



# ANNUAL REPORT 2015-2016

MATHEMATICAL ASSOCIATION



supporting mathematics in education

## President's Report

It is hard to know what to report. Some of my predecessors have produced remarkably interesting accounts of their development as mathematicians and teachers through school, university and professional life. In my case, however, that personal development, the story of my life, is hardly the stuff that annual reports are made on.

My report should say that, as President 2015/16, I presided over something. If I did so, it was only in title. MA Council is not presided over by the MA President. That is the role of Chair of Council. In my time as President-elect, President, and now Immediate Past President, the job, a huge one, has been done with immense conscientiousness and competence by Adam McBride (to Easter 2015) and by Peter Ransom (from that date).

I have not managed to trace how long I have been an MA member. I probably joined in about 1960, as a first- or second-year undergraduate. One stimulus could well have been that I was the student representative on the committee of ODBMA, the Oxford and District Branch of The Mathematical Association. Another might have been suggestions by my parents, both of whom were members.

Let me digress for a paragraph from reporting on presidential experience during the year to reporting on my parents' activities. They migrated to Canberra in 1962–63, my father, B.H. Neumann, to be Professor and Head of the newly created Department of Mathematics in the Institute for Advanced Study of the Australian National University, my mother, Hanna, to be Reader in that department, but very soon promoted Professor and head of Pure Mathematics in the School of General Studies of the ANU. Within a few years my mother became one of the prime movers who created the Australian Association of Mathematics Teachers, of which my father was selected as first President. As I sit writing this on a flight across the continent from Canberra via Sydney to Perth in Western Australia, I realise with sadness that I have missed an opportunity during my presidential year to create links (or to strengthen links if any already exist) between the MA and the AAMT. Hindsight is the story of my life.

Fifty years ago, early in my teaching career at Oxford, two similar but unrelated (I think) events occurred. One was the foundation of the Institute of Mathematics and its



Applications by a group of mathematicians, mainly applied mathematicians, industrial mathematicians and mathematicians in schools, who, with good reason, felt that the London Mathematical Society had evolved into a body with little to offer them. The other was the foundation of the Association of Teachers of Mathematics by a group of school teachers who felt similarly that The Mathematical Association had evolved into a body that had little to offer them. I joined neither, but I should have joined both. Over this last half-century the IMA and the LMS have grown more similar; likewise, over this same period differences between the outlook and function of the ATM and the MA have significantly diminished. There are strong reasons for wishing that the LMS and the IMA would merge, namely that, in dealing with the world outside, especially with government and the civil service, one large representative voice is always far more effective than two separate voices. For the same reason it is my strong wish to see a merger of the MA and the ATM. In both cases, had I joined IMA and ATM in their early years,

my voice might possibly have had a better chance of being heard when it mattered. Hindsight is the story of my life. Enough of regrets. One (amongst many) great pleasures of my presidency was that my secret wish that the MA might hold its Annual Conference in Oxford once again was gratified. I was born in Oxford and Oxford has been my real home ever since I returned as a nervous undergraduate in October 1959. It gave me very great pleasure to welcome MA members to my home ground, to meet many old friends and to make many new ones, and to show off the wonderful Andrew Wiles Building which has housed the Oxford Department of Mathematics since October 2013. One might expect Oxford to be an expensive venue. I do not know yet what financial damage this year's Annual Conference will turn out to have inflicted on the MA accounts, but there were some slight indications that it may not have been as large as a rational person might guess. I can maintain some hope that what I estimate to have been the great intellectual and social success of the meeting has not come at unbearable financial cost.

Another great pleasure of my presidency has been that of seeing the MA machine in effective operation. As I have written in my columns in *MA News*, the MA committees do a great job. The Association is blessed with volunteers who are so dedicated that anyone like me, coming in from the outside (as it were) is considerably humbled and enormously impressed. The Association is also blessed with office staff at the Leicester HQ who do a great job. I finish with the hope that Jennie Golding, my successor, and Tom Roper her successor-to-be, have as enjoyable and rewarding a tenancy of the presidency as was accorded to me.

**Peter M Neumann (President 2015-2016)**

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

This is my first report as Chair of Council and my first remark is one of great thanks to Adam McBride for his five-year term as the previous Chair and for his leadership during that period. It was a daunting prospect for me to take on this post (and perhaps a rather worrying time for the rest of Council to see if they had made the right choice!), but it is one which I have enjoyed immensely and I treasure the support of my colleagues, without whom The Mathematical Association would not flourish.

So that you have some idea of what Council does, it meets quarterly on Saturdays at MA Headquarters. The normal pattern for a Council meeting is to start at 10.30 and finish at 15.30 with a lunch break of roughly 30 minutes. At the end of that time we are all mentally exhausted! During that time a huge amount of business has to be transacted. Major items come at the top of the agenda. Later on in the meeting, some reports from committees might be accepted without debate when there are no major issues. News from our meetings is written up by our Secretary, Chris Pritchard, and appears in *MA News*, so you can read about the transacted business there.

About a month after each Council meeting there is a meeting of Standing Committee (SC). During the past year

we have used Skype to minimise the time some members of SC spend in travelling to HQ as I felt it was less of an imposition on SC members' time to involve them this way than perhaps spending up to 8 hours or more travelling on the train. The Treasurer, Bill Richardson, the Senior Administrator, Marcia Murray, and myself attend in person at HQ and the other members, the President, Peter Neumann, the Secretary, Chris Pritchard, the Immediate Past President, Lynne McClure and a Member without Office, in this case Tom Roper have joined us by Skype. This, I feel has streamlined Standing Committee by having the meeting for a maximum of two and a half hours, and leaving Bill, Marcia and myself to deal with any follow-up required by the meeting. We met at the end of the Annual Conference to review this procedure and to see whether it continues next year or is modified in some way. It was decided that we would move the April meeting of SC away from the Annual Conference and have one meeting that in principle does not involve Skype. Each SC meeting reviews the outcome of the previous Council meeting and prepares the ground for the next. SC has the power to act on Council's behalf if an issue arises which has to be handled quickly but it has to report to the next Council meeting on the action it has taken. Often these are dealt with through email.

The new website has been running for about nine months now. It automates a lot of the mundane tasks currently performed by HQ staff for membership, publications and events and we continue to listen to comments from members on how improvements can be made. There is also a separate website for the Primary Maths Challenge and that has proved very popular. It is not always as efficient as we would like due to schools often requiring invoices before they pay and at the moment that currently has to be done by the office.

Last year Adam McBride mentioned that we had signed a 5-year agreement with Cambridge University Press (CUP) in respect of *The Mathematical Gazette* which came into effect in January 2015. The view had been expressed by CUP that the *Gazette* was a great asset from which the MA was not deriving maximum benefit. CUP assists with the marketing of the *Gazette* while the MA retains editorial control. At the moment we are in discussion with CUP about the actual payments which will become clearer later in the year when the CUP accounts are complete. (They operate a different financial year from us and so specific figures are not available.) A small group meets with CUP from time to time to clarify matters arising.

