

## LMS SOCIETY AND ANNUAL GENERAL MEETING 2016

Friday, 11 November 2016 at 3.00 pm at BMA House, Tavistock Square, London

### AGENDA

**1. Elections to Council and Nominating Committee**

Members wishing to vote in person at the AGM will be invited to hand their ballot paper to a Scrutineer.

**2. Review of Society Activities 2015-16**

A report will be given by Vice-President Professor John Greenlees on the Society's activities over the last year.

**3. Report of the Treasurer**

The Society's Treasurer, Professor Rob Curtis, will present his report on the past year and invite questions.

**4. Resolutions:**

4.1 Adoption of the Trustees' Report including the year-end accounts for 2015-16 (Trustees' Report attached)

4.2 Appointment of Auditors

The Society's President, Professor Simon Tavaré, will invite questions on the resolutions and recommend the adoption of the Trustees' Report and the appointment of the Auditors.

**5. Presentation of Certificates to the 2016 LMS Prize Winners**

Certificates will be presented to the winners of the De Morgan Medal, Fröhlich Prize, Senior Berwick Prize, Whitehead Prizes and Anne Bennett Prize.

**6. Professor Alan R. Champneys, University of Bristol**

*Bumps, blips and bulges; the theory of localised pattern formation*

**Tea break**

**7. Election Results**

The election results will be declared by the Scrutineers.

**8. Professor S. Jon Chapman, University of Oxford**

Naylor Lecture: *Asymptotics beyond all orders: the devil's invention?*

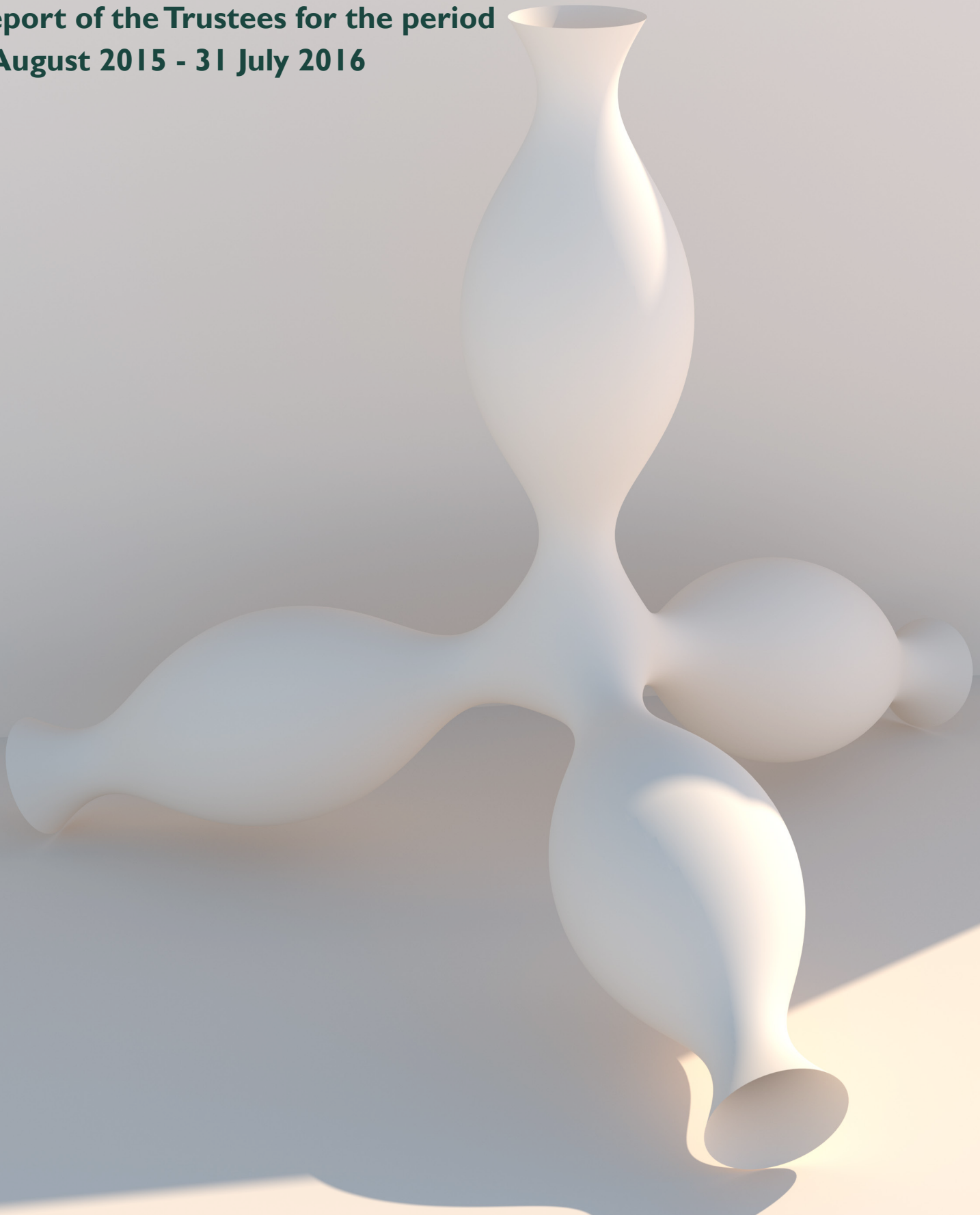
Fiona Nixon, Executive Secretary  
21 October 2016



LONDON  
MATHEMATICAL  
SOCIETY  
EST. 1865

# London Mathematical Society

Report of the Trustees for the period  
1 August 2015 - 31 July 2016







# INTRODUCTION

2015-16 has seen the Society conclude its 150<sup>th</sup> Anniversary Year. From the start of 2015 the Society has run a series of events, programmes and projects to commemorate this momentous year in its history and to celebrate mathematics and its contributions to the world. A review of the activities celebrating the Anniversary in the latter half of the year is included in this report. The second half of 2015 has in particular seen a number of the projects celebrating 'Mathematics as Part of our Culture' come to fruition. These include the film *Thinking Space* by Heidi Morstang, and an accompanying series of shorts, *Frames of Mind*, which, as well as beautifully framing and articulating mathematical thought processes, provide the Society with a resource that will enormously benefit its communications work. *Thinking Space* was premiered as part of the *Mathematics Festival* at the London Science Museum, an event aimed at communicating the everyday importance of mathematics to a wide and diverse audience. The 150<sup>th</sup> Anniversary Artists Associates Scheme resulted in an exhibition at the Peninsula Arts Centre in Plymouth and the 150<sup>th</sup> Anniversary Local Heroes Exhibitions showcased famous mathematical researchers at venues across the UK. In 2015 the Society also began publishing the *Impact150 Stories*, a series of case studies examining how specific fields of mathematics have changed the UK. The Society hopes to ensure that all of the activities undertaken throughout 2015 create a strong legacy for the Society to build on to help support the future health and vitality of the discipline beyond the Anniversary Year. In the next year the Society will

be reviewing the outcomes of the Anniversary Year and will consider how these might affect its future strategic planning.

The Society has continued to operate its usual range of activities to support mathematics and mathematicians in the UK in 2015-16. The Society maintains its important position as a small grants funder for mathematicians on a variety of schemes impacting widely across the UK and beyond, offering support for conference organisation and attendance, research in pairs and visits, mentoring partnerships and training. Ensuring the long-term sustainability of the mathematics people pipeline continues to be a priority for the Society and the Society's schemes to promote this are detailed in the section 'Sustaining the Mathematical Community'. Feedback from the community for these schemes such as the Undergraduate Summer School and the 150<sup>th</sup> Anniversary Postdoctoral Mobility Grants continues to be very positive and the Society will continue to monitor the long-term impact the schemes have on the mathematics people pipeline.

The Society has undertaken a full review of its Publishing in 2015-16, including restructuring the in-house publishing team and signing three new publishing contracts, welcoming a new publishing partner, Wiley, for its core journals to begin in 2017. As a publishing house the Society maintains its solid position in the market, using the returns on its journals and books to fund its charitable activities and it continues to maintain awareness of issues in the publishing industry and to plan for any potential adverse effects on its publishing income.

Ensuring the healthy future of mathematics in the UK is central to the Society's mission and advocating on behalf of the discipline continues to be a priority. This year the Society contributed to the publication of the Council for Mathematical Sciences (CMS) report, *Mathematical Sciences: Driving the UK Economy*, analysing the impact of mathematics by reviewing and drawing together the outcomes from a large number of recent reports from a broad range of disciplines that have demonstrated the importance of mathematics in a number of contexts. The report was launched at a House of

Commons event and was well-received by attendees. The Society continues to be an active member of the CMS and is working to provide evidence to strengthen the case for mathematics on current policy issues such as doctoral funding in the mathematical sciences.

This report provides an overview of the full range of activities undertaken by the Society in meeting its charitable objectives during 2015-16. Further information on the Society's work can be found on its website, [lms.ac.uk](http://lms.ac.uk).



## Mission

The London Mathematical Society has, since 1865, been the UK learned society for the dissemination and promotion of mathematical knowledge. Our mission is to advance mathematics through our members and the broader scientific community worldwide.

- **289 new members in 2015-16 including 85 Associate Members**
- **Online subscription renewals payments launched**
- **150<sup>th</sup> Anniversary Handbook and List of Members published**

## The Membership

Members are the core of the London Mathematical Society. Mathematicians drive the Society and volunteer contributions are vital to the Society in defining its priorities, running its activities and achieving its objectives. The Society at present has 25 committees with 274 volunteer committee roles and other individual roles, as well as 31 volunteer roles representing the Society on external committees. A large cross-section of the mathematical community is directly involved in the work of the Society, engaging widely with other organisations across the UK and beyond.

## Communications

Communications with members are of key importance in ensuring that the Society keeps abreast of the most interesting and exciting developments in mathematics and the mathematicians associated with this work. The Society acknowledges achievements in mathematics through its prize-giving and in those it invites to become Honorary Members, as well as those who are invited to give lectures. Effective communications ensure that the Society can identify the current concerns within the community and can work to address these. The network of LMS Representatives in UK universities is central to these communications. As of 2015-16 the Society has 58 LMS Representatives and is actively seeking to recruit more to ensure that all UK mathematical departments are directly connected to the Society through a representative. The Society's Newsletter functions as a central resource for news and

events and also solicits articles for the Readers' Opinions page. The regular mid-month LMS e-Update keeps members informed of upcoming events and grant deadlines as well as providing a list of mathematical meetings and conferences that have received Society grants. The Society hosts a number of 'blogs' on its website in order to provide opportunities for dialogue with and between its members and the broader mathematical and scientific community on a variety of subjects. Currently operating blogs are: Members; LMS Departmental Representatives; Open Access; Elections; Infinitesimals; De Morgan Forum; Research Excellence Framework.

The Society keeps under review the best means of communicating with its members and as part of this has launched a review of the Newsletter in 2015-16. A new look Newsletter will be launched in due course. In response to feedback received from members this will include more mathematical content and an improved format.

## Online Subscription Payments

Members are now able to manage their subscriptions and payments online, and the Society is continuing to develop the website to improve the membership experience.

## 150<sup>th</sup> Anniversary Members' Handbook and List of Members

In 2015-16, the Society published a commemorative edition of the *London Mathematical Society Members' Handbook and List of Members*. With an overview of the celebrations of the Society's 150<sup>th</sup> Anniversary during

2015 and a list of members, who were part of the Society during this special year, the *150<sup>th</sup> Anniversary Members'*

*Handbook and List of Members* has provided a memento for members of the Anniversary Year.

### **In 2016-17 the Society will.....**

- aim to launch a new look Newsletter for the Society including revised content more focused on mathematics
- introduce more online facilities for members







## **150<sup>th</sup> Anniversary Celebrations**

The Society's inaugural meeting was held on 16 January 1865. For its 150<sup>th</sup> Anniversary year in 2015 the Society has implemented an exciting and varied programme of events and projects to celebrate this momentous occasion.

# 150<sup>TH</sup> ANNIVERSARY CELEBRATIONS

- **Premiere of *Thinking Space* film featuring 9 mathematicians including Roger Penrose and Caroline Series**
- **Exhibition of work from Artist Associates Scheme**
- **Publication of *Impact 150 Stories* highlighting the impact of mathematics on UK technology and culture**
- **Joint meetings held with European Mathematical Society, Royal Astronomical Society, Institute of Physics and Edinburgh Mathematical Society**

The LMS marked its 150<sup>th</sup> Anniversary in 2015. To commemorate this historic occasion, the Society launched a year-long programme of events aimed at celebrating the contributions of UK mathematics, looking back over 150 years of achievements and looking forward to exciting opportunities in mathematics for future generations. The celebration events came under the overarching theme of Mathematics Unlocking Worlds, with a particular focus on:

- 150 Years of the LMS and Mathematics
- Mathematics as Part of our Culture
- New Ways of Communicating Mathematics

The 150<sup>th</sup> celebrations promoted mathematics as widely as possible and the key message underpinning the many events and activities throughout the year were:

- Mathematics transforms people's lives
- Mathematics is everywhere and for everyone
- Mathematics Research: Curiosity, Creativity, Discovery

During the second half of the Anniversary year there was a diverse programme including continued celebrations in individual mathematics departments and the Queen of the Sciences exhibition at University College London Library. The Anniversary celebrations came to an end formally on 15 January 2016 with a closing reception.

## Promoting Mathematics

### ***150<sup>th</sup> LMS Popular Lectures***

For the 150<sup>th</sup> Anniversary the annual Popular Lecture series was expanded from the usual two speakers to six speakers. Earlier in the year lectures were given by Fields Medallist Professor Martin Hairer and Professor Ruth King in London, and further Anniversary Lectures were presented in Birmingham, Glasgow and Leeds. The speakers were Dr Hannah Fry, Professor Ben Green, Dr Joan Lasenby and Dr Colva Roney-Dougal. Over 1,500 people attended the events.

### ***Open House 2015***

For the fourth year running De Morgan House featured as part of Open House London with a special emphasis on the Anniversary. Since the Society joined the Open House Scheme in 2011 over 1,500 people have visited the home of the LMS and heard about the work of the Society and mathematics more generally through special displays and exhibitions.

## Mathematics and Culture

### ***Thinking Space - Interviews with prominent mathematicians***

A new film exploring mathematical thinking was specially commissioned by the LMS for the Anniversary, entitled *Thinking Space*. The film comprises a series of interviews with 9 UK-based mathematicians (Professors Kevin Buzzard, Peter Donnelly, Tim Gowers, Martin Hairer, Sir Roger Penrose, Caroline Series, Richard Thomas, Reidun Twarock and Karen Vogtmann). The interviews were conducted and selected by Professor Martin Hyland,

and the film was directed, edited and produced by Heidi Morstang and her team along with Dr Barry Phipps (Project Facilitator and Executive Producer).

*Thinking Space* has been entered into the Sheffield/Doc and Krakow Film Market festivals and shorts of each interview are now available to view on the LMS website to replace the Faces of Mathematics.

### **Mathematics Festival @ The London Science Museum**

The Society collaborated with the London Science Museum to create an interactive Mathematics Festival entitled *What's your angle?*, which was held at the Museum from Wednesday 25 to Sunday 29 November 2015. 9 university mathematics research groups from across the UK, contributing individually or in teams, were involved in the event. Science Museum audiences had the opportunity to meet research mathematicians, and to discuss mathematics and its importance with them. Participating mathematicians were provided with training and practical experience of public engagement activities, allowing them to share their knowledge and experience, and to support them in developing creative activities and events that communicate their work in new ways to new audiences. Around 1,200 people attended the Festival. The Society had hoped for a higher turnout, however the feedback from the research groups regarding the training received and the overall experience was excellent. Despite this, involvement in the Festival has provided the Society with further understanding of this type of event for

its future outreach work.

The Mathematics Festival was launched with a *Lates* evening event which included a lecture by Professor Sir Roger Penrose and the premiere of the LMS film *Thinking Space*. Over the 4 days of the Festival a day for schools was held followed by an open exhibition at the weekend for the general public. The programme included live demonstrations, interactive exhibits, displays and activities centred on mathematics.

### **The 150<sup>th</sup> Anniversary Artist Associates Scheme**

The 6-month journey from initial consultation, studio visits and conversations between the artists and mathematicians to the eventual launch of the exhibition at Goldsmiths' Hall provided considerable opportunity for both the Society and the artists themselves to learn more about the many fruitful connections between mathematics and art.

Storyboards of the artists' journeys are now displayed in De Morgan House and an exhibition took place at the Peninsula Arts Centre, Plymouth in June 2016.

### **The 150<sup>th</sup> Anniversary Local Heroes Museum Exhibitions**

Through this project, the Society aimed to bring mathematics and mathematicians into the local community, celebrating the origins of famous mathematical researchers. All of the exhibitions continued into the second half of the Anniversary year. Exhibitions were held in Carrickfergus (Carrickfergus Museum) as part

of the Irish National Mathematics Week, Dundee (University of Dundee Library), Tenby (Tenby Museum), Lincoln (University of Lincoln Library and Lincoln Cathedral) and London Kensington (Kensington Library). The Local Heroes were Robert Adrain, D'Arcy Thompson, Robert Recorde, George Boole and Sydney Chapman respectively. Officers and Council members from the Society visited each of the events and estimated attendance across all of the exhibitions is 15,000, including the launch events and special talks held in conjunction with the exhibitions. Feedback from Lincoln Cathedral indicates the success of the exhibition, "The George Boole information panels in Lincoln Cathedral are always surrounded by members of the public, so the legacy continues. More people are aware of George Boole thanks to this project, so we are indebted to you."

### **Scientific Meetings and Lectures**

An exciting programme of scientific meetings was offered as part of the 150<sup>th</sup> celebrations. In the second half of 2016 these included those listed below.

#### ***150<sup>th</sup> Anniversary Joint Meetings***

- With the European Mathematical Society, on the occasion of its 25<sup>th</sup> Anniversary, held at Birmingham University from 18 to 20 September 2015. Around 300 participants attended the event;
- With the Royal Astronomical Society and the Institute of Physics in celebration of the centenary of Einstein's Theory of General Relativity, held on 28 to 29

November 2015 at Queen Mary University London (Einstein was made an Honorary Member of the London Mathematical Society in 1924). Over 300 participants attended the event; and

- With the Edinburgh Mathematical Society at the International Centre for Mathematical Sciences (ICMS), held in Edinburgh from 10 to 11 December 2015. Around 80 participants attended the event.

#### ***150<sup>th</sup> Anniversary Computer Science Colloquium***

The LMS Computer Science Committee organised a major Colloquium on 'Algorithms and Cryptography', which was held at the Royal Society, London on 17 September 2015. Distinguished speakers were invited from the UK and overseas. The speakers were Professors Mike Paterson, Jon Kleinberg, Adi Shamir, Nigel Smart, Shafi Goldwasser and Lance Fortnow. Over 200 people attended the event.

#### ***150<sup>th</sup> Anniversary Regional Meetings***

The LMS Regional Organisers provided enhanced annual regional meetings during 2015. The meetings included invitations to distinguished speakers from overseas, of whom several were from the US.

The South West and South Wales Regional Meeting took place at the University of Southampton on 14 December. The topic for the workshop was Aspects of Homotopy Theory. 50 people attended the event.

### ***LMS-CMI and Heibronn Institute Research Schools***

4 Research Schools were funded in 2015. 2 schools took place in the second half of 2015, at the University of Oxford 7 to 11 September, and Hay-on-Wye from 14 to 20 September. A total of around 300 people attended the Schools.

