508</u>	<u>13,382</u>
<b>OPERATING SURPLUS</b>	<u>(95,043)</u>	<u>(87,169)</u>

**BALANCE SHEET: 31 DECEMBER 2006**

	2006 £	2005 £
<b>FIXED ASSETS</b>		
Tangible assets	272,112	280,765
<b>CURRENT ASSETS</b>		
Stocks	31,343	31,002
Debtors	46,415	28,815
Cash at bank	215,592	325,57
	<u>293,350</u>	<u>385,354</u>
<b>CREDITORS:</b>		
amounts falling due within one year	(130,931)	(136,545)
<b>NET CURRENT ASSETS</b>	<u>162,419</u>	<u>248,809</u>
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>	<u>434,531</u>	<u>529,574</u>
<b>REPRESENTED BY</b>		
Unrestricted Funds	381,483	453,845
Restricted Funds	53,048	75,729
	<u>434,531</u>	<u>529,574</u>

Approved by the Council on 12 April 2007

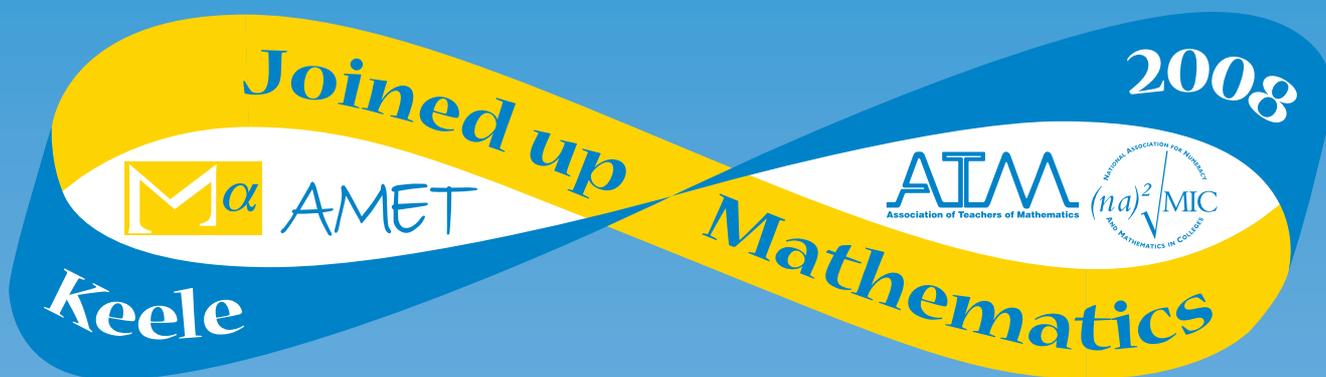
Mr Barry Lewis - Chair of Council

Mr M. D. Fox - Treasurer

**Mathematical Association : List of Bodies and our Representatives 2006/2007**

(n.b. Where formal representation is not invited we have established informal links.)

<b>Acronym</b>	<b>Body</b>	<b>Committee</b>	<b>Representative/Link</b>	<b>Comments</b>
ACME	Advisory Committee on Mathematics Education	Established jointly by Joint Mathematical Council and Royal Society Council	None at present	
ASSET	The Association of Science Engineering & Technology		None at present	
BATH	University of Bath	Court of the University	None at present	
BCME	British Congress Mathematics Education	Joint representation JMC, ATM, MA, NANAMIC, LTSN, IMA, AMET, RSS, BSRLM, NAMA, BSHM, LMS	Mr W P Richardson	
CITS	Department of Education and Employment	Curriculum IT Support Groups for Mathematics	Mr R Bridges	
EFAMT	European Federation Association for Mathematics Teachers		Prof. A Oldknow	Informal link
IMA SFESA	The Institute of Mathematics and its Applications	Schools and Further Education Service Area	Mr P Thomas	Informal link
JMC	Joint Mathematical Council	Council	Mr B Lewis	
LOUGH	University of Technology, Loughborough	Court of the University	Dr D Green	
OCR	Oxford, Cambridge and RSA Examinations	Mathematics Qualifications Panel	Mr A Osbaldiston Mr R Barbour	Currently dormant
OECD- PISA	Organisation for Economic Co-operation & Development - Programme for International Student Assessment	English steering group	Mr R Ashley Mr R Barbour	Currently dormant
PA	Publisher's Association	Teacher Publisher Liaison Committee	None at present	
QCA	Qualifications and Curriculum Authority	National Curriculum Monitoring	Mr D French	
SAWG	Subject Associations Working Group	ASE, MA, ATM, GA, DATA, HA, GA	Mrs A Clark-Wilson Ms M Murray Mr B Lewis	
SETNET	Science Engineering Technology and Mathematics Network		Mr W P Richardson	
SSAT	Specialist Schools and Academies Trust		Prof. A Oldknow	
UKMT	United Kingdom Mathematics Trust	Council	Dr. J Silvester	
BMOC	British Mathematical Olympiad		Mr P J Coggins	



# MA-ATM-NANAMIC-AMET COMBINED CONFERENCE

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2nd - 5th April 2008

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Rob Eastaway, Mike Askew

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