The accounts for the year ended 31 December 2015 showed a loss of around £21,700. Although this sounds alarming it is complicated by the CUP situation amongst other things and our treasurer explained more at the AGM. Membership is always a concern and it was good to note that we recruited 78 new members in January-February this year compared with 66 in the previous year. Renewal notices were sent out on February 1 to those who had not renewed and a further reminder was sent out early in April. We would be delighted if each member could encourage someone to join during the coming year: membership is the life blood of our Association and we

need fresh blood so that we can keep up-to-date with current thoughts and needs.

The MA continues to work with the ATM and a small committee meets twice a year to discuss possible joint activities. In January we sent a joint letter to the National College for Teaching and Leadership (NCTL) about the lack of mention of our associations in their STEM CPD report and this is being addressed by NCTL. As well as co-operating on BCME9 (to be held in 2018), we are looking at the possibility of a joint conference in 2020 and every four years after that, so that in odd numbered years we hold individual conferences. We also encourage students to join both associations by offering a £5 voucher against the membership of each other's association when they join.

We work closely with other organisations as well. We (a maximum of two from me, Bill Richardson, Jennie Golding and David Miles) have attend the MMSA (Meetings of the Mathematical Subject Associations) three times a year. I represent the MA on the Mathematics Scholarship Management Group that meets four times a year; the Joint Mathematical Council (three meetings a year) and Cambridge Educational (though I have been unable to attend a meeting so far this year). I met with Matt Bulmer from the NCTL and Paul Glaister, the chair of the JMC amongst others mid-April to discuss the problems of teacher recruitment and retention. Jennie and I were at a round table meeting about teacher CPD organised by ACME in March. I work with the Prince's Teaching Institute doing sessions with NQTs and Heads of Mathematics, always promoting the MA and we give NQTs two years' membership of the MA to introduce them to the benefits of membership. They give up six Saturdays each year to attend and it is a delight to work with these enthusiastic teachers, nearly all of whom have not previously heard about the MA. Each Maths Hub has a MA contact: I am on the management group of the Solent Hub and have looked after the MA bookstall at a conference of the Sussex Hub. Each Maths Hub has been given an Institutional Membership of the MA and this has been extended to them this year if they wish to avail themselves of the offer. I hope that the London Mathematical Society (LMS) are now more aware of what we do through our presence at their Education Committee meetings four times a year. They support teachers at conferences like our own through the small grants scheme that we mention on our website. This year some teachers at our Annual Conference have been awarded grants of £150 from the LMS.

The various committees are a vital part of the MA. Reports on their activities can be found in this Annual Report.

As Chair of Branches, Dave Pountney has done an excellent job with the various Branches. I was present at the last Branches Committee meeting at HQ and there is interest being shown by the University of the Third Age (U3A) in our journal *SYMmetryplus*. The Professional Development Committee runs two highly successful annual events, namely a Secondary Conference at Stirling

in September (organised by Bill Richardson) and a Primary PD day at High Wycombe (organised by Julia Brown, Chair of the Committee and Ray Huntley). We hope to expand these professional development events next year to include one on teaching (the subject of) mechanics at sixth form level and another to help teaching assistants improve their subject knowledge of mathematics at key stages 3 and 4.

Teaching Committee (TC) carries by far the heaviest load of all committees. The deluge of consultations has continued unabated. We are fortunate to have a group of people who are able to mould a wide range of opinions into coherent and cogent responses and position papers. Although it might seem invidious to mention individuals, I should like to acknowledge the major contributions from Rachael Horsman and David Miles. Many of the fruits of their labours can be found on the *We Say* section of the website. That TC operates so effectively is a tribute to the huge amount of work carried out by Rachael as Chair and David as Treasurer. Rachael has been personally involved in a project with Oxfam to produce materials and we were delighted to welcome Oxfam to the Annual Conference. You may have seen the result of one of TC's Sixty Second Surveys in the October issue of *MA News*: it is important that such surveys take place so that we can support any of our responses to consultations with data, rather than rely on anecdotal evidence. Since Sue Forrest finished her term of office as Secretary, TC has been without a Secretary and so, if you are willing to help, please contact [tc-chair@m-a.org.uk](mailto:tc-chair@m-a.org.uk). David Miles has been the acting Chair of Publicity and Media since September (and was elected as Chair at the AGM) and we have seen our Twitter followers grow tremendously in that time – 3300 followers in September and 7578 on Wednesday 30 March: a number that you will instantly recognise as  $2 \times 3 \times 421$ .

We like to support our members whenever possible and in December we awarded seven bursaries of £400 each to people who applied for them to attend the International Congress on Mathematical Education (ICME-13) in Hamburg this July 2016. I was also on the ICME bursary awarding body of the JMC and they also awarded bursaries of £400 in February.

We invited Simon Singh to become an Honorary Member and I am delighted to report that he accepted. He also agreed, after Jennie's invitation and subject to his engagements, to attend 2017 Annual Conference and deliver a plenary session, so we look forward to seeing him – AND YOU! – at Royal Holloway, Epsom, next year.

At the last Council meeting it was agreed that we should have a procedure for appointing Honorary Members and so I had great pleasure in asking members at the AGM (and this will happen every subsequent AGM) for written proposals that include a case made for their suggestion, to be received by 15th May so that Council can consider and make its decision at the June Council meeting. Future AGM agendas could state the necessary conditions needed as per the description of such a member on page 3 of the Articles of Association. This defines an "Honorary

Member” as ‘any person who has made a distinguished contribution to mathematical education or who has provided outstanding service to the Association’. So, suggestions are welcomed at any time, but will be considered each June.

Dave Pountney is now timed out as Chair of Branches, but he was elected as Member without Office at the AGM. There is always one other person standing down at each AGM, namely the retiring President. Peter Neumann takes a lively interest in MA affairs and never has a cross word for anyone. This is a great pity as I enjoy a crossword at the weekend. We heard his Presidential Address at the Annual Conference and this will appear in the November 2016 *Gazette*. He is succeeded as President by Jennie Golding.

Finally, I have now completed my first year as Chair. It is a great privilege and honour to work with all the MA members and mathematics teachers in one way or another. It has turned out to be more time-consuming than I thought at first which has been both enjoyable and, at times, challenging. My sincere thanks to all members of Council as well as members of all the committees and subcommittees who give up a great deal of their own time preparing for, travelling to and attending meetings and generally furthering the aims of the Association. I should also like to thank Marcia Murray and her staff at HQ for all their support and hard work behind the scenes. Our membership owes them a great debt of gratitude. Thank you for reading this report: may the force ( $F = MA$ ) be with you.