### ***Young Researchers in Mathematics Conference***

As part of this successful annual conference, organised entirely by postgraduate students and held at a different university each year, the LMS sponsored a 150<sup>th</sup> Anniversary Public Lecture and Reception. Over 300 people attended the conference.

The 2015 conference was held at the University of Oxford, in collaboration with Oxford Brookes University, from 17 to 20 August. 300 people gathered to hear the Public Lecture, which was presented by Dr Vicky Neale.

### ***150<sup>th</sup> Anniversary LMS Prospects in Mathematics***

This annual event is for undergraduate students who are interested in continuing in research following graduation. The 2015 event was held at Loughborough University from 15 to 16 December. The Society worked with the organisers to incorporate a celebratory aspect as part of the event.

### ***Publications***

#### ***150<sup>th</sup> Anniversary Impact/50 Stories***

To highlight the ongoing impact of mathematics to UK technology

and culture, the Society released a series of case studies written by prominent academics ([lms.ac.uk/content/impact150-stories-impact-mathematics](http://lms.ac.uk/content/impact150-stories-impact-mathematics)). These case studies examine how a specific field or aspect of mathematics has changed the UK, often over decades or even centuries of use. These case studies are available on the LMS website and vary in length from short, 1,500-word essays to longer, in-depth examinations of mathematical fields and their widespread effects. The stories were edited by LMS Vice-President, Professor John Greenlees.

- *The Impact of Mathematics on Meteorology and Weather Prediction*, Professor Ian Roulstone
- *Categorical Monads and Computer Programming*, Dr Nick Benton
- *Modern Developments in the Theory and Applications of Moving Frames*, Professor Peter Olver
- *Error-Correction and the Binary Golay Code*, Professor Robert Curtis
- *How Number Theory Enables a Secure Internet*, Professor Nigel P. Smart
- *Viruses and Geometry: Group, Graph and Tiling Theory Open Up Novel Avenues for Anti-Viral Therapy*, Professor Reidun Twarock

### ***150<sup>th</sup> Anniversary Edition of the Members' Handbook***

The membership is at the heart of the Society and to ensure that each member could participate in the Anniversary the LMS released a special edition of the Members' Handbook, recording the membership as at 31 October 2015. This commemorative Handbook contains the names of all Society members, along with details of

the work of the Society and the 150<sup>th</sup> celebratory programme during its sesquicentennial year. The Handbook was distributed early in 2016.

### **LMS Honorary Members**

To celebrate its 150<sup>th</sup> Anniversary the Society made additional Honorary Membership awards.

During 2015 Honorary Membership was awarded to Professor Joan Birman, Professor Emerita at Barnard College, Columbia University; Professor Robert Calderbank, the Charles S. Sydnor Professor of Computer Science at Duke University; Professor John Conway, Professor Emeritus at Princeton University; Professor Shafi Goldwasser, RSA Professor of Electrical Engineering and Computer Science at the Massachusetts Institute of Technology and Weizmann Institute of Science; Professor Donald Knuth, Professor of Arts and Computer Programming at Stanford University; Professor Robert Langlands, Professor Emeritus at the Institute of Advanced

Study, Princeton University; and Professor Maryam Mirzakhani, Professor of Mathematics at Stanford University.

### **150<sup>th</sup> Anniversary Closing Reception**

The Society's 150<sup>th</sup> year ended on 15 January 2016 with a closing reception at De Morgan House for past and current officers.

The Officers' Reception, which was attended by 60 guests, opened with a welcome from the President of the London Mathematical Society, Professor Simon Tavaré, who thanked all the guests for the contributions they had made to the LMS over the years. The guests ranged from Past Presidents, General Secretaries, Treasurers, Secretaries and other Members of Council, whose dedication and hard work deserved recognition for helping to steer the Society to its 150<sup>th</sup> year and ensure its longevity into the future.

**The 150<sup>th</sup> Anniversary Year has enabled the Society to not only celebrate the history of the Society but to demonstrate and celebrate all that is important and fascinating about mathematics. By reaching out to new audiences across all age groups and by demonstrating the range and versatility of mathematics the Society hopes to have helped to increase public awareness of the value of mathematics and to encourage interest and activity in the discipline. In 2016-17 the Society will review the outcomes of the 150<sup>th</sup> Anniversary Year and consider how these might affect its future strategic planning.**



## **Supporting Mathematics Research**

Objective: to advance mathematical knowledge by enabling mathematicians to undertake research and collaboration, and by supporting them in their efforts



# SUPPORTING MATHEMATICS RESEARCH

- **£679,457 awarded in grants to support mathematics**
- **Fifth round of Mentoring African Research in Mathematics programme launched**
- **De Morgan Medal awarded to Professor Sir Tim Gowers**
- **Computer Science Colloquium held at the Royal Society in recognition of the 150<sup>th</sup> Anniversary celebrations**

The Society's grants schemes are at the centre of the Society's work to advance mathematical knowledge and support mathematicians in their research and collaborations. There are 21 grant schemes in operation (for a full list see Annex 5) covering various activities ranging from facilitating research conferences, to small grants supporting education, to providing funds to help with caring responsibilities and career breaks, to developing international mentoring activities. The Society also supports research by maintaining its Library, with various collections available for researchers' use, and by awarding a number of prizes annually to recognise mathematical research excellence.

## **Grants**

In 2015-16 a total of £679,457 was awarded in grants to support mathematical activities, £32,460 for Research Schools (as a training scheme), and £30,797 for charitable giving of De Morgan House Rooms.

## **UK grants schemes**

Due to an ever-increasing number of applicants, the Programme Committee is adopting a more stringent approach to approving grant applications – in particular placing increased emphasis on the need for applicants to adhere to the Society's Statement on Women in Mathematics.

The Society continues to award smaller grants relative to other funding available elsewhere, and in doing so fulfils a crucial role in the mathematical funding landscape. The Society's grants can offer mathematicians the opportunity to organise much-needed

smaller-scale conferences, work collaboratively through short visits and enable the development of research partnerships all of which significantly contribute to career development and impact on UK mathematical research at its roots. To ensure that the wider mathematical community is aware of the funding available from the Society there are ongoing efforts to promote grant schemes as widely as possible, including through the LMS Representatives network and through advertisements in the Society's Newsletter, and there has been a marked increase this year in the number of applications for the core grants (Schemes 1-5 and 8, details of which can be found in Annex 5) – particularly for conferences, joint research groups in the UK and research in pairs. As was the case in 2014-15, there is a continued rise in the number of applications for international short visits. The increase in applications demonstrates the real need for this funding within the community.

Through its core grant schemes the Society has supported many mathematicians and their research. In 2015-16: 63 grants were made to organisers of conferences in the UK under Conference Grants (Scheme 1); 18 mathematicians were funded to support visitors to the UK under Scheme 2; Schemes 3 and 4 enabled 100 Joint Research Groups and Research Pairs to engage in collaborative research activities within the UK and more widely; 6 grants were awarded to support collaborative visits between the UK and Africa (Scheme 5); and 7 Postgraduate Research Conferences were supported through Scheme 8, at which 410 postgraduate

students attended.

The Society has been developing an online grants application system with the intention of creating a streamlined, web-based process for applying for grant schemes and submitting grants reports. Development of the system is steadily progressing, and the first online testing has already taken place.

### ***International schemes***

As well as supporting UK-based mathematics, the Society also supports mathematical activities on an international level. In 2015-16, a total of £10,800 was awarded in grants to support mathematics across Africa under the Society's Scheme supporting conferences in Africa organised by the African Mathematics Millennium Science Initiative (AMMSI). 10 grants were awarded to organisers of conferences across Africa.

The current partnerships under the Mentoring African Research in Mathematics (MARM) programme continued this year. MARM operates in collaboration with the African Mathematics Millennium Science Initiative (AMMSI), using LMS funding combined with funding from the International Mathematical Union Commission for Developing Countries (IMU CDC). The programme aims to slow the academic 'brain-drain' in Africa, in which talented mathematicians often move abroad due to lack of opportunity at home, thus eroding the mathematics people pipeline within the continent. In 2015-16 a fifth round of the programme was launched and four new partnerships created. Including the new partnerships, this means that 21 awards

have been made under the programme, in Cameroon, Congo, Ethiopia, Ghana, Ivory Coast, Kenya, Malawi, Morocco, Nigeria, Rwanda, South Africa, Tanzania and Uganda. From a relatively low-level investment the outcomes of MARM have been substantial, having an effect on the next generation of African mathematicians, improving and enhancing academic curricula, supervising PhD study and leveraging further funding into African institutions, amongst many other achievements. The programme continues to inspire a high application rate from both African institutions and potential European partners and the Society hopes that funding for the scheme will continue into the future, for the benefit of mathematics across the two continents.

### **Prizes**

The Society awarded a full portfolio of LMS Prizes this year, including the IMA-LMS Christopher Zeeman Medal, in recognition of the exceptional contributions being made to the mathematical community. In particular a De Morgan Medal, the Society's highest prize, was awarded to Professor Sir Tim Gowers. The Society extends warmest congratulations to all winners.

### **Library**

The Society's Library is housed at University College London (UCL) to ensure accessibility to a wide audience. The Library Committee meets regularly with representatives from the Science Library at UCL to review the Society's 110 international journal exchange agreements, and to review the services offered by UCL Library to members of the Society. This year

two Library Placement Students were recruited as part of ongoing work to make the Society's archives more accessible online, working particularly on indexing the Minute Books from 1866 to 1894. Further work has also taken place on the development and promotion of the Philippa Fawcett Collection. The Society now houses the Plücker Model Collection after they were returned by the Science Museum, when it began work on its new Mathematics gallery. The collection of 14 boxwood models were originally donated to the Society by Julius Plücker in 1866 and they are now on display at De Morgan House.

### **Computer Science**

This year's Computer Science Colloquium, titled *Algorithms and Cryptography: Apology Accepted*, was an enhanced event held as a part of the 150<sup>th</sup> Anniversary celebrations. The colloquium attracted over 200 attendees and involved 6 high-profile speakers from the UK and overseas. Feedback from the event indicates it was a real success. Since 2005, the Society has, in addition, funded the costs of an overseas speaker at the British Colloquium for Theoretical Computer Science (BCTCS). In 2015, the LMS-sponsored Keynote Speaker was Professor Thomas Hales (University of Pittsburgh) at the event held at Queen's University, Belfast.

In collaboration with the Smith Institute, the LMS Computer Science Committee has looked to commission further Knowledge Transfer Papers. The LMS-Knowledge Transfer Network (KTN) Knowledge Transfer Reports are an initiative coordinated jointly by the Industrial Mathematics Knowledge Transfer Network (IM-KTN) and the Society. The reports are being produced as an occasional series, each one addressing an area where mathematics and computing have come together to provide significant new capability that is on the cusp of mainstream industrial uptake. They are written by senior researchers in each chosen area, for a mixed audience in business and government. The reports are designed to influence managers and decision-makers by raising awareness of new tools and techniques, in a format that allows them to assess rapidly the potential for impact and exploitation in their own fields, alongside information about potential collaborators and suppliers. It is anticipated that further papers will be published in 2016-17.

In addition, the Computer Science Committee runs a grant scheme – Scheme 7. This is to facilitate collaborations in research at the interface of mathematics and computer science. In 2015-16, a total of 8 grants worth £3,795 were awarded.

### **In 2016-17 the Society will.....**

- continue the development and testing of an online system for grant applications and reports
- actively promote and further the participation of women speakers at LMS sponsored events and conferences



## **Representing and Promoting Mathematics**

Objective: to promote widely mathematical sciences research and its broad benefits to decision makers, policy advisers, funders and users of mathematics

# REPRESENTING AND PROMOTING MATHEMATICS

- **Mathematical Sciences: Driving the UK Economy CMS report launched at the House of Commons**
- **8 responses issued to Government and national agencies' consultations**
- **Mathematics represented at House of Commons SET for Britain poster competition for the third time**
- **Delegation attended the 7<sup>th</sup> European Congress of Mathematicians in Berlin**

Through its external and public relations the Society aims to ensure that the centrality of mathematics to so many aspects of society is represented to Government, other national policy-makers and influential organisations and individuals in order to inform debate and improve decision-making. The Society undertakes significant collaborative work advocating for mathematics both individually and through the Council for Mathematical Sciences (CMS).

## Public affairs

The Society has undertaken extensive public affairs work over the past year in promoting mathematics to decision-makers and policy advisers within what has been a challenging political and economic climate. It has responded to various consultations by the Department for Education, Ofqual and the Higher Education Funding Council for England (HEFCE), and inquiries from the House of Commons Business and Innovation Committee, in doing so ensuring the mathematical community's voice is heard with a view to influencing policy decisions.

The LMS Research Policy Committee has continued to seek robust evidence to inform its policy contributions. A Mathematical Sciences Directory, at present containing the names of most academic UK mathematical scientists in the form of an electronic database is nearing completion and it is intended that it will be launched later in 2016. It will eventually be extended to include all UK mathematical scientists in both academia and industry. The Committee has closely examined the outcomes of the reforms to the allocation of Doctoral Training

Partnership funding by the Engineering and Physical Sciences Research Council (EPSRC) and will, with CMS, make representations on behalf of the community.

For the third year the mathematical sciences, through the CMS, were represented in the prestigious SET for Britain poster competition at the House of Commons, which brings together young researchers across all SET (Science, Engineering and Technology) disciplines with Members of Parliament. This year the gold medal for the mathematical sciences (sponsored again by the Clay Mathematics Institute), and £3,000 prize winner, was Dr Philip Pearce (University of Manchester) for his poster titled *Relating Structure to Function in the Placenta via Mathematical Modelling*. Dr Tom Montenegro-Johnson (University of Cambridge) won the Silver Award and £2,000 for his research on *Microbiotic Swimming* and Mr Weijian Zhang (University of Manchester) won the Bronze Award and £1,000 for his research on *Time-dependent Network Modelling for Mining Scientific Literature*.

From 2017 the competition will be renamed STEM for Britain (Science, Technology, Engineering and Mathematics) to acknowledge the significant contribution from the mathematical sciences.

Over the last year the Society has worked with the Department for Education (DfE) on matters regarding the Reformed GCSE, AS and A-level qualifications and the teaching of mathematics in schools. A total of 7 education consultation responses have been issued. In addition, a further

response issued by the Council for Mathematical Sciences is noted below. The Education Secretary of the Society has attended meetings of the A-Level Mathematics Advisory Board (ALMAB), which was established to advise the DfE on curriculum content, continuing the work of the A-Level Content Advisory Board (ALCAB).

Within the mathematics research community the LMS President has represented the Society widely at various events, ensuring national and international recognition for the Society and for UK mathematics as a whole and ensuring the Society's and UK's input into international discussions. Meetings attended include a meeting of the Presidents of European Mathematical Societies held in Budapest, and the Abel Prize presentation ceremony in Oslo. The President also represented the Society at Parliamentary and Scientific Committee meetings and a Parliamentary Links Day. The President also led an LMS delegation to the meeting of the Council of the European Mathematical Society. This was held in Berlin prior to the 7<sup>th</sup> European Congress of Mathematicians.

### **Council for Mathematical Sciences**

The Society is a founding member of the CMS which aims, through its member bodies, to draw together the mathematical community to speak with one voice on national issues of mutual concern. The CMS provides a forum for the consideration of matters of joint interest; it responds and makes representations to Government and others on appropriate issues. The CMS represents mathematics

to government, in particular to the Department for Business, Innovation and Skills (BIS). It meets regularly with EPSRC and the Higher Education Funding Council for England (HEFCE). The CMS is also a member of the Parliamentary Collaboration Steering Group for STEM learned societies.

In early 2016 the CMS published a report, *Mathematical Sciences: Driving the UK Economy*, analysing the impact of mathematics by reviewing and drawing together the outcomes from a large number of recent reports that have demonstrated the importance of mathematics in a number of contexts. The report was launched at a House of Commons event. Attendees at the event included MPs, civil servants, industry leaders, other learned societies and academics.

The Society, as part of CMS, also took part in Voice of the Future, in March 2016, and Parliamentary Links Day in June 2016, the focus of which was Science in Europe immediately following the referendum on the UK's membership of the European Union.

The Society has played an active contributory role in the formulation of CMS responses to various consultations and calls for evidence, which over the last year have included Lord Stern's Review of the Research Excellence Framework. The CMS has again put forward nominations for the latest EPSRC Strategic Advisory Team (SAT) vacancies, two of whom were selected in April 2015.

CMS' work has continued to ensure that the importance of mathematics is increasingly recognised at Government level.

## **Collaborative working**

The Society works actively and collaboratively through its membership of and funding for a number of mathematics and science organisations to ensure the interests of mathematics are represented in national policy and public debates and to ensure the Society is kept informed of external policy issues. Membership includes the UK Parliamentary and Scientific Committee, Science Council, British Science Association, Joint Mathematical Council, Campaign for Science and Engineering (CaSE), and the Foundation for Science and Technology. The Society also works in association with the UK Heads of Departments of Mathematical Sciences (HoDoMs), and the LMS Vice-President John Greenlees gave a presentation on LMS data collection at the HoDoMs conference in April 2016. The Society is also represented on the Parliamentary Affairs Committee run by the Royal Society of Biology, the Institute of Physics and other STEM learned bodies.

The Society provides funding for the Isaac Newton Institute (INI) and the International Centre for Mathematical Sciences (ICMS) as major organisations supporting mathematical research in the UK, as well as for the Advisory Committee on Mathematics Education (ACME).

The Society and the IMA have continued their collaborations throughout the year, including the award of the Christopher Zeeman Medal, won in 2016 by Rob Eastaway. Joint press statements have been issued by the two Societies over the past year on A-level results and the Christopher

Zeeman Medal.

## **Development Activities**

The Society will be prioritising its Development activities from 2016-17, to help ensure that the financial foundation of the organisation is as secure as possible for future generations.

The 'De Morgan Dinners', held in 2013 and 2014 and the Anniversary Dinner held in 2015 have helped develop a group of external influential supporters from a wide range of backgrounds, sympathetic to the Society's mission. The Society aims to work further with this group to help develop strategies and support for the healthy future development of the mathematical sciences.

## **European Congress of Mathematics 2016**

The 7<sup>th</sup> European Congress of Mathematics (7ECM) was held in Berlin, Germany in 2016. The Congress is held every four years and attracts eminent mathematicians from around the world. The Society was strongly represented at the event, several LMS Officers attended including the President, General Secretary, Publications Secretary and Programme Secretary, along with other Society representatives. A delegation of the Society's Council attended the General Assembly of the European Mathematical Society (EMS) at which new members of the EMS Executive Committee were elected, including current LMS Council Member-at-Large, Professor Beatrice Pelloni, and at which it was agreed that the 8th European Congress of Mathematics (8ECM)



would be held in Portoroz, Slovenia from 5-11 July 2020. The delegation gave presentations and attended talks and seminars. The Congress was also an excellent networking opportunity for sharing experiences with colleagues from other mathematical organisations and institutions around the world.

The Society attended the Congress exhibition where it displayed promotional material as well as a range of journals and publications. Conference delegates were also able to join the Society. The Society was also involved in publicising the announcement of the EMS Prize-winners, which included two UK-based

mathematicians; Dr James Maynard (University of Oxford) and Dr Peter Varjú (University of Cambridge), and the winner of the Otto Neugebauer Prize, which was awarded to Professor Jeremy Gray (Open University).

The Society also held a panel session chaired by the Publications Secretary, Professor John Hutton, 'Meet the Editors: How To Get Your Papers Published for early career researchers', and organised a Society Meeting at which former LMS President, Professor Terry Lyons (University of Oxford), gave the LMS Lecture. Afterwards, the Society held a reception for members and guests.