*Peter Ransom (Chair of Council)*

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### Branches Committee

The Branches Committee met twice during the year, once in October 2015 at HQ and also immediately after the MA Conference at Oxford in April 2016. At the October meeting, the morning was spent covering usual ‘Branches business’. Individual Branch programmes of events for the academic year were presented; Branch finances confirmed; Committee officers were elected; reports from other MA committees were received. The 5-year term of office of the current committee Chair (Dave Pountney) ended in April 2016 and nominations for the future Chair (Keith Cadman) and vice-Chair (Rob Smith) were received for consideration and approval in April 2016. The afternoon session was spent discussing individual Branch events. The closure of the London and Glasgow Branches was confirmed and funds held by these Branches had been recovered by the MA. On a more positive note, the continued activities at Exeter and Cambridge Branches were acknowledged and welcomed, and there were hopes that a contact in Ashford, Kent might lead to the development of a Branch in that area. It was also recognised that closer collaboration with maths hubs offered the best way forward in the development of future new Branches. The session also welcomed Dave Martin representing the U3A mathematics group. David’s presentation described the activities of their mathematics group and led to a discussion on areas of common mathematical interest between the MA and U3A. ‘Popular mathematics’ Branch lectures and the MA publication

SYMMetryplus, in particular, seemed likely to be of interest to U3A members. Further liaison opportunities are to be pursued.

Under the guidance of the newly elected Chair Keith Cadman, the April meeting focussed on the academic year so far. It was noted that Branch events run and planned were generally similar in number to 2014-15 and audience figures quoted were generally encouraging, particularly for teacher-oriented events and events aimed specifically at students. Possible speakers at Branch events were suggested and names and possible lecture titles would be circulated to Branches. The meeting discussed how advertising of Branch events could be better coordinated between *MA News*, MA website, MA e-Newsletter and targeted emails to MA members living locally to events, with the maintaining of Branches pages on the MA website being an issue. The Chair was keen to pursue contacts in London & Kent to try and establish a Branch (maybe a joint MA/ATM Branch) in SE England.

Branches Committee continues to try and encourage local Branch members to attend MA Conference. Again this year, Branches were invited to nominate members who had never been to MA Conference before to apply for a subsidy of £430 to cover the cost of a place at Conference. A member from the Yorkshire Branch was successful in her nomination and duly attended the Conference at Oxford. Her report of her experiences at Conference is awaited and will be published in *MA News* and elsewhere as appropriate, in an attempt to further promote the advantages to members of attending Conference. It is likely that this Branches initiative will be repeated next year.

In summary, 2015-16 has generally been one of steady progress for Branches. Trying to establish an MA Branch in or around London and the SE England remains a priority. Pressures on Branch activity remain, with some local Branch committees struggling to attract new (younger?) colleagues. Some Branches report good attendance figures and some appear to be ‘limping along’. 2015-16 has seen a good number of examples of well-run events, with many teachers and their students responding very positively about the benefits of such events. Local Branch officers remain enthusiastic about what they do. As ever, the Branches Committee, under its new Chair, will do everything it can to maintain and expand the activities of its Branches in the coming years.

*Dave Pountney (Chair of Branches)*

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### Annual Conference 2016

We were very pleased to have our Annual Conference in the Andrew Wiles Building at Oxford University this year. Oxford University Press was the main sponsor of the conference this year and their support was most welcome. Accommodation was in Keble College, just about 5 minutes’ walk from the venue and the weather was not a problem. Most attendees arrived on Friday 1<sup>st</sup> April, though one or two arrived (on purpose!) the previous day, some to help set up the conference, some to get settled in early or visit friends in the area. On the Friday morning for the twenty or so early arrivals, John

Blagrave, a late 16<sup>th</sup> century gentleman of Reading, gave a two-hour guided tour of some of the sundials in Oxford, finishing at the magnificent Pelican sundial in Corpus Christi.

The Opening Session (which combined lecture and discussion) was given by Professor Anne Watson who, to fit in with the conference theme of 'Inspiring teachers', entitled her session 'Finding Nemo'. Plato wrote diaries about Socrates and Meno and we looked at whether we are recalling knowledge or only learning through what we know. Some of Anne's pictures in her talk featured signposts to help illustrate some work on directed numbers, measurement being involved in a lot of work in the national curriculum. We finished with a clip from 'Finding Nemo' reminding us that all the professional associations for mathematics will achieve far more if we all work together. This was an excellent start to the conference that engaged us in serious discussion.

We then went to our choice of eight different sessions covering all divisions of mathematics and mathematics education. After an hour another five sessions were on offer and then before the evening meal at Somerville College we held our AGM, a full report of which will appear in *MA News*. We finished off with a quiz at Keble bar, which had been organised by last year's winners. The quiz masters responsible for coordinating the questions were Oliver Thomson and Jim Simons, ably helped by the others in the team. This was a great way to finish the day as everyone managed to find something that suited their strengths, though yours truly found some of the questions quite demanding! Fortunately, the winning team consisted of exactly six members, so there was a one-to-one correspondence between the team members and bottles of wine for the prizes.

On the Saturday the plenary session by Jane Jones' (HMI) 'Reasoning about the problems of inspirational teaching' started the day with something that had us discussing for quite a long time afterwards. We reflected on what makes us/an inspiring teacher and involved lots of discussion and exploration of what characteristics might underpin inspirational teaching. It finished with a reassuring summary of what good marking involves and that it should not be a time-consuming burden. Jane's presentation is available (free) on the MA website. This was followed by two slots where attendees chose the session (in advance of the conference) they wished to see. A buffet-style lunch was served in the Publishers' Exhibition so that we had a good opportunity to acquaint ourselves with current materials that are available.

The afternoon session was Peter Neumann's Presidential Address, 'Inspiring Teachers' which started with his recollection of Roger Wheeler who had been his teacher when Peter was at school. Peter mentioned that he had been distracted by finding out how to factorise 99999 00000 99999 00001, a question given to him by his father (Needless to say, nobody as far as I know managed to factorise this during Peter's address.) We then engaged in what mathematics inspires us and Peter gave us two examples from Y12 and Y6. Peter's Presidential Address

will be printed the November edition of *The Mathematical Gazette*.

Two more sessions followed with seven and eight options available. Then we held our open meeting of Teaching Committee (TC) which is one of the great strengths of the MA. The meeting was ably chaired by the Vice-chair, Jim Simons. TC has subcommittees to deal with primary, 11-16 and Post-16 mathematical education. TC submits responses to consultations and participates in dialogue with government. It was reported that there have been times when the Government has moved after receiving our letters. Our position on various matters can be seen on the MA website under *We Say*.