#### **In 2016-17 the Society will.....**

- **launch the UK Mathematical Sciences Directory electronic database**
- **continue to commission the gathering, analysing and reporting of evidence with respect to UK mathematics**
- **continue to bring to the attention of decision-makers and policy advisers national data on mathematics and the UK mathematics landscape**
- **continue to represent mathematics research and education to Westminster, Whitehall and other national funding bodies and ensure that mathematics is explicitly considered during discussions regarding STEM subject areas**







## **Disseminating Mathematics**

Objective: to disseminate mathematical knowledge and make it available worldwide.

# DISSEMINATING MATHEMATICS

- **3 contracts signed for publishing of journals 2017-2021**
- **Review of publishing and restructuring of the Publications Department**
- **1,145 people attended 11 Society meetings**
- **Joint Meetings with the European Mathematical Society, the Edinburgh Mathematical Society, the Institute of Physics and the Royal Astronomical Society**
- **Inaugural Hirst Lecture and Society Meeting**

Through its publications and meetings the Society aims to disseminate high-quality mathematical research and thinking worldwide. The Society currently publishes 13 peer-reviewed journals, 7 of which are in collaboration with other learned societies and institutions, as well as 2 book series and individual book titles. The Society also hosts regular meetings and lecture series involving some of the most renowned UK and international mathematicians.

The Society's publications serve a dual purpose, in not only disseminating mathematical research but in providing the Society with an income which it utilises entirely in furtherance of its other charitable activities.

## Publications

A new contract was signed with John Wiley & Sons Ltd to publish the Bulletin, Journal, Proceedings and Transactions as well as Journal of Topology on behalf of the LMS for five years from January 2017. Contracts were also signed with Cambridge University Press and the Foundation Compositio Mathematica for the publication of Compositio Mathematica during the same time period.

A review was undertaken of the Society's publishing operations and the resulting report recommended a stronger focus on strategy and development. The Publications Department was restructured and there have been changes to staff (see Annex 4).

By decision of Council and vote of the membership at a Special General Meeting, the LMS Journal of

Computation and Mathematics was closed to new submissions and will continue to be published only as long as there remain papers under review.

## Society Meetings

Society Meetings enable both members of the mathematical community and the wider public to meet, hear about and discuss current mathematical thinking and developments. In 2015-16 Society Meetings were held in Birmingham, Bristol, Edinburgh, Manchester, St. Andrews and Southampton as well as London. The Society also held a Meeting at the 7<sup>th</sup> European Congress of Mathematicians in Berlin.

The Mary Cartwright Lecture was given by Professor Gwyneth Stallard at the Society Meeting held in February 2016. A Society Meeting was also held at the British Mathematical Colloquium, which included a lecture by Professor Kristin Lauter.

In 2016, the Inaugural Hirst Lecture was given by Professor Edmund F. Roberston during the Society Meeting held at the University of St. Andrews. The Inaugural Hirst Prize and Lectureship was awarded jointly to Professor Robertson and Dr John O'Connor in 2015.

During 2015-16, the Society held several joint meetings with sister societies in both mathematics and other sciences. In Birmingham, the Society held a Joint Mathematical Weekend with the European Mathematical Society (EMS) as part of the LMS 150<sup>th</sup> Anniversary and the EMS 25<sup>th</sup> Anniversary celebrations. To mark the centenary of the Einstein's Theory of General Relativity, the Society held

a meeting, jointly with the Institute of Physics and the Royal Astronomical Society, in London. To celebrate the Society's 150<sup>th</sup> Anniversary, a joint meeting was held with the Edinburgh Mathematical Society at the International Centre for Mathematical Sciences during which the President of the Edinburgh Mathematical Society, Professor Ian Strachan, presented a commemorative silver Quaich to the LMS President.

### **Lecture series**

The Society's funding for visiting international lecturers helps enable UK-based mathematicians to engage in dialogue with current mathematical thinking from across the world.

International lecturers included the 2016 LMS Invited Lecturer, Professor Edgar Knobloch (University of California, Berkeley), who gave the Invited Lectures Series at Loughborough on *Dynamics, Patterns*

and *Spatially Localised Structures*. The 2016 LMS Hardy Lecturer, Professor Jacob Lurie (Harvard University) visited the UK in June and July 2016 to give lectures at Aberdeen, Cambridge, Glasgow, Leicester, Oxford, Sheffield and Southampton before giving the 2016 Hardy Lecture at the General Society Meeting in London on *Weil's Conjecture for Function Fields*.

Two Graduate Student Meetings were held prior to the Annual General Meeting in November and the General Meeting and Hardy Lecture in July. Over 50 students attended these meetings and 10 gave presentations of their own research.

All of the Society's meetings and lectures are open to members and non-members alike and are free to attend. In 2015-16, 1,145 people have attended the meetings, and were able to hear about important current developments in mathematical sciences research.

### **In 2016-17 the Society will.....**

- undertake a strategic review of its publications programme, including both journals and books
- increase focus on journal development and further improve communications with editors, editorial boards and the LMS publishing partners
- continue to seek new opportunities for publishing high-quality mathematical research
- host a joint Society Meeting with the Royal Statistical Society and Fisher Memorial Trust on *Data Science: The View from Mathematics*
- facilitate 3 LMS-EPSRC Durham Symposia





## **Sustaining the Mathematical Community**

Objective: to promote equality of opportunity and a culture of fairness across all career stages, ensuring the long-term sustainability of the mathematical research community.

# SUSTAINING THE MATHEMATICAL COMMUNITY

- **Second Undergraduate Summer School held**
- **2 Women in Mathematics Days held in Cambridge and Edinburgh**
- **LMS-CMI Research Schools attended by over 150 early career researchers and postgraduates**
- **Childcare Supplementary Grants Scheme relaunched as Caring Supplementary Grants Scheme**

The Society has recognised increasing concern among the community regarding career progression across academia generally and within mathematics specifically. Decreasing statutory funding leading to fewer opportunities for graduates and postgraduates has caused concern about the sustainability of the mathematics people pipeline. Ensuring that talented mathematicians are enabled to progress securely through the various career stages is of profound importance – and not only to academia but to wider industry and the economy more generally. This objective focuses the Society's work in this area, particularly with respect to the transitions between the early career stages (undergraduate to postgraduate and postgraduate to postdoctoral) and to women in mathematics and the wider diversity agenda.

## Early career progression

The Society operates a number of schemes to help support the early career progress of mathematicians for undergraduates, postgraduates and postdoctoral researchers.

### *Undergraduate Summer Schools*

The Undergraduate Summer Schools aim to introduce exceptional non-final year undergraduates to modern mathematics and, in particular, to make them think seriously about a future academic career. The 2016 School, held at the University of Kent, attracted a very competitive field of nominees from across many UK institutions. 53 students attended the School which included a combination of short lecture courses given by mathematical experts from the UK and

overseas, alongside problem solving sessions and colloquium style talks. The Scheme is designed to particularly encourage attendance from students at institutions that do not normally have a strong tradition of undergraduates continuing to PhD study and to use the School to help recognise their own potential.

### *LMS-CMI/Heilbronn Research Schools*

The Scheme operates in partnership with the Clay Mathematics Institute (CMI) with additional support from the Heilbronn Institute. In 2015-16, four LMS/CMI/Heilbronn Research Schools took place: at Baskerville Hall, Hay-on-Wye (*Diophantine Equations*); the University of Oxford (*Computational Algebraic Topology*); the University of Glasgow (*Developments in Contact and Symplectic Topology*); and the University of Reading (*Modern Topics In Nonlinear PDE and Geometric Analysis*), attracting over 150 participants. A further Research School will take place in September 2016 at Queen's University Belfast (*Combinatorics and Quantum Information Theory*).

### *150<sup>th</sup> Anniversary Postdoctoral Mobility Grants*

The 150<sup>th</sup> Anniversary Postdoctoral Mobility Grants Scheme is designed to help early career researchers navigate the difficult stage from submitting their PhD thesis to gaining their first postdoctoral employment by supporting a period of study and research in a new institution, and affording them the opportunity to make new connections and develop their research. In 2015-16 7 postdoctoral graduates made visits to institutions ranging across the UK,

Europe, India and the US. A further 10 awards have been made for visits in 2016-17. Application numbers to the Scheme have been high for both rounds indicating strong demand within the community for this type of support. Due to the high cost of these grants, this will be the final year that the Society supports the scheme. However the Society is currently seeking external sponsorship to be able to continue the Scheme in future.

#### *Undergraduate Research Bursaries*

The fourth round of the Undergraduate Research Bursaries Scheme received a high number of applications in 2015-16. The rules for the scheme were changed to encourage matched-funding from departments. 79 applications were received from 26 institutions, and the Society was pleased to see 18 of these institutions offering to match the funding the grants if successful. In the event, 36 awards were made and 32 of these were co-funded by the department. This matched funding enabled the Society to nearly double the number of awards usually made under this scheme, allowing many more excellent students to experience mathematical research, and encouraging them to consider research as a future career. The Scheme has widespread recognition and the support across the community is demonstrable. Feedback from grantholders has indicated how valuable this scheme has been in gaining understanding of exactly what a research career entails. Council has agreed that the generous donation received from David Harding in 2015 should be used to continue the scheme for a further 3 years.

#### *Other activities*

In addition to these specific schemes other ongoing activities continue to support early career researchers. These include providing funding for the Young Researchers in Mathematics (YRM) Conference, held in 2016 at the University of St. Andrews, in partnership with Think Tank and Winton Capital and attended by 80 early career researchers. The YRM is a national conference specifically for postgraduate students, planned, organised and run by the students themselves. Also, the Society funded the LMS Prospects in Mathematics event, which was held at Loughborough University in December 2015 and attended by 60 undergraduates. The meeting is primarily aimed at final year undergraduates interested in pursuing a PhD in mathematics. Both of these events are held annually and are supported by the Society, being held each year at different institutions across the UK. These meetings are important events that encourage and support students in the pursuit of a career in mathematics research.

#### **Women in Mathematics**

The Society continues its commitment to improving the proportion of women in mathematics and to helping ensure that equal opportunities are embedded within working practices for the benefit of everyone working and studying within university departments. The Women in Mathematics Committee has representatives from all 5 constituent mathematical bodies of the Council for the Mathematical Sciences (CMS) as well as from the European Women in Mathematics Committee, ensuring it speaks for the entire UK



mathematical community. The Chair of the Women in Mathematics Committee represents the Society on the Athena Forum.

In conjunction with the Heads of Departments of Mathematics (HoDoMs), the Society operates the LMS Good Practice Scheme, with the aim of helping mathematics departments to take practical actions to improve the participation of women and to share examples of good practice with other departments. The Scheme offers support in applying for an Athena SWAN award for those departments seeking recognition for their work in this area.

As part of this initiative two LMS Good Practice Scheme workshops were held in Edinburgh in October 2015, which focused on tackling 'unconscious bias', and in London in November 2016, focusing on 'Athena SWAN: Beyond Bronze'. The topics were chosen in response to identified needs from the community. At the Edinburgh workshop training was provided by the Equality Challenge Unit (ECU) to help participants identify and overcome their own unconscious biases, and materials and information were provided to help participants deliver sessions within their own departments. Over 180 people have attended the GPS workshops held to date, representing over 50 institutions. The LMS Good Practice Scheme and its events are intended to help mathematics departments implement best practice policies, contributing towards the achievement of Athena SWAN status, and ultimately working towards ensuring that negative, unhelpful or discriminatory practices preventing fair career progression are

eliminated. Feedback from the events to date has been overwhelmingly positive. 37 mathematical sciences departments now hold Athena SWAN awards, and 34 of these are registered LMS Good Practice Scheme Supporters.

In 2016 the LMS Good Practice Scheme Steering Group published new statistics on gender balance in UK mathematical sciences departments that updated those originally published in the *Advancing Women in Mathematics* report in 2013. These statistics will help departments across the UK benchmark themselves against the national picture and provide vital information for Athena SWAN applications and implementing good practice initiatives. The Steering Group aims to ensure that these statistics are updated on a regular basis.

The Committee organised two Women in Mathematics Days in 2016, one held at Microsoft Research in Cambridge and one at the International Centre for Mathematical Sciences (ICMS) in Edinburgh. Both events focused on mathematics and industry to provide attendees with an understanding of careers using mathematical research beyond academia. Hosting two events in different locations meant that attendees from a wider geographical area were able to attend. The Committee was delighted to receive sponsorship for the events from Microsoft Research, the ICMS and Wiley (which sponsored the poster competition at both events). The Committee also intends to implement a scheme for future Women in Mathematics Days to allow departments or other organisations to tender to host events.

The Childcare Supplementary Grants Scheme operated by the Committee was relaunched this year as the 'Caring Supplementary Grants' Scheme, widening the eligibility criteria to allow applicants to apply for help with the costs of caring more generally, for example for childcare or for caring for an elderly or disabled relative. In doing so this brings the Scheme into line with good practice in this area and ensures that fewer mathematicians are disadvantaged by having to cover such costs when attending academic conferences or meetings. The Society still believes that such costs should be routinely covered by institutions and/or conference organisers and actively encourages consideration of this by departments.

The Committee has been exploring new opportunities to work with younger mathematical sciences students and school students. The Good Practice Scheme Steering Group piloted an event for second year undergraduates to encourage them to consider undertaking a PhD. It is planned to roll out a programme of similar events for undergraduates across the UK. The Committee is also working on an online resource for young people, 'Success Stories in Mathematics', to provide examples of how mathematics is used in a wide range of careers, demonstrating the variety of options available beyond a mathematics degree. The website will be launched in 2017.

#### **In 2016-17 the Society will.....**

- **continue to run at least four LMS/CMI/Heilbronn Research Schools in 2016**
- **seek sponsorship to continue to run those activities which provide support to early career researchers**
- **develop further events for school age students and undergraduates to improve gender diversity in the mathematics people pipeline**
- **launch the 'Success Stories in Mathematics' webpages**





## **Engaging with Education and the Public**

Objective: to support mathematical education in schools, colleges and universities, and to encourage the public and young people to appreciate and engage with mathematics.

# ENGAGING WITH EDUCATION AND THE PUBLIC

- **Highly successful relaunch of Holgate Session Leader Scheme**
- **Extension of the agreement with Gresham College to host joint lectures**
- **300 attendees visited De Morgan House as part of 'Open House London 2015'**

The Society is keen to ensure that as far as possible the wider public and young people have the opportunity to engage with and appreciate mathematics and recognise its contributions to society. It operates a number of initiatives which aim to achieve this. In 2015 the Society has particularly utilised the 150<sup>th</sup> Anniversary to engage with the public on a larger scale than ever before. It is hoped that in doing so a lasting legacy for mathematics can be established. Further details of activities implemented for the 150<sup>th</sup> Anniversary can be found in the earlier section of this report.

## Education

The Education Committee works on a number of different activities and schemes, including grants for education, public lectures and responses to consultations. This year the Society's Mathematics Teacher Continuing Professional Development (CPD) grants scheme made 46 awards, supporting the professional development of mathematics teachers and the improvement of mathematics teaching. The Education Committee advised Council on a total of 7 responses to government policy consultations. These covered areas such as the Teaching Excellence Framework, Assessment of Quality in Higher Education and the content of GCSE and A-Levels. In addition, the Education Secretary attended meetings of the A-Level Mathematics Advisory Board (ALMAB) and has worked to establish succession arrangements following the disbanding of the A-Level Content Advisory Board (ALCAB).

The Education Committee also relaunched the Holgate Session Leader scheme. The Scheme provides session leaders who are willing to give a talk or run a workshop on a mathematical subject to groups of students or teachers. The sessions are specifically mathematical in content (rather than, say, career talks) and are intended to enrich and enhance mathematical education, looking both within and beyond the curriculum. 5 session leaders were appointed who gave a total of 20 sessions in individual schools around the country. The relaunch of the scheme was successful beyond expectations and three further session leaders will be added to the scheme next year.

## Popularisation

A sub-committee of the Education Committee chaired by Dr Kevin Houston focuses on popularisation events to ensure that these have greatest possible impact. Dr Julia Wolf and Dr Heather Harrington were the LMS Popular Lecturers in 2016, and gave well-received talks to large audiences.

The Education Committee was also pleased that Gresham College agreed to extend its agreement with the Society to host a joint annual lecture. Professor Norman Biggs of the London School of Economics gave the 2016 LMS-Gresham lecture at the Museum of London, *Mathematics, Measurement and Money*.

Through the Joint Promotion of Mathematics Steering Group (JPM), mathematics was represented at the Big Bang UK Young Scientists and Engineers Fair held in Birmingham in

March 2016, with a range of interactive demonstrations and activities, which once again proved to be very popular. The JPM Steering Group also produced three Maths Inside leaflets in conjunction with the Royal Society and exhibitors at the Royal Society's Summer Science Exhibition in July 2016.

The Society took part in 'Open House London' for the fifth year. Opening up De Morgan House, the Society's central offices, has allowed over 1,500 people to visit the building. The visitors in 2015 had an opportunity to learn about the Society's 150<sup>th</sup> Anniversary celebrations through displays, videos and presentations.

#### **In 2016-17 the Society will.....**

- **develop plans to build on its successful, influential and legacy-generating year of exciting events and initiatives in celebration of the Society's 150<sup>th</sup> Anniversary in 2015, consolidating plans to ensure the events have a lasting effect beyond the Anniversary year**
- **issue further LMS policy position statements to support mathematics Higher Education and education in schools**
- **Increase the capacity of the Holgate Session Leader scheme**





## **Managing the Society Effectively**

Objective: to manage the Society's affairs and resources effectively and efficiently, operating where appropriate to make a not-for-profit financial return on activities, and to seek a variety of funding sources to support the Society's work.





# MANAGING THE SOCIETY EFFECTIVELY

The Society aims to ensure that its resources are put to best possible use in achieving its mission and objectives. In all its operations it aims to ensure the longevity of the Society and plan for future circumstances, while also meeting the current needs of mathematics and its community.

In doing so the Society ensures it follows best governance practices by operating in accordance with its Charter, Statutes and By-Laws and by referring to guidance from the Charity Commission and, where appropriate, professional advisors (Annex 1).

The Society is governed by a Council of Member Trustees, elected by the membership from the mathematical community (Annex 1). Day-to-day operations are undertaken by a full-time equivalent (FTE) staff of 15 (Annex 4). An additional 1.0 FTE member of staff was employed on a temporary basis from 2014-16 specifically to assist with the 150<sup>th</sup> Anniversary celebrations. Council

has chosen to delegate decision making on a number of matters to 15 standing committees and has also set up a number of temporary ad-hoc committees to deal with specific items of business (Annex 2). Council also maintains and reviews annually a Risk Register with respect to all activities undertaken by the Society.

The Society runs its financial operations in accordance with best accounting practices and ensures that all its plans and activities are underpinned by a sound financial basis. The Society's financial and governance affairs are externally audited on an annual basis.

More detailed information on how the Society operates is available in the sub-sections that follow:

- Governance and Public Benefit
- Financial Review
- De Morgan House
- Statement of Trustees' Responsibilities

# Governance and the Public Benefit

## Governance

The Society's governing body is its Council, members of which are also the Trustees of the charity. The Council consists of 20 members of the Society of whom 8 are Officers (including the President) and 12 are Members-at-Large, including one 'Member-at-Large (Librarian)'.

The Officers of the Society, together with the Executive Secretary, comprise the Finance and General Purposes Committee (F&GPC), which is responsible for providing advice to Council on a number of ad-hoc matters, implementing Council's decisions and for ongoing financial management.