There was a brief interlude for people to get ready for the Annual Dinner at Queen's College, which had been arranged by Peter Neumann. We all had an enjoyable drinks reception followed by an excellent dinner. The After Dinner Speaker was Vicky Neale who explained how mathematicians are working on the twin prime conjecture to reduce the bound of 70 million recently found by Zhang.

The final morning comprised two more sets of parallel sessions and Ben Sparks' Closing Lecture 'Moving mathematical moments' during which he had us gazing in wonder at moving images of mathematical patterns and various problems. We knew that there would be two people in the small block of about 60 he chose with the same birthday, but we were surprised that this happened within the first five people and they were strangers sitting next to each other! What are the chances of that Ben? He finished with an amazing pattern changing in the background while he sang 'Windmills of your mind'. This brought to a close another excellent conference that was followed by meetings of Branches Committee and Standing Committee. My thanks go to all the speakers, sponsors, organisers, helpers and delegates who made this such an enjoyable event. Most speakers' sessions resources are now on the MA website at <http://www.ma.org.uk/annual-conference>.

**Peter Ransom (Chair of Conference)**

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### Professional Development Committee

During the year 2015-16 the Professional Development Committee met three times formally and held some smaller meetings via phone with just a few of the committee to discuss arrangements for particular events. Our focus is to provide quality professional development for classroom teachers and we have been considering what we can do to support teachers to prepare for the new A-levels which will be taught from September 2017.

The PD Committee organises two conferences a year and these continue to be popular and well-attended by MA members and others. The 10<sup>th</sup> Annual Scottish One-day Conference for Teachers of Secondary Mathematics took place at the University of Stirling on Saturday, 5 September 2015 and was another very well-attended event. Liz Meenan gave the opening plenary which received massive endorsement and other feedback was good. The PD committee are very grateful to Bill

Richardson who organises this event single-handed. We are looking for a person who can help support Bill. Planning is well underway for this year's conference which takes place on Saturday, 3<sup>rd</sup> September 2016 at which Jennie Golding will be the keynote speaker.

The Primary Mathematics PD Day took place on Saturday, 7 November 2015 and was held at Wycombe High School with over 80 delegates attending. Debbie Morgan delivered the opening plenary on teaching for mastery in the primary school and this session received high praise and only positive feedback. The sessions led by Ray Huntley, Cherri Moseley and Fran Watson were also highly regarded. Delegates had to complete their evaluation forms with their emails in order to receive PowerPoints and materials from the day; this proved a very effective strategy in securing feedback from all who attended! 97% rated the day as 4 or 5 out of 5 for interest and enjoyment and 94% rated the day as appropriate for their CPD needs. Thank you to Ray Huntley for all his help with the organisation. Plans are well in hand for this year's conference which takes place on Saturday, 12<sup>th</sup> November 2016 at Wycombe High School. This year's theme is *Inspiring Primary Mathematics* and Liz Woodham, Primary Lead has agreed to deliver the keynote session. Feedback from this event and others suggests that there are insufficient sessions for Early Years Foundation Stage and we are planning to include two workshops which focus on this age group.

The MA, as a strategic partner of the Bucks, Berks and Oxon Maths Hub is always invited to run a bookstall at our conferences and we are grateful to Peter Ransom who ran the bookstall at our Primary Mastery conference in March and Sue Forrest who is running the bookstall at our Secondary Maths Leaders' conference in June. Both are excellent opportunities to promote the work and publications of the MA.

We currently have two vacancies on the committee and would like to recruit practising teachers to these places, ideally a primary and secondary representative. We are still seeking a secretary for the PD Committee.

**Julia Brown (Chair of Professional Development)**

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#### **Publications Committee**

My first task is to offer three sets of thanks: to the committee (Michael Fox, Paul Harris, Mary Ledwick, Cherri Moseley, Bill Richards) My first task is to offer three sets of thanks: to the committee (Michael Fox, Paul Harris, Mary Ledwick, Cherri Moseley, Bill Richardson, Alison Trew and Sue Waring) for their support and expertise, all our many authors who make it all possible, and Lisa O'Donnell who brings it all to life at HQ.

Our task is simply described:

*"to publish, at a profit, innovative and exciting publications that further the aims of the association."*

The past year has been another year of success and growth. The financial surplus – the excess of sales over expenditure – means that we were able to generate in

excess of £35, 000 as a contribution to the overall MA budget. A particular series is a key driver of this success, the revision cards (*GCSE Revision Cards*: Mary Ledwick) which offer sets of cards for both Foundation and the Higher tier examinations. We have also supplemented this with posters. A challenge has been to update these cards for the forthcoming new syllabus. The writing – again by Mary Ledwick – is well underway so we have been able to pre-promote it, hopefully ensuring its continued adoption and success.

But it would be wrong to conclude that this is a one hit story, other titles continue to do well – those newly published and those of back list titles that have enduring popularity. It is a pleasure, here, to record the input and expertise from Teaching Committee in this and all our titles. Absolutely invaluable, and on your behalf I would like to offer them my thanks and appreciation. Other new titles include:

- *Mathematical activities to challenge and excite*: John Plant
- *The MA Calendar*: Teaching Committee
- *Square peg in a round hole*: Chris Pritchard.

We continue to build our presence on-line, and sales through Amazon continue to grow. If you are attracted to one of our titles, please write a few words of review on Amazon. Such reviews really work – in two ways, financially by boosting sales and in attracting membership. Roughly 75% of our sales are to non-members. This provides us with a major opportunity to recruit new members and we are working closely with the Chair of Membership Committee (Cherri Moseley) to exploit it. One positive result of this is a bookmark, promoting MA membership, which is included with every order.

We look forward to another year of continuing success, finding new ideas and the people to develop them through to publication. We welcome all ideas.

**Barry Lewis (Chair of Publications)** pc-chair@m-a.org.uk

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#### **Editorial Board**

The Mathematical Association continues to produce high-quality journals that contain interesting and useful articles for teachers who teach at all levels. In 2015, the Association published five editions of *Mathematics in School* (aimed at teachers working in secondary schools), three editions of *Primary Mathematics*, three editions of *SYMMetryplus*, and three editions of *The Mathematical Gazette*, the Association's general interest mathematical journal. The Association also published three editions of *Mathematical Pie* and three editions of its members' newsletter, the *MA News*. Publication of the on-line journal *Equals* resumed in 2015 under the supervision of a new Editor.

This year, 2015, was the first year in which *The Mathematical Gazette* was published in collaboration with Cambridge University Press (CUP). The Association retains the editorial control of the journal and CUP have taken over the printing, distribution and marketing of *The*



*Mathematical Gazette*. Most members receiving the *Gazette* should not have noticed any changes when CUP took over the printing and distribution work. Whilst there have been some teething problems with the arrangements, most of these have now been sorted out.

As always I am grateful to the Editorial and Production teams who work on the journals. Without their dedicated and hard work the Association would not be able to publish its journals. In particular I would like to give thanks to John Berry, Mary Clark, Stan Dolan, Alan Edmiston, Erik Gooding, Kay Hayden, Ray Huntley, Andrew Jobbings, Richard Kirby, Nicole Lane, Gerry Leversha, Adam McBride, Helen Morris, Cherri Moseley, Grant Macleod, Nick Lord, Chris Pritchard, Peter Ransom, Wil Ransome, Bill Richardson, Tom Roper, Owen Toller, Sue Waring and Tina Webb for all the work that they do.

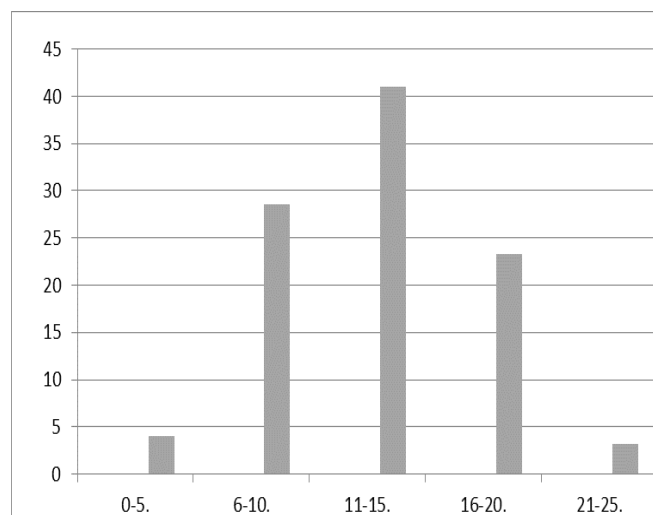
**Paul Harris (Editor-in-Chief)**

### Primary Mathematics Challenge

There was a drop in the number of schools taking part in PMC and in the number of papers sold. 1784 schools took part, compared with 2035 schools last year. 71180 papers were sold, compared with 77000 papers last year. Clearly these figures are disappointing, but we have no clear evidence for the reasons why participation is declining and we continue to strive to increase participation.

The November paper was well-pitched and twenty-one pupils, from twenty different schools achieved full marks... truly remarkable. The last five questions were certainly very challenging and provoked a fair number of comments.

#### November scores



#### Website

The new website is running smoothly and provides easy access to information about PMC. We have been really pleased with the on-line registration and feedback this year, which has run like a well-oiled machine. We have embraced Twitter and Facebook, but we have also experienced the dangers of social media, with one teacher posting a photo of the PMC paper during the week when pupils were sitting the paper. We always emphasise the need to keep papers secure until pupils take the

Challenge, but had not thought to emphasise to teachers that they should not post the questions on the web!

#### Bonus Round

The 1554 pupils who scored 21 or more in the November 2015 **PMC** were invited to take part in the Bonus Round in February. The results of that round are shown below.

Mark	0-5	6-10	11-15	16-20	21-25
% of pupils	0	6	34	49	11

We were pleased with this distribution of scores. 94% of the pupils scored 11 or more. We were able to award 33 Gold medals to pupils scoring 23-25, 118 Silver medals to pupils scoring 21-22 and 352 Bronze medals to pupils scoring 18-20.

#### Administration

The 2016-2017 PMC price per pack is to increase, with the 'Early Bird' price increasing to £11 per pack and the full price increasing to £12. Schools have been invited to place their orders from April onwards and we are hoping that the facility to place orders much earlier in the year will lead to an increase in the uptake of PMC.

Marcia, Alice and the rest of the staff at MAHQ have worked hard to keep things streamlined for PMC and have managed the administration with efficiency. Alice has been pro-active in suggesting ways forward for PMC, including an initiative to produce sets of PMC problem cards for classroom use. Meanwhile Peter Bailey and some of the PMC team have been working to produce 'Challenge your Pupils Book 3' which will, hopefully, be available later in 2016 or early in 2017.

We have continued to advertise in various primary school publications, but were very disappointed that PMC adverts had not been placed in every issue of *Primary Mathematics* as had been requested.

We were pleased to see details of a PMC medal winner taking part in the International Mathematical Olympiad and managed to get an interview with him, which was then published in *Primary Mathematics*.

**Lesley Jones (Chair of PMC Management Team)**

#### Library Committee

##### Wittgenstein Archive of Francis Skinner:

Professor Gibson's manuscript for a complete published edition of the Archive has been submitted to the publisher Springer. The MA Council demanded to see the manuscript so that checks could be made before the possible granting of permission to publish. No manuscript has been received by the MA. The loan agreement with Trinity College for the Archive continues and annual renewal has been granted for 2016-17.

##### Donations and Duplicates:

Around 150 items from the donation of Robert Carmichael have been transferred to the David Wilson Library for cataloguing in 2016. 28 books from the donation of the late Douglas Quadling have been added to the catalogue including notes to acknowledge the source of the gift. Two dozen duplicate books from the Quadling donation were taken to the annual MA

conference at Oxford, along with other duplicates mainly from the donation of the late Roger Wheeler. Disposal of duplicates has yielded an additional income of £160 for the MA Library fund. In addition, 30 duplicates have been transferred to the physical library of the STEM Centre in York.

#### **Cataloguing and Relocation:**

The accommodation of all the MA books and periodicals on the COPAC database of around ninety library catalogues is now complete. Searches on COPAC now show all the MA periodical holdings. A review is near completion of all the MA books on the open shelves which are dated 1851-1900. On the basis of scarcity or value, around 150 of over 1600 titles will justify relocation to the Special Collections. Movement of these books has started and each title will then receive an enhanced catalogue entry. The additional cataloguing costs will in part be covered by the income from disposal of duplicates (above)

The whole of the David Wilson Library cataloguing system is being updated, for completion in 2016. When the new system is fully in place the entry for the MA Library on the new MA website will be edited to link effectively with the new system.

#### **Links with the STEM Centre in York:**

A meeting was held at MA HQ in June 2015 involving Mike Price (convenor), Barry Lewis (chair of MA publications committee) and Steve Lyon (STEM Centre mathematics specialist). Following the full accommodation for MA publications and periodicals in the physical resource library at the Centre, a strategy was agreed for MA representation in the Centre's on-line resources collection. *Mathematical Pie* is already represented but other exposure to include *Mathematics in School* and recent MA publications has not yet been implemented.

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

#### **Teaching Committee**

As ever Teaching Committee, along with its three sub-committees, has been working incredibly hard to meet the many deadlines formed by consultations. We are very pleased to welcome two new members; Mel Muldowney (<http://justmaths.co.uk/blog/>) and Julia Smith (@tessmaths). Both new members are very active in the maths community in secondary and FE phases, we are incredibly lucky to have them join the team and benefit from their teaching, training and authoring experiences.