All candidates for election to Council are provided with information on the roles and responsibilities of Trustees. Those elected attend an induction normally in advance of their first Council meeting, which includes information on the work of Council, its strategies and plans, the operation of the financial systems, the administration of the Society and the responsibilities of a Trustee. All Council members are required to return a Declaration of Interests, a Declaration as a Fit and Proper Person, and to sign up to the Society's Anti-Bribery policy; these declarations must be renewed by all Trustees on an annual basis.

Council met 6 times in 2015-16: in October and November 2015 and in February, April, May and July 2016 (F&GPC met 5 times: in September 2015 and in January, March, April and June 2016). The Society holds an Annual General Meeting and a mid-year General Meeting each year

– held in November 2015 and July 2016 respectively. In February 2016, a Special General Meeting was also held, having been convened in accordance with the Society's Statutes.

Council has established several standing committees which advise Council and to which it has delegated some decision making. A list of all committees and committee membership is given in Annex 2. A review of the terms of reference of the committees is being undertaken to ensure that the Society has the appropriate committees to implement its strategies and activities effectively.

As Trustees, Council members receive reimbursement only for expenses actually incurred in attending meetings or representing the Society. However, if a Trustee works over and above normal Trustee's duties, the Society may pay for that service if there is a written agreement produced in advance between the Society and the Trustee outlining the work to be undertaken and stating the exact or maximum amount.

The Society depends heavily on the unpaid voluntary work of very many of its members and others across the mathematical community, such as those who referee papers submitted to the Society's publications, those who edit those publications or serve on the Society's Editorial Advisory Boards, those who serve on the Society's committees and those who represent the Society on other bodies, together with the members of the Council themselves, many of whom undertake heavy burdens for the Society. The Society appoints representatives on external bodies and committees; these

are listed in Annex 3.

The Society has, since 2012, engaged the Electoral Reform Services (ERS) to provide the voting element of the election procedures. At the 2015 election a total of 685 valid votes were cast, 96% of which were online votes. This was a turnout of 27.6% of voters which is higher than elections in other similar societies and is a 75% increase in the proportion of members voting prior to the implementation of e-voting.

Council is in the process of reviewing the Charter, Statutes and By-Laws of the Society and has set up a working group for this purpose, under the chairmanship of the General Secretary, and including the current President. Good progress has been made and it is expected that the membership will see more details in 2017.

### **Public benefit**

In shaping objectives for the year and planning activities, Council has considered the Charity Commission's guidelines on Public Benefit, including the guidance, 'Public benefit: running a charity' (PB2).

Council holds that the development and extension of mathematical knowledge, expanding humanity's ability to determine and affect the natural, artificial and social worlds, leads overwhelmingly to public benefit, providing for improved health and wealth for nations and individuals and providing tools to understand and sustain the world in which we live. The Society's activities directly correlate with its mission and objectives and are

focused on supporting mathematicians in their endeavours, through grants for collaboration; by sharing of knowledge through conferences and publications; by improving the quality of mathematics education for people of all ages; by promoting mathematics and its impact on everyday life to the general public; and by encouraging policies that will benefit mathematics.

Members of the general public are able to participate without charge in all Society activities of a suitable level. Charges for events aimed at professional mathematicians, whether or not members of the Society, are kept low, a policy that is maintained when deciding on criteria for grant awards; publications are sold at prices that keep them competitive in the academic publishing world.

# Financial Review

It has been a successful year for the Society in managing to achieve a healthy surplus at a time of great uncertainty in the wider economic environment, and at the time of implementing a large programme of enhanced charitable activities to commemorate the Society's 150th Anniversary. In the period 2015-16, income exceeded expenditure (excluding gains/losses on investment assets and defined pension scheme) by £114k. This was primarily due to increased income, but also partly due to cost savings and underspends in activities against budget.

The gain on Investments was £297k.

During the year, the value of the Society's assets rose from £15m to £15.4m. However, following FRS 102, the new statutory requirement with respect to Statement of Recommended Practice (SORP) reporting and adjusting the provision of Pension Liabilities, the value of the Society's assets decreased to £15.2m

Publications net income has decreased

slightly compared with last year. There were several reasons why it was expected to be lower: for example, a large decrease in returns on Russian journals as a result of new contracts, and lower sales of the *Mathematika* electronic archive. The cost of organisational restructuring is the other main factor for the decrease in publication income this financial year. Despite this initial cost, the restructuring of the Society's publishing operation will result in considerable saving year on year. The Society will continue to seek new opportunities for the expansion of the Society's publishing programme. However, Council is acutely aware of the potential risks to publications income and continues to keep this under review.

The Society remains in a strong position financially and has significant reserves. Given the continuing volatility in the economic climate the Society will keep under review where resources might best be used to further the Society's aims.

The sources of income (see Figure 1, p.44) were:

Publications	68.5%
Investments	13.9%
Conference facilities and rentals	7.8%
Grants and Contracts	2.8%
Members' subscriptions	3.4%
Advertisements in LMS Newsletter	0.3%
Donations	3.3%
Other	-

Figure 2 (p.44) shows expenditure (including governance and support costs) broken down by objective. These were:

Advancing mathematics (eg. membership, links with the mathematics community, library, prizes)	12.9%
Enabling mathematics (eg. grants, and training courses)	29.4%
Disseminating mathematics (eg. publishing, meetings and lectures)	34.1%
Promoting mathematics (eg. decision/policy makers, education, public, media)	16.3%
Other (eg. conference facilities costs, managing residential properties, Investment management fees)	7.3%

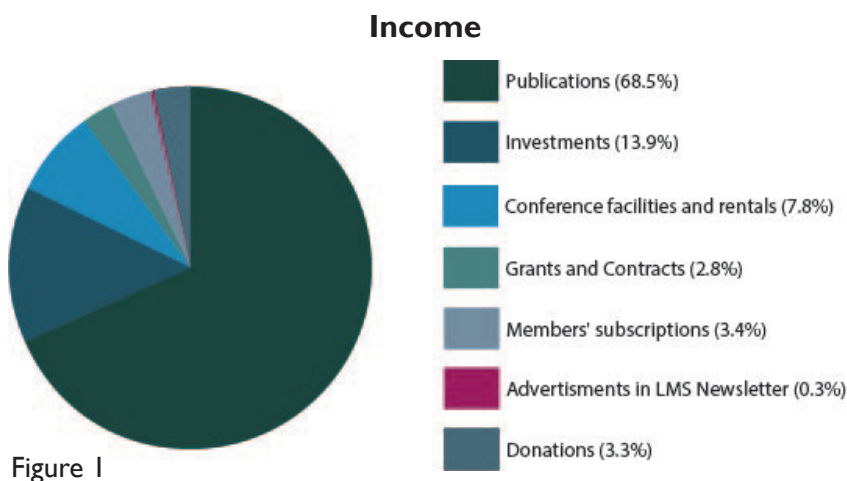


Figure 1

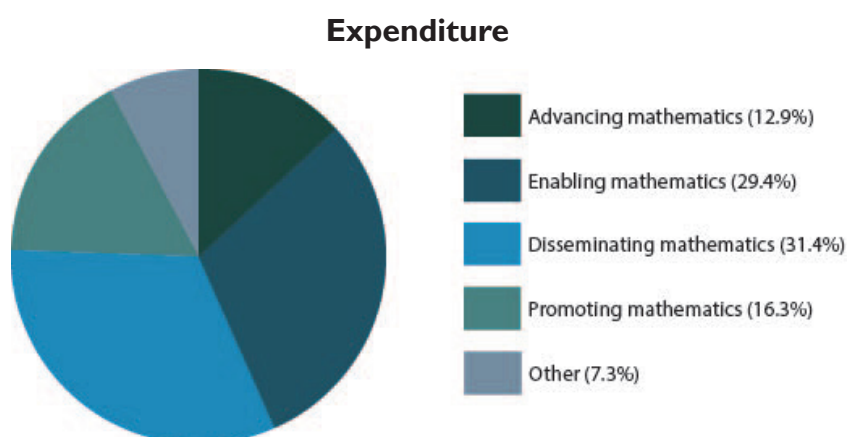


Figure 2

Budgets are set by Council on the recommendation of the Finance and General Purposes Committee (F&GPC), based on bids from budget holders, in line with the strategic objectives of the Society. Expenditure is monitored quarterly by F&GPC, which is responsible for recommending any variation in the budgets set by Council.

The full audited accounts of the Society, including the accounting policies, are annexed to this Report.

### Risk management

Council and F&GPC annually review

the Society's Risk Register identifying and quantifying potential risks to the Society and its plans and objectives, and laying out systems and strategies for mitigating those risks. These are addressed under the following headings: Governance and Management, Law and Regulation, Reputation, External and Environment, Financial, and Operational. In certain cases Council has established Designated Funds to set against potential risks (see Reserves below); the risks or commitments that are covered by each fund are reviewed and revised annually.

The Risk Register includes the potential threat to Publications income, which in the worst-case scenario could have a devastating effect on the income which the Society derives from its learned journals. This income contributes to the Society meeting its charitable objects. In the past year, Council has sought information and expert advice in order to be better prepared for possible future changes to the publishing models and income streams. At its last Strategic Retreat Council considered various financial models derived from certain assumptions regarding the potential future income of the Society. Open Access publishing remains under close consideration.

### Reserves

Council reviews its policy on reserves on an annual basis. The unrestricted reserves comprise a General Fund and other Designated Funds. In addition there are several Restricted Funds. Council has several specific Designated Funds to meet the potential costs of activities, to set against risks relating to the building and to publishing (see

above) and to meet grant awards made for projects or activities which span a number of years – these are given at Annex 6.

The Society has a broad-ranging programme of activities in support of its strategic objectives as described in this report. While some activities are supported from Restricted Funds, all need continuity of funding. Due to the scale and future risks to academic publishing (a key part of the Society's income), Council continues to operate on the basis that it is prudent to hold a General Fund from which income can be drawn to maintain and extend its charitable activities. The General Fund acts both to provide income for activities not funded from Designated or Restricted Funds, and also as a 'free reserve', providing adequate working capital for the Society to operate effectively and efficiently, and for the pursuit of the Society's objectives as Council may from time to time determine.

The Society normally maintains £600k free reserve (operating reserve) cash at bank to ensure that there is enough working capital to stabilise the Society's finances by providing contingency against unexpected events, as well as to handle losses of income and large unbudgeted expenses.

The Society holds several Restricted Funds, as described in the audited accounts. These originate from various donations and bequests, and are invested and accounted for on an aggregated 'total return' basis.

#### **Grant Awards and Commitments**

Where the Society has contractual or

constructive obligations to make grant payments these amounts are accrued in the accounts in accordance with the requirements of the Statement of Recommended Practice (SORP). Resources expended on grants shown in the Statement of Financial Activity (SoFA), therefore, recognise (within the year the grant is awarded) both liabilities and provisions for grant commitments. Normally grant commitments will be claimed by the end of the financial year, although the claim period may be extended by a further year where the start or end date of the grant so requires.

The Society also awards some grants with conditions for payment (such as delivery of a specific level of service or other specific output). Such commitments are reserved in the Designated Funds, and the grants are only recognised in the SoFA when the recipient of the grant has provided evidence of the specific service or output.

#### **Investments**

The Society decided to invest up to 20% of its relevant assets in residential property, as valued at the time of purchase, with the remainder given over to the Society's investment managers. Investment in such residential property would be directly managed by the Society rather than the investment managers. The percentage calculation excludes the value of De Morgan House, though this could be reviewed at any point. Also excluded are any investments made by the investment managers in the property area of asset classes.

### 1. *Quoted investments*

The current quoted investment strategy for the portfolio, which is managed by investment managers Schroders (Cazenove), has been modelled to achieve RPI + 4% per annum nominal return over five years (a 4% return in real terms after allowing for average service sector wage inflation). Due to the change in the investment climate Council agreed to accept a lower than 4% return in order to reduce risks. Close attention is paid to our investment policy and to the performance of Schroders, with whom we have regular meetings.

The drawdown each year, as agreed by Council, follows the 'Yale model' and consists of 50% of the previous year's drawdown together with 3.5% of 50% of the current value of the portfolio.

Thus the drawdown is determined by a formula and so may be less or greater than the dividends and interest received: it is shown in the SoFA as Investment Income. The growth in the value of the Society's investments (capital plus income) is the sum of this drawdown and the figure shown in the SoFA for Gains on investment assets. The scale of the Society's activities is designed to match this level of return through the annual budgeting process.

The majority of the Society's reserves – both Restricted and Unrestricted – are invested and managed by the Society's investment managers, Schroders (Cazenove). It is Society policy to review on a regular basis the performance of those professional bodies it employs. Accordingly, Council has an Investment Sub-Committee, which includes six external financial

experts, to provide advice on the Society's investments. Council has confirmed an investment mandate with discretionary powers with Schroders, based on a 'total return' basis, designed to maximise investment income while maintaining the real value of the investments.

The investment managers have discretion in both the mix and selection of investments in order to meet the growth targets for the portfolio, without exposing to undue risk the Society's reserves, on which its future capacity to maintain its activities depends. The primary long-term target is that the Society's portfolio produces a total return of inflation (RPI) plus 4% pa. The portfolio has exposure to a range of equity, cash, fixed-interest investments and alternative asset classes in both UK and overseas markets, accessed via a single investment in the Schroder Charity Multi-Asset Fund. A summary of the main categories of investments and the geographical split is provided in the notes to the financial statements in accordance with the Charities' SORP. The Schroder Charity Multi-Asset Fund is a common investment fund designed for charities seeking to maintain the real value of their capital over the medium to long term whilst generating a sustainable and reliable distribution level (from income and capital). The portfolio which aims to deliver returns similar to equity markets but with a lower level of volatility, is well diversified across asset classes. This approach is considered by the trustees to give optimum total return without exposing the Society's investments to undue risk; it is consistent with the principles set out in the Charity Commission guidelines Investment



of Charitable Funds, Basic Principles (CC14) and conforms with the Trustee Act 2000.

## *2. Residential property investments*

As a safeguard against possible poor performance of the stock exchange, the Society expanded its investments portfolio to include residential property and owns three long lease residential properties in the Central London area,

all of which are rented out. The rental derived is shown on the SoFA under 'Investment Income'. The growth in the value of the Society's residential property investment will be shown in the SoFA as Gains on investment assets. The primary long-term target of the Society's residential property is to produce a yield of 4% pa and to increase in capital value by at least the rate of inflation.



# De Morgan House

## Staff management

The Society currently employs a team of full and part time staff, who are predominantly based within De Morgan House. A list of staff in post during the period is at Annex 4.

The Executive Secretary is responsible for staff-related issues with strategic overview provided by the Society's Personnel Committee.

## De Morgan House

The Society holds a long lease (to 2118) from Bedford Estates on De Morgan House, 57-58 Russell Square, London, WC1. It uses these premises: (a) to house its administrative headquarters; (b) to hold its meetings and conferences in the promotion of mathematics; (c) to let out offices on the upper floors to other organisations on a commercial basis; and (d) for function rooms which it lets to other organisations for their own purposes. The last category includes other mathematical and charitable organisations, where there is both a mathematical and financial benefit. Discounts are available and some rooms are offered at either reduced rates or at no charge for this last category as part of the Society's charitable giving. £30,797 has been granted in charitable giving for LMS rooms in this manner.

The use of the Conference Facilities for mathematical meetings and as a source of revenue achieved the highest level of income and occupancy since the operation began in 2006. Two tenants left this year in the letting of office space but two new tenants were found with the building returning to full occupancy.

# Statement of Trustees' Responsibilities

The trustees are responsible for preparing the Trustees' Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The law applicable to charities in England and Wales requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of the affairs of the charity and of the incoming resources and application of resources of the charity for that period. In preparing these financial statements, the trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities' Statement of Recommended Practice (SORP);
- make judgements and estimates

- that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

The trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities Act 2011, the Charity (Accounts and Reports) Regulations 2008 and the provisions of the Royal Charter. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

For and on behalf of the Council of the  
London Mathematical Society:

.....  
Professor Simon Tavaré  
(President)

.....  
(Date)





**Annexes**

# Annex I - Council, Executive Team and Professional Advisors

## Members of Council during the period 1 August 2015 to 31 July 2016

President:	Terry Lyons (until November 2015) Simon Tavaré (from November 2015)
Vice-Presidents:	Ken Brown John Greenlees
Treasurer:	Robert Curtis
General Secretary:	Stephen Huggett
Programme Secretary:	Iain Stewart
Publications Secretary:	John Hunton
Education Secretary:	Alice Rogers
Members-at-Large:	June Barrow-Green (Librarian) Alexandre Borovik Tara Brendle Francis Clarke David Evans Tony Gardiner (from November 2015) Cathy Hobbs Sam Howison (from November 2015) Rebecca Hoyle (until November 2015) Diane MacLagan Elizabeth Mansfield (until November 2015) Beatrice Pelloni Michael Singer (until November 2015) Gwyneth Stallard Alina Vdovina (from November 2015)
In attendance:	Terry Lyons (Past President) (from November 2015) Eugenie Hunsicker (Chair, Women in Mathematics Committee)

## Executive Management Team during the period 1 August 2015 to 31 July 2016

Executive Secretary:	Fiona Nixon
Publisher:	Susan Hezlet (until June 2016)
Head of Finance and Accounting:	Ephrem Abate
Head of Society Business:	Lindsay Walsh
Head of Conferences & Building:	Dominic Clark

### **External Advisers**

Auditors: Kingston Smith LLP, Devonshire House, 60 Goswell Road, London, EC1M 7AD

Investment Advisers: Cazenove/Schroder & Co. Limited, 12 Moorgate, London, EC2R 6DA

Bankers: National Westminster Bank plc, 208 Piccadilly, London, W1A 2DG

Solicitors: Bates Wells & Braithwaite, 2-6 Cannon Street, London, EC4M 6YH

### **Registered Address**

London Mathematical Society, De Morgan House, 57-58 Russell Square, London, WC1B 4HS

[www.lms.ac.uk](http://www.lms.ac.uk)

### **Charity Registration Number**

252660

# Annex 2 - Committee Membership (as at July 2016)

## Membership of Committees as at 31 July 2016

**Computer Science Committee:** A. Czumaj (Chair), N. Alechina, J. Cooke (British Computer Society – Formal Aspects of Computing Science Specialist Group), J. Davenport (Institute of Mathematics and its Applications (IMA)), P. Jimack, Robert Leese, F. Moller (Academy of Computing), John Shawe-Taylor, I. Stewart, C. Turner (Engineering and Physical Sciences Research Council (EPSRC) observer), *Vacancy*.

**Education Committee:** Education Secretary (Chair), Vice-President K. Brown, J. Anderson, F. Berkshire, R. Emanuel, A. Gardiner, K. Golden (Heads of Departments of Mathematical Sciences (HoDoMS)), K. Houston, V. Neale, P. Ransom, J. White.

**Finance and General Purposes Committee:** President (Chair), Vice-Presidents, General Secretary, Treasurer, Programme Secretary, Publications Secretary, Education Secretary, Executive Secretary.

**International Affairs Committee:** President (Chair), Programme Secretary, Publications Secretary, C. Budd (UK representative to International Commission on Mathematical Instruction (ICMI)), C. Campbell (Delegate of President of the Edinburgh Mathematical Society (EdMS)), P. Glaister (IMA), S. Huggett, D. Mond, S. Schroll, J. Toland (International Mathematical Union (IMU) Executive), N. Walkey (Royal Statistical Society (RSS)).