We welcome the new chair of the primary subcommittee, Alison Borthwick. Our thanks go to Fran Watson for her huge amount of time and effort during her time as chair of this group.

The committee has responded to a variety of consultations and calls for evidence including;

- Education Select Committees call for evidence concerning teacher supply (Nov 2015)
- Additional Reformed GCSE and A level subject content consultation (Nov 2015)
- Developing New GCSEs, AS and A levels for Teaching in 2017 - part 2 consultation (Nov 2015)

- Regulating Use of Calculators in New GCSEs, AS and A Levels consultation (Jan 2016)
- OFQUAL's AS and A Level Mathematics and Further Mathematics consultation (Jan 2016)
- OFQUAL's Final Entries to Legacy GCSEs, AS and A levels consultation (Feb 2016, jointly with the ATM)

My thanks to all those who contributed to the construction of these documents, whether from the greater TC family or from Council. Our input to consultations is essential and only made possible by active members supporting the work of TC.

Whilst completing these tasks the subcommittees continue to produce some excellent publications and worked with Oxfam in producing their new resource for KS3; *More or Less Equal*. Of particular mention is the wonderful Mathematical Association calendar constructed by the 11 – 16 sub-committee.

It's really pleasing that the public face of The MA is gathering a large number of followers through our Twitter and Facebook accounts.

My thanks go to the subcommittee Chairs and their members, to our small Advisory Group and to Council. TC members have worked tirelessly to meet the challenges we have faced and the contributions of Chris Pritchard, Peter Thomas, Peter Ransom and particularly David Miles have been noteworthy.

***Rachael Horsman (Chair of Teaching Committee)***  
[tc-chair@m-a.org.uk](mailto:tc-chair@m-a.org.uk)

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#### **Primary Subcommittee**

There are currently 66 members within the Joint Primary Group. At the most recent meeting on 30<sup>th</sup> January 2016 the group discussed the issue surrounding those members who are active and those who remain silent. It was agreed to contact those silent members to ask what they were getting out of the group.

Members from the joint group continue to support the Easter conferences and several also offered to run workshops on behalf of the Joint Primary Group. Many thanks to those who volunteered and gave up their time to do this.

In September 2015 the group discussed how to utilise the discussions held at the meetings to a wider audience, which would represent the minutes of each meeting, but in a less formal way. Following the September meeting Alison Parish offered to write up the minutes using a report style genre. The intention is to send this report to ATM and MA for each organisation to use in whichever way they see fit (e.g. publication on the website, newsletter or journal). The initial report had a few teething problems attached to it, and these were discussed and suggestions to improve discussed at the January 2016 meeting. Fran Watson has offered to write up the second report. We hope these will prove useful and informative to wider members of each organisation who are not part of the Joint Primary Group but who are interested in our termly meetings and discussions.

In December 2015 the Joint Primary Group were invited to send two members to join in this discussion with



NCETM. Leading up to this meeting all of the members of the group were invited to offer their thoughts and opinions as to what mastery is and isn't and also key points and questions that could contribute to the round table discussion with NCETM. It was very much viewed that we wanted to offer a supportive role to NCETM in order to help shape and form this topical mathematical issue. As a result of Viv Townsend and Jennie Pennant attending, they delivered a 3 hour presentation at the January 2016 meeting, which replicated their experiences from the Round Table. Notes and a video from this meeting are currently being collated and when finished will be circulated to the Joint Primary Group.

**Alison Borthwick (Chair Primary Sub-committee)**  
tc-121@m-a.org.uk

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### 11-16 Subcommittee

This has been another incredibly busy year for the subcommittee, and our three meetings during the year were lively and productive. The subcommittee membership is varied, with representatives from the state and independent sectors, teachers and non-teachers with a range of experience, practising and retired. This makes our discussions very well informed and an opportunity to consider different viewpoints.

We have continued to contribute to consultations and calls for evidence, supporting the Teaching Committee in their task of constructing responses. With schools now teaching without National Curriculum levels in KS3, new programmes of study for KS3 and KS4, and new GCSE exams with a focus on 'problem solving', we have had plenty to discuss.

We continue to work on the MA Calendar after another year of successful sales. Our thanks must go again to Mary Ledwick, who has led the production of the calendar with relentless enthusiasm and considerable dedication. The 2017 MA calendar should be on sale by the time you read this (or very shortly afterwards), so look out for the advertisements and place your orders! As ever we are always pleased to receive photographs to include, so please do email them to the sub-committee.

Finally we have also reviewed and discussed teaching resources and contributed to other MA publications. We want the work we do to be relevant to secondary maths teachers, and have considered how we could use the 11-16 page on the MA's new website most effectively and make it the 'go to' place for members and non-members alike.

If you have any comments about our work, or would like to get involved, please do get in touch – we would be delighted to hear from you

**Steve Edwards and Oliver Thomson**  
**(joint-chairs TC 11-16 subcommittee)**  
tc-132@m-a.org.uk

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### Post-16 Subcommittee

The post-16 sub-committee meets termly in London with members from a variety of teaching positions in attendance

It has been a busy year in terms of responding to consultations. We have been able to offer the sub-committee's voice to several of the Teaching Committees responses.

Our 'wordpress' blog is up and running with monthly posts offering the latest news and updates in Post-16 maths education along with some sign posts to new and innovative websites/resources. Also on the site you can read about our latest discussions and participate ourselves. It can be found at  
<https://post16maths.wordpress.com>

Alongside this resource we are likely to work with the Hubs to help provide post-16 teachers with a forum to discuss the new curriculum, disseminate appropriate resources and offer peer support, as well as initiating CPD if appropriate. Members of the sub-committee have also delivered workshops at The Mathematical Association's One-day Conference for Secondary Maths Teachers in Stirling and look forward to going back later in 2016.

The latest exciting development in Post-16 resources is the launch of Underground Mathematics from the Cambridge Mathematics Education Project. The site provides free teaching resources that include low threshold/high ceiling tasks, a bank of exam paper questions, helpful information for teachers on how to use the resources and fully annotated suggested solutions to tasks. The site can be found at  
[www.undergroundmathematics.org](http://www.undergroundmathematics.org)

We represent a good range of Post-16 environments, but are always interested in any new members so as to be able to strengthen our responses to any consultations and reports.