**Investment Sub-Committee:** Treasurer (Chair), All Members of Finance and General Purposes Committee, R. Bogni, M. Davis, J. Dodd, L. Hughston, S. Mossaheb, *Vacancy*.

**Library Committee:** Librarian (Chair), Publications Secretary, LMS Archivist, C. Hollings, N. Kavalleris.

**Nominating Committee:** P. Davies (Chair), M. Bridson, S. Donkin, P. Glendinning, D. Evans (Council), C. Rogers, S. Rees, A. Wilkie.

**Personnel Committee:** Vice-President K. Brown (Chair), Publications Secretary, D. Applebaum, J. Barrow-Green, A. Rogers, Executive Secretary.

**Prizes Committee:** President (Chair), J. Barrow-Green, D. Higham, J. Keating, M. Liebeck, C. Mouhot, J. Toland, U. Tillmann, S. Waters.

**Programme Committee:** Programme Secretary (Chair), F. Clarke (Deputy Programme Secretary), G. Derks, D. Evans, D. Leslie, D. Maclagan, E. Mansfield, A. Pushnitski, G. Stallard, A. Vdovina.

**Publications Committee:** Publications Secretary (Chair), Vice-President J. Greenlees, J. Chuang, F. Clarke, A. Corti, C. Hobbs, P. Jørgensen, T. Sanders, S. Sierra, S. Taylor, R. Thomas, M. Jubb.

**Publications Nominating Group:** Publications Secretary (Chair), K. Ball, G. Brown, M. Gross, P. Jørgensen, R. Kessar, M. Pollicott, A. J. Scholl, U. Tillmann, C. Tretter.

**Research Meetings Committee:** B. Pelloni (Chair), D. Craig (EPSRC observer), Vice-President J. Greenlees, A. Nevés, S. Olhede, N. Peake, D. Schuetz (Durham representative), M. Speight, S. Velani, S. Whitehouse, N. Woodhouse (Clay Mathematics Institute (CMI) observer).

**Research Policy Committee:** Vice-President K. Brown (Chair), Vice-President J. Greenlees, P. Clarkson (HoDoMs), P. Davies, S. Howison, J. Giansiracusa, M. Singer, R. Thomas, R. Twarock, *Vacancy*.

**Women in Mathematics Committee:** E. Hunsicker (Co-Chair), Vice-President J. Greenlees (Co-Chair), S. Beg (Operational Research Society (ORS)), T. Brendle (Edinburgh Mathematical Society (EdMS)), R. Cotton-Barratt, A. Davies, C. Hobbs, J. Freeman (RSS), D. Maclagan, M. Mazzocco (IMA), J. McKee, S. Pumpluen, C. Smith, A. Taormina (European Women in Mathematics (EWM)).

#### **Ad hoc Committees and LMS Appointments as at 31 July 2016**

**Development Committee:** Treasurer (Chair), President, General Secretary, LMS Immediate Past President, Executive Secretary.

**Good Practice Scheme Steering Group:** P. Clarkson (Chair), A. Davies, P. Davies, Vice-President J. Greenlees, E. Hunsicker (Co-Chair of Women in Maths Committee) J. Levesley (HoDoMS), G. Stallard, A. Taormina.

**Journals Editors Group:** Publications Secretary (Convenor), Editors for the Bulletin, Journal, Proceedings and Transactions (BJPT), 3 members of the BJPT Advisory Board, Obituaries Editor of the Bulletin, Managing Editor for the Journal of Topology, Member of the Journal of Topology Editorial Board, Editorial Manager.

**LMS–IMA Joint Working Group (LMS members):** President (Chair), Vice-President J. Greenlees, Executive Secretary.

**LMS-IMA Zeeman Medal Committee 2016 (LMS Members):** President, J. Barrow-Green, M. Du Sautoy.

**Mentoring African Research in Mathematics (MARM) Board:** J. Ball (Chair), H. Clemens (IMU), S. Huggett (LMS), F. Neumann (LMS), W. Ogana (AMMSI), J. Toland, Executive Secretary.

**Newsletter Editorial Board:** **A. Mann (General Editor)**, Council Webmaster, Programme Secretary (Reports Editor), D. Singerman (Newsletter Reviews Editor), Vacancy (Council).

**Newsletter Review Group:** S. Huggett (Chair), L. Di Vizio, R. Elwes, M. Freiburger, C. Hollings, S. Oakes.

**Joint Promotion of Mathematics Steering Group:** LMS Vice-President J. Greenlees (Chair), LMS Education Secretary, K. Houston (LMS), N. Steele (IMA), A. Stevens (IMA), LMS Head of Society Business.

**Standing Orders Review Group:** General Secretary (Chair), President, J. Barrow-Green, A. Borovik, J. Toland, Executive Secretary.

**Website Working Group:** S. Huggett (Chair), Vice-President J. Greenlees, Council Webmaster, J. Barrow-Green, A. Borovik, P. Cameron, Executive Secretary.

**Council Diarist:** T. Brendle.

**Council Webmaster:** S. Huggett.

**LMS/EMS Newsletter Correspondent:** D. Chillingworth.

**Scrutineers:** C. Lance, R. Sharp.



# Annex 3 - External Representatives (as at July 2016)

## Representatives on external committees and boards as at 31 July 2016

**A Level Mathematics Advisory Board (ALMAB):** Education Secretary.

**Athena Forum:** Chair, Women in Mathematics Committee.

**British Science Association Mathematics Section:** Education Secretary.

**British Mathematical Colloquium Scientific Committee:** J. Hunton, S. Rees, P. Rippon.

**Council for the Mathematical Sciences Board:** President, Vice-President K. Brown, Vice-President J. Greenlees, Executive Secretary (any 3 of).

**Council for the Mathematical Sciences-Engineering and Physical Sciences Research Council (CMS-EP SRC) Liaison Sub-Group:** President, Vice-President K. Brown, Vice-President J. Greenlees, Executive Secretary (any 3 of).

**European Mathematical Society Council:** President, Programme Secretary, B. Pelloni, C. Roney-Dougal.

**Heads of Departments of Mathematical Sciences Committee:** General Secretary.

**International Centre for Mathematical Sciences (ICMS) Board:** M. Kim.

**International Centre for Mathematical Sciences (ICMS) Programme Committee:** D. Rand, U. Tillmann.

**International Commission on Mathematical Instruction (ICMI) UK representative:** C. Budd.

**Isaac Newton Institute (INI) Management Committee:** U. Tillmann.

**Isaac Newton Institute (INI) Scientific Steering Committee:** V. Isham, M. Harris.

**Isaac Newton Institute (INI) Correspondent:** B. Pelloni.

**Joint Mathematical Council (JMC):** Education Secretary.

**Parliamentary and Scientific Committee:** President, Vice President J. Greenlees, Executive Secretary.

**Science Council:** President, Executive Secretary.

## Annex 4 - Staff

### Staff in post in the period 1 August 2015 to 31 July 2016

#### Executive Secretary's Office

Executive Secretary	F. Nixon
PA to the Executive Secretary	C. Chessis
Head of Finance and Accounting	E. Abate
Accounts Assistant	V. Kolesnykova ◇
Administrative Editor, LMS Newsletter	S. Oakes ◇*

#### Publications

Publisher	S. Hezlet (until June 2016)
Managing Editor	O. Törnkvist
Senior Assistant Editor	B. Holmes (until June 16)
Publications and Communications Administrator	K. Wright

#### Society Business

Head of Society Business	L. Walsh
Membership and Activities Officer	E. Fisher
Council and Society Officer	K. Henderson
Society Communications Officer	J. Johnston
Education and Research Officer	D. Turton
Grants Administrator	S. Daly ◇ (until December 2015)
Grants and Membership Assistant	A. Byrne (until March 2016)
Grants and Membership Administrator	A. Byrne (from March 2016)
Anniversary Communications Assistant	J. Garrick (until January 2016)

#### Conferences and Building Group

Head of Conferences and Building	D. Clark
Receptionist and Facilities Coordinator	Z. Edah-Tally
Facilities Assistant	A. Waidson ◇

◇ Part-time posts      \* not based at De Morgan House

# Annex 5 - Grant Schemes

## General policy on grant-making

The grant schemes are funded from the Society's resources received from its endowments, investments and publishing activities and are one of the primary mechanisms through which the Society achieves its central purpose, namely to 'promote and extend mathematical knowledge'. The principles governing its grant-giving are:

- As a charity the Society is able, and wishes, to take advantage of different opportunities and to work within a different regulatory framework from other funding bodies, such as the Engineering and Physical Sciences Research Council (EPSRC). Its grant schemes are focused accordingly.
- The Society's funds are under pressure, and it is not able to make awards as often or as fully as it would like.
- The Society does not normally meet the full cost of an activity. Rather it will aim to give added value to an event largely funded by other means, or to bridge the gap between cost and the resources that might reasonably be made available by a university department.
- It does not pay Full Economic Costs.
- It does not make grants to cover departmental overheads, secretarial costs, etc., which could be seen as part of normal departmental provision.
- The Society does not normally make grants to cover room hire, although consideration will be given to cover room hire charges at De Morgan House.
- Applicants are expected to make economical travel arrangements where possible.
- The Society expects that organisers of conferences and activities who are seeking grants from the Society will invite both male and female speakers (or explain why this is not appropriate or possible) and give consideration to the provision of mechanisms to enable participation by people with children or family responsibilities, in line with the Society's policy on Women in Mathematics.
- The Society will not allow its limits for individual grant schemes to be exceeded by artificially sub-dividing an application into a number of separate requests under different headings.
- The Society considers it to be the responsibility of the institution to which the grant is paid to check receipts in accordance with its normal financial procedures.

The Society's committees that assess applications for grants are made up of mathematicians with a wide spread of research interests. Under most schemes, proposals are judged by the committees themselves, although they may seek advice. Each committee judges each application on its merits.

Any mathematician working in the UK is eligible to apply for a grant but for some schemes if they are not a member of the Society, then the application must be countersigned by a member who is prepared to support the application.

## Summary of grant and training schemes

### Conference Grants (Scheme 1)

Grants are made to the organisers of conferences to be held in the UK. Priority is given to the support of meetings where an LMS grant can be expected to make a significant contribution to the viability and success of the meeting. Support of larger meetings of high quality is not ruled out, but for such meetings an LMS grant will normally cover only a modest part of the total cost.

Under this Scheme grants are made for meetings held to celebrate the new appointments of lecturers at UK universities.

### Visitors to the UK (Scheme 2)

The aim of the Scheme is to provide grants to mathematicians based within the UK to partially support visitors to the UK; the visitors should give lectures in at least three separate institutions.

### Support of Joint Research Groups (Scheme 3)

The Scheme is to provide support for groups of mathematicians, working in at least three different locations (of which at least two must be in the UK), who have a common research interest and who wish to engage in collaborative activities.

### Research in Pairs (Scheme 4)

The Scheme is to provide small grants to mathematicians within the UK to help support visits for collaborative research.

### International Short Visits (Scheme 5)

The Scheme is to provide grants to mathematicians within the UK to support visits for collaborative research either to or from a country in which mathematics is considered to be in a state of development. Countries considered to be eligible for Scheme 5 funding are those contained within (but not exclusively limited to) the International Mathematical Union Commission for Developing Countries (IMU CDC) Definition for Developing Countries - <http://www.mathunion.org/cdc/grants/cdc-definition-for-developing-countries/>

### Computer Science Small Grants (Scheme 7)

The aim of the Scheme is to provide small grants to researchers based within the UK to help support visits for collaborative research at the interface of Mathematics and Computer Science.

### British Colloquium for Theoretical Computer Science

The Society supports the annual meeting which provides a forum in which researchers in theoretical computer science can meet, present research findings, and discuss developments in the field. Specifically, the Society funds the costs of a speaker who is ordinarily from overseas and who is introduced as the 'LMS Keynote Lecturer in Discrete Mathematics'.

### LMS Workshop-Symposia

The Society supports research workshops, which may be held anywhere in the UK and are an opportunity for a small group of active researchers to work together for a concentrated period on a specialised topic. Applications to support the development of research in an area not ready for a larger-scale application are welcomed; applications for partial support for larger events will only exceptionally be supported.

### **LMS Grace Chisholm Young Fellowship**

These fellowships, named after Grace Chisholm Young, aim to provide some support when a mathematical career is interrupted by family responsibilities, relocation of partner, or other similar circumstance, making possible some continuous mathematical activity and so enabling the fellow to be in a position to apply for posts when circumstances allow. Each holder will be based in a specific Mathematics Department in a University or Research Institute in the UK; the host is expected to provide an email address, use of library and IT facilities and access to research literature. The normal duration of a fellowship is one year.

### **LMS Caring Supplementary Grants**

The Society recognises that parents and carers are sometimes prevented from attending conferences and meetings and making research visits because there is no provision for the extra costs incurred in caring for dependants. It is the LMS' view that institutions should make provision for caring costs but, while this is not largely the case, the Society is willing to make a supplementary grant as a contribution to the costs.

### **Small Educational Grants**

These grants support such activities as popular lectures, exhibitions, masterclasses, mathematical competitions, etc., that help to encourage joint mathematical ventures between higher education institutions and schools, or the development of projects that would improve the 'public image of mathematics'.

### **Mentoring African Research in Mathematics (MARM)**

The aim of the programme is to enable all mathematicians in Africa to pursue academic careers of the highest standard. The Society believes that enhancing and developing academic research and research institutions in Africa will help ensure that pursuing world-class mathematical careers within Africa will be both achievable and a more attractive option than moving permanently to the developed world. Over time, the strengthening of the mathematical community within Africa will benefit not only the African community but mathematics as a whole. Grants are awarded for 2-year academic partnerships between European and African institutions for activities including exchange visits, lectures and workshops, conferences, PhD supervision and mentoring support.

### **Support for Mathematics in Africa**

The Society awards grants to contribute to the travel costs of postgraduates attending conferences organised or supported by the African Mathematics Millennium Science Initiative (AMMSI). Additionally a grant has been made to the European Mathematical Society Committee for Developing Countries to support their work donating books and journals to developing countries.

## **Support for Young Mathematicians and Early Career Researchers**

### **Postgraduate Research Conferences (Scheme 8)**

The aim of this Scheme is to support research conferences, organised by and for research students, to be held in the UK.

### **LMS Prospects in Mathematics**

The Society provides support for this annual event, primarily for final year mathematicians who are considering applying for a PhD after they have completed their studies to discuss current research and potential career opportunities.

### **Young Researchers in Mathematics Conference**

The Society provides a grant for the Young Researchers in Mathematics Committee to help support the

Young Researchers in Mathematics Conference, a mathematics conference specifically targeting early career researchers.

### **Mathematics Teacher Continuing Professional Development (CPD) Grants**

The Scheme is to provide opportunities for mathematics teachers to attend training which is specifically mathematical. Any application for a grant under this scheme must be made by a teacher of mathematics or Initial Teacher Education provider based in the UK. The grants are open to teachers of mathematics from primary school to A-Level or equivalent.

The grants are to support teacher attendance at one or two day conferences/events organised by professional mathematical organisations. The grants are also to assist providers of professional development to run conferences and courses that allow participants to further their professional development. The grants can also cover the costs of external trainers in schools or educational institutions.

### **Undergraduate Research Bursaries in Mathematics**

The Scheme aims to give experience of research to undergraduates with research potential to encourage them to consider a career in scientific research. Grants are awarded for a 6-8 week summer research project undertaken with the guidance of a research supervisor.

### **LMS 150<sup>th</sup> Anniversary Postdoctoral Mobility Grants**

The purpose of the grants is to support a period of study and research in mathematics between three and six months at one or more institutions other than the holder's home institution. They are intended to support promising researchers during the transitional period between having submitted their thesis and the start of their first postdoctoral employment.

### **LMS/Clay Mathematics Institute (CMI)/Heilbronn Research Schools Programme**

The purpose of the Research Schools is to provide training for young researchers in a core area of mathematics. Students and post-docs can meet a number of leading experts in the topic as well as other young researchers working in related areas.

The series aims at the highest international standing of these research schools, allowing for support of both international lecturers and participants. The main criteria for funding are the topicality and the mathematical significance of the course material, the general alignment with the mission of the LMS and the Clay Mathematics Institute (CMI) and the likely demand for places nationally and internationally, and the standing of the proposed lecturers in the international mathematical community.

### **Undergraduate Summer Schools**

The goal of the summer schools is to introduce exceptional pre-final year undergraduates to research mathematics and, in particular, to make them think seriously about an academic career at this stage. The Summer Schools are a combination of short lecture courses with problem solving sessions and colloquium style talks. Talks are given by lecturers mostly (though not exclusively) from the UK, including high-profile speakers. The Schools are for around 50 students and involve 10 lecturers. The event is hosted by a UK university for a period of 10 days in summer.

# Annex 6 - Reserve Funds

For the purposes of our financial planning we choose to define Relevant Funds to consist of Quoted Investments + Residential Properties + Cash at bank. There is a need to rebuild the investment portfolio and guarantee a real return, hence the aim of inflation + 4% as our primary long term target. Over the last ten years the value of the portfolio has reduced by approximately 25% in real terms. Council considers that the present level of the Relevant Funds should (if possible) be increased to at least £15m by 2020. At present Residential Properties are making a return of 4% through rent, and more than keeping pace within inflation.

The Society normally maintains £600k free reserve (operating reserve) cash at bank to ensure that there is enough working capital to stabilise the Society's finances by providing contingency against unexpected events, as well as to handle losses of income and large unbudgeted expenses.

## General Fund

The General Fund is to provide for the general operation of the Society including its charitable activities not funded from Designated or Restricted Funds. Within the Society's reserves, the General Fund is deemed an expendable reserve to be used in pursuit of the Society's objectives as Council may from time to time determine. At present the fund exists to assure the availability of resources for the Society's grant schemes and other continuing charitable activities in future years. This manages the risk to the Society's ability to generate income to provide for such activities and offers a contingency against threats such as open access.

General Fund	£11,080,247
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## Building and Development Reserve Fund

This reserve, originally built up for the Society to purchase or rent its own property was utilised in part in the purchase of a leasehold property. This reserve fund exists in the case of disaster recovery should any major incident affect the physical aspects of the Society's offices. The agreed purposes and recommended levels as from the next financial year would be:

Rehousing and re-establishing the administration for one year were DMH to be lost through fire etc.	£195,000
Costs of venue hire for all LMS meetings held in DMH	£15,000
Costs of re-establishing our work	£13,000
Dilapidations, were the Society to leave DMH	£23,000
External redecoration	£34,000
Internal redecoration	£45,000
Major modifications and developments, unexpected repairs/replacement	£275,000
	<b>£600,000</b>

## Publication Reserve Fund

This fund is to provide a reserve to meet the costs of producing and publishing the Society's LMS periodicals should the Society's income from these periodicals be unable to cover such commitments. It is intended that the reserve will be reviewed as circumstances arise each year. The agreed purposes and recommended levels are:

Repaying subscriptions income if we ceased to trade, and other commitments	£1,725,000
Buffer against over/under shooting the budget	£175,000
New ventures. Based on the costs of launching and producing a new journal, but its failing to gain subscriptions	£825,000
Insurance against breach of copyright and libel (including legal fees)	£275,000
	<b>£3,000,000</b>

## Grants Payable Reserve Fund

This fund is set aside for grant awards to mathematical projects or activities which span a number of years. Such grants are reviewed annually and are paid once the recipient of the grant has provided a progress report with satisfactory performance of the project.