**Anne Baker ( chair TC Post-16 subcommittee)**  
tc-129@m-a.org.uk

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### Membership Committee

What we offer in terms of membership is under constant review to ensure that we retain existing members and encourage new members to join us. During the last year, we have added NQT membership at the same rate as Student membership. SYMS members are usually aged 10 to 18 and receive the journal *SYMMetryplus* which includes interesting articles, puzzles, problems and competitions. We are exploring opening the journal to adults who are not interested in the teaching and learning of mathematics but nevertheless have an interest in doing some mathematics. We also hope to be able to offer online access to the current issue of *The Mathematical Gazette* in the near future. All personal members received their membership card last year. The card provides useful contact details for the MA alongside a reminder of the member's membership number. The current membership pages on the new website give clear information on what you get for your membership and what it costs. These are updated as soon as any changes to membership are made.

Every year we contact all the various universities and groups which offer mathematics at degree level and teacher training to invite those who are studying mathematics or aiming to teach it to join us. We also contact Teaching Schools. We continue to work with all

the Maths Hubs, supporting them with free membership of the MA.

We regularly advertise The Mathematical Association in magazines such as *Teach Primary* and *Teach Secondary* and work closely with other mathematics organisations, keeping in touch and supporting each other as well as working together on specific projects.

Our new updated website, Facebook page <https://www.facebook.com/groups/136275943093334/> and monthly eNews letter help to keep members up to date with mathematics related news. There is now a Twitter link on the website and we have seen a rapid increase in followers due to the hard work of the Publicity and Media Committee. Together, these varied means of communication raise the profile of The Mathematical Association and help members and others interested in mathematics to keep in touch with each other and what is happening in the wider world of mathematics.

The Membership committee continues to work hard to ensure that those who are interested in mathematics and mathematics teaching are fully aware of the benefits of membership and find the process of joining the MA both straightforward and reasonably priced.

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***Cherri Moseley (Chair of Membership)***

#### **Publicity & Media Report**

I took on the vacant Publicity & Media role in an Acting capacity in September 2015 and was confirmed as Chair at Conference in April 2016. I would like to take this opportunity to thank the other members of Council and the staff at our Leicester Headquarters for helping me to find my feet.

The most significant event to happen during the course of this year was the launch of the new Mathematical Association website [www.m-a.org.uk](http://www.m-a.org.uk) and the companion website for the Primary Mathematics Challenge [www.primarymathschallenge.org.uk](http://www.primarymathschallenge.org.uk) in August 2015. It is a priority to increase traffic to both websites and we are keen to upload new content in order to achieve this goal. In April 2016, we added an archive of three articles from each of the first 39 volumes of our secondary journal *Mathematics in School* spanning 1971 to 2010.

Over the last eight months, our Twitter account @Mathematical\_A has become considerably more active and consequently our audience has grown from 3,000 to 8,000 followers. In April 2016, our tweets achieved 284,000 impressions and other Twitter users mentioned us 725 times. If you are yet to try this form of social media, may we encourage you to sign up and give it a go? It is great fun and surprisingly addictive and there is no better way to network with other mathematics teachers online and keep up-to-date with the latest education news. The Primary Mathematics Challenge is represented by a second account @PMC\_Maths.

Our Facebook group [www.facebook.com/groups/136275943093334/](https://www.facebook.com/groups/136275943093334/) is maintained by Rachael Horsman and now has almost 1,500 members. We also have a presence on LinkedIn and YouTube.

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***David Miles (Chair of Publicity and Media)***

#### **United Kingdom Mathematics Trust (UKMT)**

The core activities of the UK Maths Trust continue to thrive. Entries for all three of the main competitions increased in 2015-16, both in terms of schools entering pupils and the overall number of pupils. For those who like details, the specific figures were as follows: Senior Challenge 110500 (from 2223 schools), Intermediate Challenge 262100 (from 3241 schools) and Junior Challenge 303070 (from 4001 schools). For students who perform well in the Challenges, the follow-up competitions provide an extra opportunity to solve mathematical problems from the new Junior Kangaroo and the Junior Maths Olympiad for Years 7 and 8 (and below) through the three papers that make up the Intermediate Olympiad Group and the Grey and Pink Kangaroos for Year 9, 10 and 11 to the Senior Kangaroo and the ultimate challenge of the British Mathematical Olympiad (BMO).

In the last year, some of the students who have been successful in the BMO have gone on to take part in a number of international competitions. In July 2015, the British team finished a creditable 22<sup>nd</sup> out of 104 countries in the International Maths Olympiad in Thailand, gaining 4 silver medals and 1 bronze medal. In the European Girls Mathematical Olympiad held in Romania in April 2016, there was also a lot of success with the team finishing 7<sup>th</sup> out of 39 teams, gaining 1 gold, 1 silver and 2 bronze medals. Teams have also taken part in the Balkan Mathematical Olympiad and the Romanian Masters of Mathematics Competitions.

As well as the individual competitions, the Team Mathematical Challenges have continued to grow with 1285 schools taking part in the Senior Team Maths Challenge which culminated in a 3-way tie at the National Final in February between King Edward's Birmingham, Winchester and Ruthin School. The Team Maths Challenge itself has also prospered this year and the final, at which 88 of the top young mathematical teams will battle out for the title, will take place in London on June 20<sup>th</sup> this year. The UKMT also produce a set of Primary Team Maths Challenge resources every year, available for schools to use as they see fit. On behalf of the MA, the UKMT once again marked the Bonus Round of the MA's Primary Mathematics Challenge (PMC) and is happy to continue to do so in the future. A representative from UKMT was also present at the publishers' exhibition at the MA Annual Conference in Oxford.

UKMT has also run or plans to run many enrichment events including Maths Circles (2 day enrichment courses for Year 10 pupils), National Summer Schools (including one for girls) and teacher meetings, with six planned for the summer period.

UKMT would not be as successful as it is without the support of its volunteers and helpers and thanks are due to all who help make it as successful as it is.

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***David Crawford (MA representative)***

#### **The British Mathematical Olympiad Committee**

Chiang Mai in Thailand was the venue for the International Mathematical Olympiad in July 2015. With

four Silver medals, one Bronze and an Honourable Mention, the UK team finished 22<sup>nd</sup> of the 104 participating countries. In September their achievement was acknowledged at a celebration at The Royal Society, where Adam McBride gave a lecture on “Mathematical Challenges”. Planning has started for the 2019 IMO in the UK.

In April 2015, the European Girls’ Mathematical Olympiad was held in Minsk, Belarus; the UK team of four gained one silver, two bronze medals and an Honourable Mention. The Balkan Mathematical Olympiad in May 2015 was held in Athens, Greece; in this event the UK team of six obtained four Bronze medals. February 2016 saw the UK come 2<sup>nd</sup> out of 20 in the Romanian Master of Mathematics, with two Gold medals, two Silver medals and an Honourable Mention.

The usual training camps were held through the year in Oxford, Hungary, Cambridge and Tonbridge. Also the mentoring scheme continues at appropriate levels for all ages in schools.