Grants awarded and approved by Council to be paid in future accounting periods	£123,000
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## Undergraduate Research Bursaries (Harding)

This fund is set aside for grant awards to undergraduates with research potential. The fund has been set up for 3 years starting from the 2016/17 financial year.	£100,000
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## Special Activities Reserve Fund

Gifts and bequests received by the Society to be used for diverse activities in support of the Society's objectives	£32,039
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# Annex 7 - Auditor's Report

## Independent Auditors' Report to the Trustees of The London Mathematical Society

We have audited the financial statements of London Mathematical Society for the year ended 31 July 2016 which comprise the Statement of Financial Activities, the Balance Sheet and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice) including FRS 102 'The Financial Reporting Standard Applicable in the UK and Ireland.

This report is made solely to the charity's trustees, as a body, in accordance with Chapter 3 of Part 8 of the Charities Act 2011. Our audit work has been undertaken for no purpose other than to draw to the attention of the charity's trustees those matters which we are required to include in an auditor's report. To the fullest extent permitted by law, we do not accept or assume responsibility to any party other than the charity and charity's trustees as a body, for our audit work, for this report, or for the opinion we have formed.

### Respective responsibilities of trustees and auditor

As explained more fully in the Trustees' Responsibilities Statement the trustees are responsible for the preparation of financial statements which give a true and fair view. We have been appointed as auditor under section 144 of the Charities Act 2011 and report to you in accordance with regulations made under that Act. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's (APB's) Ethical Standards for Auditors.

### Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the charity's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the trustees; and the overall presentation of the financial statements. In addition we read all the financial and non-financial information in the Trustees' report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

### Opinion on financial statements

In our opinion the financial statements:

- give a true and fair view of the state of the charity's affairs as at 31 July 2016, and of its incoming resources and application of resources, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

### Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you if, in our opinion:

- the information given in the Trustees' Annual Report is inconsistent in any material respect with the financial statements; or
- sufficient accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

Date.....

Mr Neil Finlayson, Partner  
for and on behalf of Kingston Smith LLP, Statutory Auditor

Devonshire House  
60 Goswell Road  
London EC1M



# Annex 8 - Statement of Financial Activities

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**STATEMENT OF FINANCIAL ACTIVITIES**  
For the year ended 31<sup>st</sup> July 2016

	Notes	Unrestricted General Funds £	Designated Funds £	Restricted Funds £	2016 Total Funds £	2015 Total Funds £
<b>Income and endowments:</b>						
<i>Donations and legacies</i>		102,159	-	170	102,329	3,163
<i>Income from charitable activities:</i>						
Membership subscriptions		106,760	-	-	106,760	100,306
Publications – LMS Periodicals	7a	1,480,482	-	-	1,480,482	1,351,720
Publications – Ventures and Royalties	7c,d	250,753	411,571	-	662,324	711,031
Grants and contracts	21	77,184	-	10,000	87,184	81,325
<b>Total income from charitable activities</b>		<b>1,915,179</b>	<b>411,571</b>	<b>10,000</b>	<b>2,336,750</b>	<b>2,244,382</b>
<i>Income from other trading activities</i>	3	254,507	-	-	254,507	253,125
<i>Income from Investments</i>	2	429,575	159	6,291	436,025	404,846
<i>Other income</i>		239	-	-	239	2,597
<b>Total Income</b>		<b>2,701,659</b>	<b>411,730</b>	<b>16,461</b>	<b>3,129,850</b>	<b>2,908,113</b>
<b>Expenditure:</b>						
<i>Costs of raising funds</i>	4	218,828	-	-	218,828	238,998
<i>Expenditure on charitable activities:</i>						
Advancing the interests of mathematics	5	379,461	-	10,500	389,961	316,913
Enabling mathematicians to undertake research and collaboration	6	808,977	58,000	20,000	886,977	982,089
Disseminating mathematical knowledge:						
- Costs of publications	7b,c,d	597,009	298,122	-	895,131	724,574
- Conferences and meeting programmes	8	130,695	2,436	-	133,131	159,325
Promoting mathematical research and its benefits	9	418,211	74,049	-	492,260	598,396
<b>Total expenditure on charitable activities</b>		<b>2,334,353</b>	<b>432,607</b>	<b>30,500</b>	<b>2,797,460</b>	<b>2,781,297</b>
<b>Total expenditure</b>		<b>2,553,181</b>	<b>432,607</b>	<b>30,500</b>	<b>3,016,288</b>	<b>3,020,295</b>
<b>Net income/(expenditure) before gains and losses on investment</b>		<b>148,478</b>	<b>(20,877)</b>	<b>(14,039)</b>	<b>113,562</b>	<b>(112,182)</b>
Net gains on investment assets	22	292,607	-	4,281	296,888	437,367
<b>Net Income /(expenditure) for the year</b>		<b>441,085</b>	<b>(20,877)</b>	<b>(9,758)</b>	<b>410,450</b>	<b>325,185</b>
Transfers between funds	18,19	36,360	(52,360)	16,000	-	-
Actuarial losses on defined benefit pension schemes	17	(93,284)	-	-	(93,284)	(93,334)
<b>Net movement in funds for the year</b>		<b>384,161</b>	<b>(73,237)</b>	<b>6,242</b>	<b>317,166</b>	<b>231,851</b>
<b>Reconciliation of funds:</b>						
Total funds brought forward		10,696,086	3,928,276	251,421	14,875,783	14,643,932
<b>Fund balances carried forward</b>		<b>11,080,247</b>	<b>3,855,039</b>	<b>257,663</b>	<b>15,192,949</b>	<b>14,875,783</b>

The comparative figures for each fund are shown in the notes to the accounts, (see note 24).

# BALANCE SHEET

## as at 31<sup>st</sup> July 2016

	Notes	2016 £	2015 £
<b>Fixed Assets</b>			
<b>Fixed Asset Investments</b>			
Quoted Investment	14a	10,331,929	10,689,668
Residential Property	14b	<u>2,323,450</u>	<u>2,312,000</u>
		12,655,379	13,001,668
<b>Tangible Fixed Assets</b>			
Leasehold Property	15	1,389,338	1,434,159
Fixtures, Fittings and Equipment	15	<u>12,393</u>	<u>8,320</u>
		1,401,731	1,442,479
		14,057,110	14,444,147
<b>Current Assets</b>			
Medals in stock		3,061	3,061
Debtors	16	333,048	262,352
Cash at bank and in hand		1,330,651	651,406
Bank Deposits		<u>433,228</u>	<u>431,077</u>
		<u>2,099,988</u>	<u>1,347,896</u>
<b>Liabilities:</b>			
<b>Creditors: Amounts falling due within one year</b>			
Creditors	17	602,667	653,644
Deferred Income	17	<u>174,864</u>	<u>169,282</u>
		<u>777,531</u>	<u>822,926</u>
<b>Net current assets</b>		1,322,457	524,970
<b>Creditors: Amounts falling due after more than one year</b>			
Provision of Pension Liability	17	(186,618)	(93,334)
<b>Total Net Assets</b>		<u><u>15,192,949</u></u>	<u><u>14,875,783</u></u>
<b>Represented by:</b>			
General Funds	19	11,080,247	10,696,086
Designated Funds	19	3,855,039	3,928,276
Restricted Funds	18	<u>257,663</u>	<u>251,421</u>
		<u><u>15,192,949</u></u>	<u><u>14,875,783</u></u>

Approved on behalf of Council and authorised for issue on:

.....  
Professor Robert Curtis  
(Treasurer)

.....  
Date

*The notes on pages 68 to 89 form part of these financial statements*

## Cash Flow Statement

For the year ended 31 July 2016

	2016		2015
	£	£	£
<b>Cash flow from operating activities</b>			
Net movements in funds	324,656		245,958
Deduct gains on investments (note 22)	(296,888)		(437,367)
Add back re-invested gains (note 22)	80,518		80,859
Add back investment management fees (note 4)	52,194		51,717
Add back VAT on investment management fees	2,433		1,490
Deduct investment income (note 2)	(436,025)		(404,846)
Add back depreciation charge (note 15)	51,081		50,864
(Increase)/decrease in debtors (note 16)	(70,696)		(98,034)
(Decrease)/Increase in creditors (note 17)	40,399		(11,867)
<b>Net cash (used in)/ provided by operating activities</b>		<b>(252,328)</b>	<b>(521,226)</b>
<b>Cash flow from Investing activities</b>			
Purchase of tangible fixed assets (note 15)	(10,333)		(3,885)
Purchase of fixed asset investments (note 14)	(172,577)		(604,998)
Proceeds on disposal of fixed assets investments (note 14)	612,741		-
Investment income (note 2)	436,025		404,846
<b>Net cash provided /(used in) by investing activities</b>		<b>865,856</b>	<b>(204,037)</b>
<b>Change in cash and cash equivalent in the year</b>		<b>613,528</b>	<b>(725,263)</b>
<b>Cash and cash equivalent at the beginning of the year</b>			
Cash in bank and deposit		1,082,483	1,883,608
Cash held in investments		£80,622	4,760
		<b>1,163,105</b>	<b>1,888,368</b>
<b>Cash and cash equivalent at the end of the year</b>			
Cash in bank and deposit		1,763,879	1,082,483
Cash held in investments		12,754	80,622
		<b>1,776,633</b>	<b>1,163,105</b>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### I. Accounting Policies

The accounting policies adopted by the Society are as detailed below:

**a) Basis of accounting**

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2015) – (Charities SORP (FRS 102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

The London Mathematical Society meets the definition of a public benefit entity under FRS 102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

The trustees have assessed whether the use of going concern basis is appropriate and have considered possible events or conditions that might cast significant doubt on the ability of the Society to continue as a going concern. The trustees have made this assessment for a period of at least one year from the date of approval of the financial statements. In particular the trustees have considered the Society's forecasts and projections and have taken account of pressures on membership subscription, publication and investment income. After making inquiries the trustees have considered that there is a reasonable expectation that the Society has adequate resources to continue in operational existence for the foreseeable future. The Society therefore continues to adopt the going concern basis in preparing its financial statements.

FRS 102 has been adopted for the first time when preparing these financial statements. The transition date to FRS 102 was 1 August 2014 and the last financial statements prepared under the previous financial reporting framework were prepared for the year ended 31 July 2015.

The following adjustments have also been made in order to comply with the new SORP/ FRS 102 which have affected the presentation of certain items in the Statement of Financial Activities and on the balance sheet. The main items were:

- Governance costs are no longer presented as a separate category of expenditure in the Statement of Financial Activities as they are now regarded as part of support costs which are allocated to the cost of activities undertaken by the Society.
- Society's defined pension scheme share of assets (liabilities) are now shown on the balance sheet and any movement in the provision each year is taken into the Statement of Financial Activities (see note 25)

The financial statements are prepared in sterling, which is the functional currency of the company. Monetary amounts in these financial statements are rounded to the nearest pound.

An explanation and reconciliation of how the transition has affected the comparative balances is provided in the notes to the financial statements.

**b) Members' Subscriptions**

Subscription income from members is recognised in the year to which it relates. No account is taken of members' subscriptions in arrears at the balance sheet date. No time apportionment of subscriptions is calculated as members who join or leave during the year are not entitled to partial payments or refunds.

**c) Donations**

Cash donations are credited to the General Fund in the year of receipt but donations in kind are not recognised in these financial statements.

**d) Fixed Assets**

Depreciation is provided on all tangible fixed assets at rates calculated to write off, on a straight-line basis, the cost less estimated residual value over their expected useful lives as follows:

Leasehold Property	Over 50 years
Fixtures, Fittings and Office Equipment	20%
Computer equipment	33.33%

The Society operates a policy of capitalising assets whose unit cost exceeds £1,000, with expenditure below this level written off as incurred.

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### I. Accounting Policies (continued)

#### e) Judgements and key sources of estimation uncertainty

In the application of the Society's accounting policies, the trustees are required to make judgement, estimates and assumptions about the carrying amount of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from the estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised where the revision affects only that period, or in the period of the revision and future periods where the revision affects both current and future periods.

The most significant estimates and assumptions which affect the carrying amount of assets and liabilities in the accounts relate to:

- Useful Economic Lives- The annual depreciation charge for property, fixture, fittings and equipment is sensitive to change in the estimated useful economic lives and residual value of assets. These are reassessed annually and amended where necessary to reflect current circumstances.
- Defined benefit scheme pension liability can be estimated based on recommended modeller provided by USS. For more details, see note 1q.

#### f) Taxation

The Society is a registered charity and no liability to taxation arises on the results of its business activities in support of its charitable purposes.

The Society has partial exempt status in respect of VAT, based on the split of its business and non-business activities. The proportion of VAT that cannot be recovered because of partial or fully exempt status of the activity is redistributed to the activities. The basis on which irrecoverable VAT have been allocated to the activities are set out in note 12.

#### g) Investments

The Society may invest up to 20% of its relevant assets in residential property, as valued at the time of purchase, with the remainder given over to the Society's investment managers. Investment in such residential property will be directly managed by the Society rather than by the investment managers. The percentage calculation excludes the value of De Morgan House, though this could be reviewed at any point. Also excluded are any investments made by the investment managers in the property area of asset classes.

##### • Quoted investments

All quoted investments are valued at their market value at the balance sheet date, giving rise to unrealised gains and losses which are included in the Statement of Financial Activities. The market value is determined as follows:

- i) Listed securities are valued at mid-market value ruling at the balance sheet date;
- ii) Unit trust and managed fund investments are stated at the mid-point of the latest prices quoted by the investment managers immediately prior to the balance sheet date;
- iii) Investments held in foreign currencies have been valued on the relevant basis and translated into sterling at the rate ruling at the balance sheet date.

The portfolio is invested in a range of equity, cash and fixed-interest investments in both UK and overseas markets. The key objective of the Society's portfolio is to produce a real return (capital growth) of at least 4% pa, and to provide an investment income determined by 'total return policy' of 3.5% pa (based on Yale model).

The Society in its total returns policy treats all cash withdrawals from the investment portfolio as investment income. This is analysed in the notes to the financial statements as investment income split between the various categories of investment based on information provided by the investment managers and the proportion of total return drawn down relating to gains. The balance of unrealised gains and losses on revaluation of investments, and realised gains and losses arising on disposal of investments are separately identified in the notes to the Financial Statements and on the SoFA.

##### • Residential property investment

As a safeguard against possible poor performance of the stock exchange, the Society expanded its investments portfolio to include residential property and owns three long lease residential properties in the Central London area, all of which are rented out. The rental derived is shown on the SoFA under 'Investment Income'. The growth in the value of the Society's residential property investment will be shown in the SoFA as *Gains on investment assets*. The primary long-term target of the Society's residential property is to produce a yield of 4% pa and to increase in capital value by at least the rate of inflation.

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### I. Accounting Policies (continued)

#### h) Publications

- i) Income from the Society's contracts with printers for the production, distribution and sales of its journals is determined as the best estimate for that proportion of the income (i.e. subscriptions less costs of printing, distribution, sales and commission) relating to the number of issues published before the Balance Sheet date. (*Proceedings* 7 issues out of 12, *Journal* and *Bulletin* 3 issues out of 6, *Compositio* 7 issues out of 12.) A proportionate adjustment has been made for unexpired subscriptions received direct by the Society relevant to subsequent publications. No account has been taken of costs incurred or sales proceeds received in respect of publication after the Balance Sheet date.
- ii) Publications income from LMS periodicals is recorded based on an estimated accrued basis; all other publications income is treated on a cash basis which is considered to be the most appropriate and prudent approach given the information available.
- iii) No valuation for accounting purposes is taken of any stocks of publications unsold at the Balance Sheet date.
- iv) The cost of publishing rights and subscribers' lists are written off in the year of acquisition.
- v) Royalties are taken into the Statement of Financial Activities as declared due by the relevant printers and publishers.

#### i) General Fund

The Unrestricted reserves are analysed between the General Fund and other Designated Funds. The General Fund, detailed in note 19 to the financial statements, is to provide for the general operation of the Society including its charitable activities not funded from Designated or Restricted Funds. Within the Society's reserves the General Fund is deemed an expendable reserve to be used in pursuit of the Society's objectives as Council may from time to time determine. At present it is managed to provide the income to be used to ensure the availability of resources for its grant schemes and other continuing charitable activities in future years.

#### j) Designated Funds

The Unrestricted reserves are analysed between general and designated funds. The Trustees have created the following designated funds:

- (i) **Building & Development Reserve Fund**  
This reserve is to meet the costs of (a) consequences of the temporary loss of De Morgan House, (b) periodic internal and external decoration and maintenance, (c) major modifications, developments or repairs. The value of these reserves is recalculated annually to allow for increase in the costs of covering the relevant risks.
- (ii) **Printing & Publication Reserve Fund**  
This reserve is to meet the costs of (a) consequential costs were the Society to cease publishing, (b) unpredictable annual fluctuations in the surplus, (c) costs of breaches of copyright or libel actions against the Society, (d) exploration and start-up costs of new ventures. The value of these reserves is recalculated annually to allow for increase in the costs of covering the relevant risks.
- (iii) **Grants Payable Reserve Fund**  
This fund has been established to cover grants awarded and approved by Council to be paid in future accounting periods, subject to available finance and satisfactory report.
- (iv) **Special Activities Reserve Fund**  
This fund contains gifts and bequests received by the Society to be used for diverse activities in support of the Society's objectives.
- (v) **Undergraduate Research Bursaries (Harding) Reserve Fund**  
This fund is set aside for grant awards to undergraduates with research potential. The fund has been set up for 3 years from 2016/17 financial year.
- (vi) **LMS 150 Anniversary Fund**  
This fund was set aside for LMS 150<sup>th</sup> Anniversary celebration activities, which spanned 2-3 years. The fund was for special projects, including employment costs for the project administrator, but not for those enhancement costs which are under the remit of individual Committee budgets.
- (vii) **Compositio Fund**  
This fund holds the transaction relating to, and any year-end excess of income over expenditure, relating to the Society's joint venture with the Foundation Compositio to produce the journal Compositio.

## **NOTES TO THE FINANCIAL STATEMENTS**

For the year ended 31<sup>st</sup> July 2016

### **I. Accounting Policies (continued)**

**k) Restricted Funds**

The income of these restricted funds is to be used for the following purposes:

- (i) The Berwick Prize Fund  
To support the Annual prize for mathematical work published by the Society
- (ii) De Morgan Medal Fund augmented by the Sir Joseph Larmor Prize Fund  
To support the award of the De Morgan Medal and the Larmor Prize, awarded every three years.
- (iii) Lord Rayleigh's Fund  
To support the general activities of the Society.
- (iv) J. H. C. Whitehead Prize Fund  
To support the cost of the Annual prizes awarded for lecturing and mathematical work.
- (v) Fröhlich Fund  
To support the cost of the Annual prizes awarded for lecturing and mathematical work.
- (vi) Shephards Prize Fund  
To support mathematics with a strong intuitive component which can be explained to those who have little or no knowledge of university mathematics.
- (vii) A. J. Cunningham Research Fund  
To support the cost of publication of work on the factorisation of large numbers.
- (viii) Zeeman Fund  
To support the costs of Undergraduate Research Bursaries named in honour of Professor Sir Christopher Zeeman.

**l) Grants and Contracts**

The Society has been awarded contracts and grants for some of its activities. These comprise: a contribution from IMU to support mentoring activities for mathematicians in Africa; shared costs of some activities with sister societies. The income and expenditure relating these are handled through this Fund.