The national competitions were held in September (Mathematical Olympiad for Girls), November (British Mathematical Olympiad Round 1), and January (British Mathematical Olympiad Round 2).

With the loss of funding from the DfE, one of the Summer Schools for students from Years 11 and 10 has gone, but the rest functioned as usual, two in Leeds and two in Oxford (one specifically for girls).

***Philip Coggins (MA Representative)***

#### **Association Articles and Regulations**

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

#### **The Council from April 2015**

##### Presidents

President	Peter M Neumann
Immediate Past President	Lynne McClure
President Elect	Jennie Golding

##### Officers

Chair of Council	Peter Ransom
Secretary	Chris Pritchard
Treasurer	Bill Richardson

##### Chairs of Committees

Branches	David Pountney
Conferences	Peter Ransom
Editor-in-Chief	Paul Harris
Professional Development	Julia Brown
Publications	Barry Lewis
Membership	Cherri Moseley
Teaching Committee	Rachael Horsman
Publicity and Media	vacant

##### Members-without-Office

Gosia Marschall	Tom Roper
David Miles	

##### The Company Secretary

Bill Richardson

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#### **Headquarters**

During 2015-16, the Headquarters Team was:-

Senior Administrator	Marcia Murray
Finance Officer	Linda Medhurst
Membership Officer	Charnjit Seehra
Administrative Assistant	Lisa O’Donnell
Clerical Assistant	Alice Hall

#### **Snapshots from the 2016 Inspiring Teachers Conference**



**THE MATHEMATICAL ASSOCIATION**  
(A company limited by guarantee)

**STATEMENT OF FINANCIAL ACTIVITIES**  
(INCORPORATING THE INCOME AND EXPENDITURE ACCOUNT)

**FOR THE YEAR ENDED 31 DECEMBER 2015**

	Notes	Unrestricted Funds £	Restricted Funds £	2015 Total £	2014 Total £
<b>Income from:</b>					
<b>Donations</b>		39,952	-	39,952	11,925
<b>Charitable activities:</b>					
Members' subscriptions		153,996	-	153,996	198,912
Gazette		27,928	-	27,928	-
Editorial board		42,215	-	42,215	39,411
Publications		62,355	-	62,355	74,677
Conferences		29,631	-	29,631	24,319
Primary Maths Challenge		63,129	-	63,129	68,584
Professional development income		20,596	-	20,596	20,310
Branch income		4,980	-	4,980	3,046
<b>Investment income</b>		413	-	413	2,318
<b>Other:</b>					
Rent receivable		5,614	-	5,614	3,913
Miscellaneous income		121	-	121	172
<b>Total</b>		<b>450,930</b>	<b>-</b>	<b>450,930</b>	<b>447,587</b>
<b>Expenditure on:</b>					
<b>Charitable activities</b>	2	472,666	-	472,666	453,515
<b>Total</b>		<b>472,666</b>	<b>-</b>	<b>472,666</b>	<b>453,515</b>
<b>Net(expenditure)/income and net movement in funds for the year</b>		<b>(21,736)</b>	<b>-</b>	<b>(21,736)</b>	<b>(5,928)</b>
<b>Other recognised gains/(losses)</b>					
Gains/(losses) on revaluation of fixed assets		60,000	-	60,000	-
<b>Net movement in funds</b>		<b>38,264</b>	<b>-</b>	<b>38,264</b>	<b>(5,928)</b>
<b>Reconciliation of funds</b>					
Total funds brought forward		515,375	6,500	521,875	527,803
<b>Total funds carried forward</b>	10	<b>553,639</b>	<b>6,500</b>	<b>560,139</b>	<b>521,875</b>

There were no recognised gains or losses during the year other than as shown above.  
All activities are continuing.

**THE MATHEMATICAL ASSOCIATION**  
(A company limited by guarantee)

REGISTERED NUMBER: 05729264

**BALANCE SHEET**

**AS AT 31 DECEMBER 2015**

	Note	£	2015 £	2014 £
<b>FIXED ASSETS</b>				
Tangible	6		344,798	294,283
<b>CURRENT ASSETS</b>				
Stock		16,356		14,993
Debtors	7	26,884		35,869
Cash at bank		248,818		254,257
		<u>292,058</u>		<u>305,119</u>
<b>CREDITORS:</b> amounts falling due within one year	8	(76,717)	(77,527)	
<b>NET CURRENT ASSETS</b>			215,341	227,592
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>			<u>560,139</u>	<u>521,875</u>
<b>REPRESENTED BY</b>				
Restricted funds	10		6,500	6,500
Revaluation reserve	10		192,000	135,000
Unrestricted funds	10		361,639	380,375
			<u>560,139</u>	<u>521,875</u>

The financial statements have been prepared in accordance with the special provisions of Part 15 of the Companies Act 2006 relating to small companies and in accordance with the Financial Reporting Standard for Smaller Entities (effective January 2015).

The financial statements were approved and authorised for issue by the Council and were signed on its behalf on 1 April 2016.

*PH Ransom*

Mr P H Ransom


Chair of Council

*W P Richardson*

Mr W P Richardson M.B.E.

Treasurer






# The Primary Mathematics Professional Development Day

## Inspiring Primary Mathematics

Saturday **12th November 2016**  
At Wycombe High School



**OPENING PLENARY:**  
**Ems Lord** Nrich Director, *'Inspiring Primary Mathematicians with Nrich'*

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**INCLUDING WORKSHOPS FROM:**





**Jo Lees**  
*CPA and questioning for greater depth*

**Brenda Robertson**  
*Maths in the Early Years Foundation Stage - the curiosity, the problem-solving, the fun - and the rigour - start here*

**Jacqui Clift**  
*Thinking about a common assessment model after levels*

**Ray Huntley**  
*Creative reasoning activities*

**Primary Mathematics Challenge Workshop**  
*Using the excellent PMC materials in the classroom*

More information at [www.m-a.org.uk/one-day-events](http://www.m-a.org.uk/one-day-events)  
Email [conference@m-a.org.uk](mailto:conference@m-a.org.uk)

# 2017 Annual Conference

## 7-9 April 2017

### Royal Holloway, University of London, Egham

**OPENING PLENARY**  
**Liz Meenan**

**PRESIDENTIAL PLENARY**  
**Jennie Golding**

**SATURDAY SPECIAL**  
**David Acheson and Ben Sparks**

**CLOSING PLENARY**  
**Rob Eastaway**

**FEATURED STRANDS:**

Saturday **Primary Special**

Sunday **Teaching Further Maths Special**

**Teaching Mathematics with Technology** to run throughout

**Student Rates and NQT Bursaries available**

Look out for more information at: [www.m-a.org.uk](http://www.m-a.org.uk)

Email: [conference@m-a.org.uk](mailto:conference@m-a.org.uk)



supporting mathematics in education