**m) Recognition of grant liabilities**

Where the Society has contractual or constructive obligations to make grant payments these amounts are accrued in the accounts in accordance with the requirements of the SORP. The liability will be recognised within the year the grant is awarded. The unpaid grant commitments should normally be claimed by the end of the following financial year. However, the claim period may need to be extended for a further year (award year + 2) if the grant cannot be claimed by the end of the year following the award due to constraints on the start or end date of a grant, or due to other circumstances outside the control of the Society.

The Society also awards some grants with conditions for payment being a specific level of service or specific output to be delivered. Such grant awards (commitments) will be reserved in the Designated funds, and the grants are only recognised in the SoFA once the recipient of the grant has provided evidence of the specific service or output. Such grants are therefore reviewed annually and the grant payments subject to the condition of a progress report with satisfactory performance. If the project spans a number of years and satisfactory progress reports are received after year one, the first stage of the grant will be released from the Designated fund and that part of the grant expenditure will be recognised in the SoFA at that point.

Grants unclaimed by the end of award year +2 will be released back to the Society's general funds.

**n) Grants payable**

Grants payable out of existing revenues are provided for in full in the accounts. Those payable out of future resources are held in the Grant payable Reserve Fund (see also note 1 (j) (iii)).

**o) Joint Ventures**

The results of joint ventures are included in the accounts up to the year- end indicated.

**p) Medals in stock**

The medal stock for the prize is stated at the lower of cost and net realisable value.



## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### I. Accounting Policies (continued)

#### q) Pension costs

The Society participates in the Universities Superannuation Scheme (the scheme). Throughout the current and preceding periods, the scheme was a defined benefit only pension scheme until 31 March 2016 which was contracted out of the State Second Pension (S2P). The assets of the scheme are held in a separate trustee-administered fund. Because of the mutual nature of the scheme, the scheme's assets are not hypothecated to individual institutions and a scheme-wide contribution rate is set. The institution is therefore exposed to actuarial risks associated with other institutions' employees and is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis and therefore, as required by Section 28 of FRS 102 "Employee benefits", accounts for the scheme as if it were a defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Since the Society has entered into an agreement (the Recovery Plan that determines how each employer within the scheme will fund the overall deficit), the Society recognises a liability for the contributions payable that arise from the agreement to the extent that they relate to the deficit and the resulting expense in the income and expenditure account.

The total cost charged to the profit and loss account is £93,284 (2015: £93,334) as shown in note 17.

The latest available full actuarial valuation of the scheme was at 31 March 2014 ("the valuation date"), which was carried out using the projected unit method.

Since the Society cannot identify its share of scheme assets and liabilities, the following disclosures reflect those relevant for the scheme as a whole.

The 2014 valuation was the third valuation for USS under the scheme-specific funding regime introduced by the Pensions Act 2004, which requires schemes to adopt a statutory funding objective, which is to have sufficient and appropriate assets to cover their technical provisions. At the valuation date, the value of the assets of the scheme was £41.6 billion and the value of the scheme's technical provisions was £46.9 billion indicating a shortfall of £5.3 billion. The assets therefore were sufficient to cover 89% of the benefits which had accrued to members after allowing for expected future increases in earnings.

Defined benefit liability numbers for the scheme have been produced using the following assumptions:

	<b>2016</b>	<b>2015</b>
Discount rate	3.6%	3.3%
Pensionable salary growth	2%	2%
Pension Increases (CPI)	2.2%	2.2%

The main demographic assumption used relates to the mortality assumptions. Mortality in retirement is assumed to be in line with the Continuous Mortality Investigation's (CMI) SINA tables as follows:

Male members' mortality                      98% of SINA ["light"] YoB tables – No age rating

Female members' mortality                      99% of SINA ["light"] YoB tables – rated down 1 year

Use of these mortality tables reasonably reflects the actual USS experience. To allow for further improvements in mortality rates the CMI 2014 projections with a 1.5% pa long term rate were also adopted. The current life expectancies on retirement at age 65 are:

	<b>2016</b>	<b>2015</b>
Males currently aged 65 (years)	24.3	24.2
Females currently aged 65 (years)	26.5	26.4
Males currently aged 45 (years)	26.4	26.3
Females currently aged 45 (years)	28.8	28.7

	<b>2016</b>	<b>2015</b>
Scheme assets	£49.8bn	£49.1bn
Total scheme liabilities	£58.3bn	£60.2bn
FRS 102 total scheme deficit	£8.5bn	£11.1bn
FRS 102 total funding level	85%	82%

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 1. Accounting Policies (continued)

#### r) **Support and governance costs**

Support costs are those functions that assist the work of the charity but do not directly undertake charitable activities. Support costs include back office costs, finance, personnel, payroll and governance costs which support the Society's Mathematical Sciences programmes and activities. The Governance costs include external audit, legal advice and the costs of trustee and committee meetings, as well as costs associated with constitutional and statutory requirements. Support and governance costs have been allocated between the costs of raising funds and charitable activities. The bases on which support and governance costs have been allocated to activities are set out in note 12.

#### s) **Employee benefits**

Termination benefits are recognised immediately as an expense when the Society is demonstrably committed to terminate the employment of an employee through, for example, redundancy, or to provide termination benefits.

#### t) **Foreign currencies**

Monetary assets and liabilities denominated in foreign currencies are translated at the rate of exchange ruling at the Balance Sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction. All differences are taken to the Statement of Financial Activities.

#### u) **Financial Instruments**

The Society has elected to apply the provision of Section 11 'Basic Financial Instrument's and Section 12 'Other Financial Instruments Issues' of FRS 102 to all of its financial instruments. Financial Instruments are recognised in the Society's balance sheet when the Society becomes party to the contractual provisions of the instrument. Financial assets and liabilities are offset, with the net amounts presented in the financial statements, when there is a legally enforceable right to set off the recognised amounts and there is an intention to settle on a net basis or to realise the asset and settle the liability simultaneously.

With the exceptions of prepayments and deferred income all other debtor and creditor balances are considered to be basic financial instruments under FRS 102. (See notes 16 and 17 for details)

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**2. Investment Income**

	Unrestricted	Designated	Restricted	Total
<b>2016</b>				<b>2016</b>
	£	£	£	£
a) Investment income receivable:				
Total returns/ Unit Trust Distribution <i>(Bond interest, Equities dividends, etc.)</i>	426,942	-	5,983	432,925
Other investment income <i>(Interest on Investment cash/rebate, etc.)</i>	1,249	-	-	1,249
Re-invested total returns	(80,518)	-	-	(80,518)
<b>Net investment income receivable</b>	<b>347,673</b>	<b>-</b>	<b>5,983</b>	<b>353,656</b>
b) Residential property rental income	<b>78,880</b>	-	-	<b>78,880</b>
c) Interest receivable:				
Treasury Reserve deposits	1,711	159	308	2,178
Other deposits	1,311	-	-	1,311
<b>Total interest receivable</b>	<b>3,022</b>	<b>159</b>	<b>308</b>	<b>3,489</b>
<b>Total investment income 2016</b>	<b>429,575</b>	<b>159</b>	<b>6,291</b>	<b>436,025</b>
<b>2015</b>	Unrestricted	Designated	Restricted	Total
	£	£	£	<b>2015</b>
	£	£	£	£
a) Investment income receivable:				
Total returns/ Unit Trust Distribution <i>(Bond interest, Equities dividends, etc.)</i>	386,750	-	5,061	391,811
Other investment income <i>(Interest on Investment cash/rebate, etc.)</i>	10,508	-	-	10,508
Re-invested total returns	(80,859)	-	-	(80,859)
<b>Net investment income receivable</b>	<b>316,399</b>	<b>-</b>	<b>5,061</b>	<b>321,460</b>
b) Residential property rental income	<b>79,773</b>	-	-	<b>79,773</b>
c) Interest receivable:				
Treasury Reserve deposits	2,308	158	307	2,773
Other deposits	840	-	-	840
<b>Total interest receivable</b>	<b>3,148</b>	<b>158</b>	<b>307</b>	<b>3,613</b>
<b>Total investment income 2015</b>	<b>399,320</b>	<b>158</b>	<b>5,368</b>	<b>404,846</b>

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**3. Income from other trading activities**

	<b>2016</b>	<b>2015</b>
	<b>£</b>	<b>£</b>
a) DMH Conference facilities	168,766	158,028
b) DMH Rental income	77,446	86,976
c) Advertising in Newsletter	8,295	8,121
<b>Total</b>	<b><u>254,507</u></b>	<b><u>253,125</u></b>

**4. Costs of raising funds**

	<b>2016</b>	<b>2015</b>
	<b>£</b>	<b>£</b>
a) Conference facilities		
General expenditure	20,970	19,452
Apportioned support and governance costs	<u>81,620</u>	<u>83,737</u>
	102,590	103,189
b) Service for tenants	50,898	53,297
c) Investment Management fees	52,194	51,717
d) Residential Investment Property costs	<u>13,146</u>	<u>30,795</u>
<b>Total</b>	<b><u>218,828</u></b>	<b><u>238,998</u></b>

**5. Charitable activities: Advancing the interests of Mathematics**

	<b>2016</b>	<b>2015</b>
	<b>£</b>	<b>£</b>
Members' services:		
LMS Newsletter	28,634	28,215
Other costs	37,763	6,444
Unrecoverable subscriptions	<u>2,558</u>	<u>1,274</u>
	68,955	35,933
Activities to support Women in Mathematics	6,195	9,111
Activities to support Maths -Computer Sciences	20,706	2,492
Library, binding and archives	6,378	9,104
EMS, IMU, ICIAM subscriptions & ICM costs	27,661	16,386
Prizes	16,448	25,262
Apportioned support and governance costs (note 12)	<u>243,618</u>	<u>218,625</u>
<b>Total</b>	<b><u>389,961</u></b>	<b><u>316,913</u></b>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 6. Charitable activities: Enabling Mathematicians to undertake research and collaboration

	2016	2015
	£	£
Grant Schemes (General Fund)		
Scheme 1 – 5, 8 and Prospects in Mathematics	416,250	388,395
Young British and Russian Mathematicians	-	3,000
Support for Mathematics in Africa	11,400	17,836
Computer Science Grants	5,399	6,524
Small Educational Grants	6,000	9,403
Summer School Grants	33,500	33,500
Teachers CPD Grants	7,870	8,796
LMS Workshops – Symposia and Postgrad Grants	15,037	11,114
Postgraduate Mobility Grants	51,600	96,700
Undergraduate Bursaries	29,730	29,340
Other Research Support	-	1,350
Child care and related Grants	4,142	3,773
ECM travel Grants	5,379	-
	<u>586,307</u>	<u>609,731</u>
Less: cancellation and refunds	<u>(72,878)</u>	<u>(59,576)</u>
	513,429	550,155
Mentoring African Research in Mathematics (MARM) (Restricted)	20,000	20,000
INI/ICMS/ACME Grants (Designated)	58,000	58,000
150 Anniversary Mathematical Events (Designated)	-	72,027
Ad hoc Grants to Mathematical Bodies (UK & International)	15,150	8,935
Charitable giving of LMS rooms	30,797	41,004
Training (Research School)	32,460	22,043
Apportioned support and governance costs (note 12)	217,141	209,925
<b>Total</b>	<b><u>886,977</u></b>	<b><u>982,089</u></b>

#### ANALYSIS OF GRANT AWARDS

	2016	2015
	£	£
<b>a) Grants: contractual commitments</b>		
University of Cambridge (INI grant)	35,000	35,000
Heriot- Watt University (ICMS grant)	16,000	16,000
Royal Society (ACME grant)	7,000	7,000
University of Kent (Summer School grant)	33,500	-
University of Loughborough (Summer School grant)	-	33,500
	<u>91,500</u>	<u>91,500</u>
<b>b) Other grant awards to institutions *</b>	<b>488,568</b>	<b>536,831</b>
<b>c) Other grant awards to individuals</b>	<b>99,389</b>	<b>140,362</b>
<b>Total grant awards</b>	<b><u>679,457</u></b>	<b><u>768,693</u></b>

\* Grant awards to each institution can be up to a maximum of £30k

#### GRANT REFUNDS AND CANCELLATION

	2016	2015
	£	£
Grant refunds	59,881	39,120
Grants not taken up (out of date)	12,997	20,456
<b>Total grant refunds and cancellation</b>	<b><u>(72,878)</u></b>	<b><u>(59,576)</u></b>

#### MOVEMENT IN OBLIGATION GRANT COMMITMENTS

	2016	2015
	£	£
Grant recognised at the start of the year	242,050	213,699
New grants charged to the SoFA in year	679,457	768,693
Grants paid during the year	(693,395)	(719,886)
Grants not taken up ('out of date')	(12,997)	(20,456)
<b>Amount of grant recognised at the end of the year</b>	<b><u>215,115</u></b>	<b><u>242,050</u></b>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 7. Charitable activities: Disseminating Mathematical Knowledge - Publications

	2016	2015
	£	£
<b>a) Net Income from LMS periodicals</b>	<b>1,480,482</b>	<b>1,351,720</b>
<b>b) Payments for LMS periodicals</b>		
Other Costs	(6,984)	(10,507)
<i>Journal of Computation and Mathematics</i>	(6,575)	(15,275)
	<b>(13,559)</b>	<b>(25,782)</b>
<b>Net LMS periodicals surplus before Support and governance costs</b>	<b>1,466,923</b>	<b>1,325,938</b>
Apportioned support and governance costs (note 12)	(572,786)	(398,785)
<b>Net LMS periodicals surplus after Support and governance costs</b>	<b>894,137</b>	<b>927,153</b>
<b>c) Ventures &amp; Royalties (net income)</b>		
<i>Nonlinearity</i>	135,933	141,352
Russian journals (Turpion/RAS/LMS joint venture)	62,055	104,255
TMMS (AMS/LMS joint venture)	15,964	17,176
LMS Books and Royalties	12,099	10,361
	<b>226,051</b>	<b>273,144</b>
<i>Compositio</i>		
Profit share & Management fee (see 7d)	113,449	108,411
Costs of <i>Compositio</i> (LMS - only)	(549)	(10)
	<b>112,900</b>	<b>108,401</b>
<i>Mathematika</i>	<b>14,587</b>	<b>29,479</b>
<b>NET PUBLICATIONS SURPLUS</b>	<b>1,247,675</b>	<b>1,338,177</b>

The Society was involved in the following publishing ventures in the year:

- (I) *Nonlinearity* – the journal co-owned with the Institute of Physics and is produced at the Institute of Physics Publishing Ltd, Temple Circus, Temple Way, Bristol BS1 6HG
- (II) The three translation journals *Russian Mathematical Surveys*, *Sbornik: Mathematics and Izvestiya: Mathematics* are owned and managed jointly by the Department of Mathematics, Russian Academy of Sciences, Turpion Ltd and the LMS. The main business address is Pion Ltd, 207 Brondesbury Park, London NW2 5JN.
- (IV) The journal *Transactions of the Moscow Mathematical Society (TMMS)* is managed on a day-to-day basis at the American Mathematical Society, 201 Charles Street, Providence, RI 02904 - 2294, USA.
- (V) *Compositio Mathematica* – the journal is wholly owned by Foundation Compositio Mathematica & managed by the LMS.
- (VI) *Mathematika* – the journal is wholly owned by UCL and managed by the LMS.

#### d) *Compositio* management account

	2016	2015
	£	£
<b>Income</b>	<b>411,571</b>	<b>402,622</b>
<b>Expenditure</b>		
Direct costs	(124,407)	(132,251)
Profit share to <i>Compositio</i> Foundation	(173,715)	(161,960)
	<b>(298,122)</b>	<b>(294,211)</b>
<b>Net <i>Compositio</i> surplus before LMS fees and Profit share</b>	<b>113,449</b>	<b>108,411</b>
Management fee to LMS	(39,000)	(39,000)
Profit share to LMS	(74,449)	(69,411)
<b>Balance C/fwd on <i>Compositio</i> Fund</b>	<b>-</b>	<b>-</b>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 8. Charitable activities: Disseminating Mathematical Knowledge – Conference and meeting programmes

	2016		2015	
	£	£	£	£
Society meetings and regional workshops	33,006		42,900	
Hardy Lecturer	4,675		7,255	
Mary Cartwright Lecture	1,852		2,212	
Forder Lecturer	2,650		-	
Invited Lectures	6,310		7,060	
150 Anniversary meetings and lectures	2,436		19,724	
		50,929		79,151
Apportioned support and governance costs (note 12)		82,202		80,174
<b>Total</b>		<b>133,131</b>		<b>159,325</b>

### 9. Charitable activities: Promoting Mathematical Research & its benefits

	2016		2015	
	£	£	£	£
Policy				
CMS	37,614		26,170	
Communication and External Relations	99,885		143,384	
Annual dinner	3,257		3,001	
Subscriptions to UK organisations	3,230		3,263	
Research Policy Activities	488		20,000	
		144,474		195,818
Education and young people, public engagement				
Holgate Lecturers	2,250		-	
Popular Lectures	8,673		17,297	
Other educational activities	4,087		2,709	
Knowledge Transfer	4,855		-	
		19,865		20,006
Promoting Women in Mathematics activities		160		344
Apportioned support and governance costs (note 12)		327,761		382,228
<b>Total</b>		<b>492,260</b>		<b>598,396</b>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 10. Governance and other committees costs

	2016		2015	
	£	£	£	£
Professional services				
Solicitors fees	25,749		4,076	
Audit and accountancy fees	12,073		11,500	
Audit and accountancy over-accrual	-		(555)	
Other professional fees	585		35	
	<hr/>		<hr/>	
		38,407		15,056
Costs of meetings ( <i>Catering/Accommodation/Travel &amp; Subsistence/ etc.</i> )				
Governance (Council/F&GPC/Nomination, etc.)	32,739		25,278	
Retreat	-		7,515	
Other Committees	26,524		23,144	
	<hr/>		<hr/>	
		59,263		55,937
Election of Trustees		3,898		4,839
General office and staff costs ( <i>apportioned</i> ) (note 11)		177,948		173,863
<b>Total</b>		<hr/> <b>279,516</b> <hr/>		<hr/> <b>249,695</b> <hr/>

### 11. Analysis of general support and governance costs

2016	Governance and Committee related	Other general support	Total 2016
	£	£	£
Staff costs	131,442	1,029,649	1,161,091
Office and Premises costs	20,373	117,126	137,499
IT costs	10,054	92,338	102,392
Depreciation	11,864	39,217	51,081
Irrecoverable VAT	4,215	17,808	22,023
Professional services	38,407	-	38,407
Costs of meetings	59,263	-	59,263
Elections of Trustees	3,898	-	3,898
	<hr/>	<hr/>	<hr/>
<b>Total 2016</b>	<b>279,516</b>	<b>1,296,138</b>	<b>1,575,654</b>
	<hr/>	<hr/>	<hr/>

2015	Governance and Committee related	Other general support	Total 2015
	£	£	£
Staff costs	125,962	911,628	1,037,590
Office and Premises costs	23,141	119,557	142,698
IT costs	9,150	97,706	106,856
Depreciation	11,670	39,195	50,865
Irrecoverable VAT	3,940	16,343	20,283
Professional services	15,056	-	15,056
Costs of meetings	55,937	-	55,937
Elections of Trustees	4,839	-	4,839
	<hr/>	<hr/>	<hr/>
<b>Total 2015</b>	<b>249,695</b>	<b>1,184,429</b>	<b>1,434,124</b>
	<hr/>	<hr/>	<hr/>



## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 12. Allocation of support and governance costs by activity

2016	Direct Staff	General Office	General Management and Finance	Governance and Committee	Total 2016
	£	£	£	£	£
<b>Raising funds</b>					
Conference facilities (DMH)	38,737	36,826	5,669	388	81,620
Services for tenants (DMH)	4,862	39,390	1,421	1,937	47,610
Managing Residential Property	1,342	326	666	582	2,916
<b>Total support costs for raising funds</b>	<b>44,941</b>	<b>76,542</b>	<b>7,756</b>	<b>2,907</b>	<b>132,146</b>
<b>Charitable activities</b>					
Advancing the interest of Mathematics	96,983	40,846	54,148	51,641	243,618
Enabling Mathematicians to undertake research and collaboration	86,650	32,788	46,062	51,641	217,141
Disseminating Mathematical Knowledge – Publications	358,199	96,819	47,723	70,045	572,786
Disseminating Mathematical Knowledge – Conference and meeting programmes	9,462	3,315	17,784	51,641	82,202
Promoting Mathematics research and its benefits	159,502	60,136	56,482	51,641	327,761
<b>Total support costs for Charitable activities</b>	<b>710,796</b>	<b>233,904</b>	<b>222,199</b>	<b>276,609</b>	<b>1,443,508</b>
<b>Total 2016</b>	<b>755,737</b>	<b>310,446</b>	<b>229,955</b>	<b>279,516</b>	<b>1,575,654</b>

2015	Direct Staff	General Office	General Management and Finance	Governance and Committee	Total 2015
	£	£	£	£	£
<b>Raising funds</b>					
Conference facilities (DMH)	39,133	38,860	5,544	201	83,738
Services for tenants (DMH)	7,235	44,103	1,541	418	53,297
Managing Residential Property	5,094	1,128	913	217	7,352
<b>Total support costs for raising funds</b>	<b>51,462</b>	<b>84,091</b>	<b>7,998</b>	<b>836</b>	<b>144,387</b>
<b>Charitable activities</b>					
Advancing the interest of Mathematics	81,835	34,836	52,015	49,939	218,625
Enabling Mathematicians to undertake research and collaboration	84,837	30,349	44,800	49,939	209,925
Disseminating Mathematical Knowledge – Publications	219,105	83,776	45,965	49,939	398,785
Disseminating Mathematical Knowledge – Conference and meeting programmes	9,888	3,536	17,646	49,103	80,173
Promoting Mathematics research and its benefits	200,666	71,553	60,071	49,939	382,229
<b>Total support costs for Charitable activities</b>	<b>596,331</b>	<b>224,050</b>	<b>220,497</b>	<b>248,859</b>	<b>1,289,737</b>
<b>Total 2015</b>	<b>647,793</b>	<b>308,141</b>	<b>228,495</b>	<b>249,695</b>	<b>1,434,124</b>

#### Basis of apportionment

Support costs include (a) **Staff costs** (salaries, benefits, training, H&S, recruitment, etc. of staff directly attributable to each of the above Society's activities); (b) **General Office Costs** (rent, rates, services, cleaning, equipment, maintenance, telephones, postage, equipment, stationery, etc., depreciation and Irrecoverable VAT, and IT costs such as computer hardware and software, network, internet access, websites, software development, etc.); (c) **General management and finance** (cost of services that cannot be directly attributed to an activity, i.e. general accounting and financial controls, HR and Executive Secretary's general management, etc.) (d) **Governance costs** (costs of meetings, trustees' expenses, and costs associated with constitutional and statutory requirements).

The costs of these are attributed across all the activities of the Society in proportion to (a) salary or f.t.e., (b) space occupied in De Morgan House, and (c) f.t.e. respectively, based on a time analysis undertaken by all staff.

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**12. Allocation of support and governance costs by activity (continued)**

Support and governance costs have been allocated between the costs of raising funds and charitable activities as:

- **Direct staff costs** = staff time directly attributable to each of the above Society's activities in proportion to the salary or pro rata to staff f.t.e. on a time analysis undertaken by all staff.
- **General Office costs** = (a) apportioned Building, Office and IT costs of staff who are directly attributable to (deal with) each of the above Society's activities as per staff time analysis and in proportion of the office space occupied, and (b) indirect costs, which are re-apportioned staff costs for those dealing with Building, Office and IT management.
- **General management and finance** = the costs of services that cannot be directly attributed to an activity (i.e. general accounting and financial controls, HR and Executive Secretary's general management, etc.) are attributed to each area of activity on the same basis as the original elements (i.e. staff time and space occupied, IT and office use etc.), which includes re-apportioned costs of the office space occupied, the IT costs and other general office costs in dealing with HR, finance and general management.
- **Governance and committee costs** = apportionment made on the basis of (a) salary or pro rata to staff F.T.E. on a time analysis undertaken by all staff (b) meetings and staff office space occupied in De Morgan House in relation to governance and committee functions, and (c) Invoices and claims for catering, accommodation, travel and subsistence regarding governance and committee meetings, as well as costs of professional services (i.e. external audit, legal advice, etc.).

The Society has partial exempt status in respect of VAT, based on the split of its business and non-business activities. The proportion of VAT that cannot be recovered because of partial or fully exempt status of the activity is redistributed to the activities on the same basis as the original elements (i.e. staff time and space occupied, IT and office use etc.), under General Office costs.

Support costs for each area of the above activities can be higher or lower than last year due to staff time allocation. This changes from year to year and will have an effect on direct staff costs, general office costs, general management costs and governance costs.

**13. Employment Costs**

	2016	2015
	£	£
Total employment costs of all staff including taxable benefits for the year comprise:		
Salaries and Wages	821,862	811,639
Redundancy *	109,738	-
Employer's National Insurance Contributions	78,898	72,368
Employer's Pension Contributions	123,497	118,629
<b>Total</b>	<b>1,133,995</b>	<b>1,002,636</b>

\* This represents the costs of organisational restructuring.

The total employment costs (Salaries and Pension) for Executive Management Team amounted to £444,238 (2015: £425,593), and consists of Executive Secretary, Publisher, Head of Finance, Head of Society Business, Head of Conference and Building.

The number of employees earning £60,000 per annum or more was:

	2016	2015
	No.	No.
£60,000 - £70,000	2	1
£80,000 - £90,000	-	1
£90,000 - £100,000	1	
£110,000 - £120,000	1	1

The pension payments for the above members of staff amounted to £52,191 (2015: £41,085). These contributions were paid into a defined benefits pension scheme.

The average number of employees over the year (and full time equivalent) was:

	2015/2016		2014/2015	
	Total	FTE	Total	FTE
Management and administration	14.9	12.9	16.9	14.5
Publishing and editorial	3.8	3.7	4.0	3.8
<b>Total</b>	<b>18.7</b>	<b>16.6</b>	<b>20.9</b>	<b>18.3</b>

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**14. Fixed Asset Investments**

	£	2016 £	£	2015 £
a) Quoted investments				
	<i>Investment Assets in the UK</i>	<i>Investment Assets outside the UK</i>	<b>Total</b>	<b>Total</b>
<b>Total Market value at 31<sup>st</sup> July 2016</b>	<b>6,302,477</b>	<b>4,029,452</b>	<b>10,331,929</b>	<b>10,689,668</b>

**Reconciliation of opening and closing market values:**

Market value at 1 <sup>st</sup> August 2015	10,689,668	10,012,507
Additions at cost	161,127	604,998
Disposals proceeds	(612,741)	-
Realised & Unrealised gains/ (losses) (note 22a)	296,888	130,367
Movement in cash	(203,013)	(58,204 )

**Total Market value at 31<sup>st</sup> July 2016**

**10,331,929      10,689,668**

**Analysis by Fund:**

Restricted Funds	195,502	189,737
Unrestricted Funds	10,136,427	10,499,931

**% value of  
portfolio**

**Details of material investments are as follows:**

Schroder QEP Global Core Fund	8.0%
Majedie UK Equity Fund	5.9%
Old Mutual UK Alpha Fund	5.1%
Troy Trojan Income Fund	5.1%
Schroder Charity Equity Fund	5.1%
Schroder Global Emerging Markets Fund	5.0%

**b) Residential Property**

	2016 £	2015 £
<b>Market value at 31<sup>st</sup> July 2016</b>	<b>2,323,450</b>	<b>2,312,000</b>
<b>Reconciliation of opening and closing market values:</b>		
Market value at 1 <sup>st</sup> August 2015	2,312,000	2,005,000
Additions at cost	11,450	-
Unrealised gains (note 22b)	-	307,000
<b>Total Market value at 31<sup>st</sup> July 2016</b>	<b>2,323,450</b>	<b>2,312,000</b>

Represents purchase of property for residential letting purposes to diversify the Society's investment portfolio. The rental derived is shown on the SoFA under 'Investment Income'.

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

15. Tangible Fixed Assets	Leasehold Property	Fixtures Fittings and Equipment	Total
	£	£	£
<b>Cost</b>			
Brought forward at 1 <sup>st</sup> August 2015	2,175,353	128,662	2,304,015
Additions	-	10,333	10,333
Disposal Adjustment	-	(27,262)	(27,262)
Carried forward at 31 <sup>st</sup> July 2016	<u>2,175,353</u>	<u>111,733</u>	<u>2,287,086</u>
<b>Depreciation</b>			
Brought forward at 1 <sup>st</sup> August 2015	741,194	120,342	861,536
Charge for the year	44,821	6,260	51,081
Disposal Adjustment	-	(27,262)	(27,262)
Carried forward at 31 <sup>st</sup> July 2016	<u>786,015</u>	<u>99,340</u>	<u>885,355</u>
<b>Net book value</b>			
At 31 <sup>st</sup> July 2016	<u><u>1,389,338</u></u>	<u><u>12,393</u></u>	<u><u>1,401,731</u></u>
At 31 <sup>st</sup> July 2015	<u><u>1,434,159</u></u>	<u><u>8,320</u></u>	<u><u>1,442,479</u></u>

- Part of the leasehold property is let out and the rental derived is shown on the SOFA under 'Activities for Generating Funds'.

16. Debtors	2016	2015
	£	£
Publications	176,714	157,234
Conference facilities	20,047	15,771
Other debtors	108,528	66,668
Income tax/VAT recoverable	397	551
Prepayments and accrued interest	27,362	22,128
	<u><u>333,048</u></u>	<u><u>262,352</u></u>

17. Creditors and Deferred Income	2016	2015
	£	£
<b>Creditors: amounts falling due within one year</b>		
Accruals	102,169	108,784
Grant creditors	215,115	242,050
Other creditors	285,383	302,810
	<u><u>602,667</u></u>	<u><u>653,644</u></u>
<b>Deferred income:</b>		
Unexpired publications' subscriptions:		
Balance brought forward	169,282	333,292
Amount released in year	(169,282)	(333,292)
Income deferred to future years	174,864	169,282
Balance carried forward	<u><u>174,864</u></u>	<u><u>169,282</u></u>
<b>Creditors: amounts falling due after more than one year</b>		
Brought Forward Pension Provision	93,334	-
Movement	93,284	93,334
Carried Forward Pension Provision	<u><u>186,618</u></u>	<u><u>93,334</u></u>

## NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

### 18. Restricted Funds

2016	Balance at 1.08.15 £	Other & Investment Income £	Expenditure £	Investment gain £	Transfers £	Balance at 31.07.16 £
<b><u>Prize (Capital) funds</u></b>						
Berwick Fund	31,748	158	-	-	-	31,906
De Morgan Medal & Larmor Fund	29,936	150	-	-	-	30,086
<b><u>Prize (Income) funds</u></b>						
Berwick Fund	21,070	664	(1,500)	476	-	20,710
De Morgan Medal & Larmor Fund	39,351	1,241	(1,500)	888	-	39,980
Lord Rayleigh's Fund	14,594	460	-	330	-	15,384
J.H.C. Whitehead Fund	-	-	(6,000)	-	6,000	-
Fröhlich Fund	14,758	465	(1,500)	333	-	14,056
Shephards Fund	29,546	932	-	666	-	31,144
<b><u>Other funds</u></b>						
A.J. Cunningham Research Fund	70,418	2,221	-	1,588	-	74,227
Zeeman Fund	-	170	-	-	-	170
Grants and Contracts	-	10,000	(20,000)	-	10,000	-
<b>Total Funds</b>	<b>251,421</b>	<b>16,461</b>	<b>(30,500)</b>	<b>4,281</b>	<b>16,000</b>	<b>257,663</b>

- The transfer of £6,000 from the General Fund to Restricted Funds is to cover a shortfall in income for the Whitehead prizes.
- The transfer of £10,000 from the General Fund to the Grants and Contracts represents LMS's contribution for MARM grant. (See note 21).

2015	Balance at 1.08.14 £	Other & Investment Income £	Expenditure £	Investment gain £	Transfers £	Balance at 31.07.15 £
<b><u>Prize (Capital) funds</u></b>						
Berwick Fund	31,590	158	-	-	-	31,748
De Morgan Medal & Larmor Fund	29,787	149	-	-	-	29,936
<b><u>Prize (Income) funds</u></b>						
Berwick Fund	21,808	594	(1,500)	168	-	21,070
De Morgan Medal & Larmor Fund	38,025	1,033	-	293	-	39,351
Lord Rayleigh's Fund	14,102	383	-	109	-	14,594
J.H.C. Whitehead Fund	-	-	(10,500)	-	10,500	-
Fröhlich Fund	14,261	387	-	110	-	14,758
Shephards Fund	30,000	815	(1,500)	231	-	29,546
<b><u>Other funds</u></b>						
A.J. Cunningham Research Fund	68,044	1,849	-	525	-	70,418
Grants and Contracts	-	9,677	(20,000)	-	10,323	-
<b>Total Funds</b>	<b>247,617</b>	<b>15,045</b>	<b>(33,500)</b>	<b>1,436</b>	<b>20,823</b>	<b>251,421</b>

- The transfer of £10,500 from the General Fund to Restricted Funds is to cover a shortfall in income for the Whitehead prizes.
- The transfer of £10,323 from the General Fund to the Grants and Contracts represents LMS's contribution for MARM grant. (See note 21).

# NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

## 19. Unrestricted Funds

	Balance at 01.08.15	Income	Expenditure	Gain/(loss) on investments	Transfer	Balance at 31.07.16
	£	£	£	£	£	£
<b>General Fund:</b> (see note 1 (i))	10,696,086	2,701,659	(2,646,465)	292,607	36,360	11,080,247
<b>Designated Funds:</b>						
a) Building & Development Reserve Fund	600,000	-	-	-	-	600,000
b) Printing & Publication Reserve Fund	3,000,000	-	-	-	-	3,000,000
c) Grants Payable Reserve Fund	181,000	-	(58,000)	-	-	123,000
d) Special Activities Reserve Fund	31,880	159	-	-	-	32,039
e) Undergraduate Research Bursaries Fund	-	-	-	-	100,000	100,000
f) 150 Anniversary Fund	115,396	-	(76,485)	-	(38,911)	-
g) Compositio Fund	-	411,571	(298,122)	-	(113,449)	-
	3,928,276	411,730	(432,607)	-	(52,360)	3,855,039
	<b>14,638,469</b>	<b>3,113,389</b>	<b>(3,071,582)</b>	<b>292,607</b>	<b>(16,000)</b>	<b>14,935,286</b>

e) The transfer of £100,000 from General Fund is in respect of Undergraduate Research Bursaries (Harding).

f) The transfer of £38,911 from Anniversary Fund to General Fund represents the closure of the 150<sup>th</sup> Anniversary Fund.

g) The transfer of £113,449 from the Compositio Fund to General Fund represents the management fee and the LMS's profit share relating to the journal.

	Balance at 01.08.14	Income	Expenditure	Gain/(loss) on investments	Transfer	Balance at 31.07.15
	£	£	£	£	£	£
<b>General Fund:</b> (see note 1 (i))	10,185,764	2,490,288	(2,503,485)	435,931	87,588	10,696,086
<b>Designated Funds:</b>						
a) Building & Development Reserve Fund	600,000	-	-	-	-	600,000
b) Printing & Publication Reserve Fund	3,000,000	-	-	-	-	3,000,000
c) Grants Payable Reserve Fund	239,000	-	(58,000)	-	-	181,000
d) Special Activities Reserve Fund	31,722	158	-	-	-	31,880
e) 150 Anniversary Fund	339,829	-	(224,433)	-	-	115,396
f) Compositio Fund	-	402,622	(294,211)	-	(108,411)	-
	4,210,551	402,780	(576,644)	-	(108,411)	3,928,276
	<b>14,396,315</b>	<b>2,893,068</b>	<b>(3,066,022)</b>	<b>435,931</b>	<b>(20,823)</b>	<b>14,638,469</b>

f) The transfer of £108,411 from the Compositio Fund to General Fund represents the management fee and the LMS's profit share relating to the journal.

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**20. Analysis of net assets between funds**

2016	Unrestricted funds		Restricted Funds	Total Funds
	General	Designated		
	£	£	£	£
<b>Fund balances are represented by</b>				
Tangible fixed assets	1,401,731	-	-	1,401,731
Investments	8,736,877	3,723,000	195,502	12,655,379
Current assets	1,905,788	132,039	62,161	2,099,988
Current liabilities	(777,531)	-	-	(777,531)
Long-term liabilities	(186,618)	-	-	(186,618)
<b>Total net assets</b>	<b>11,080,247</b>	<b>3,855,039</b>	<b>257,663</b>	<b>15,192,949</b>

2015	Unrestricted funds		Restricted Funds	Total Funds
	General	Designated		
	£	£	£	£
<b>Fund balances are represented by</b>				
Tangible fixed assets	1,442,479	-	-	1,442,479
Investments	8,915,535	3,896,396	189,737	13,001,668
Current assets	1,254,332	31,880	61,684	1,347,896
Current liabilities	(822,926)	-	-	(822,926)
Long-term liabilities	(93,334)	-	-	(93,334)
<b>Total net assets</b>	<b>10,696,086</b>	<b>3,928,276</b>	<b>251,421</b>	<b>14,875,783</b>

**21. Grants and Contracts Management account**

	2016		2015	
	£	£	£	£
<b>a) IMU grant to the MARM</b>				
Income	10,000		9,677	
Expenditure	(20,000)		(20,000)	
<b>LMS's Contribution to the MARM</b>		<b>(10,000)</b>		<b>(10,323)</b>
<b>b) IMA, RSS &amp; EdMS contributions to the CMS</b>				
Income	57,184		46,648	
Expenditure (including support costs)	(98,992)		(80,581)	
<b>LMS's Contribution to the CMS</b>		<b>( 41,808)</b>		<b>(33,933)</b>
<b>c) IMA contribution to the JPM</b>				
Income	5,000		5,000	
Expenditure (including support costs)	(20,666)		(13,738)	
<b>LMS's Contribution to the JPM</b>		<b>(15,666)</b>		<b>(8,738)</b>

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**22. Gains and losses on investment assets**

<b>2016</b>	<b>Unrestricted funds</b>	<b>Restricted funds</b>	<b>Total</b>
	<b>£</b>	<b>£</b>	<b>£</b>
<b>a. Quoted investments</b>			
Realised gain on sale of investments	111,164	1,626	112,790
Unrealised gain in market value of investments	181,443	2,655	184,098
Realised and Unrealised gain (Fixed Asset Investments: Note 14)	<b>292,607</b>	<b>4,281</b>	<b>296,888</b>
Re-invested total return (investment income: Note 2)	(80,518)	-	(80,518)
	<b>212,089</b>	<b>4,281</b>	<b>216,370</b>
<b>b. Residential property investment</b>			
Realised gain on sale of investments	-	-	-
Unrealised gain in market value of the Properties	-	-	-
Realised and Unrealised gain (Fixed Asset Investments: Note 14)	-	-	-
<b>2015</b>	<b>Unrestricted funds</b>	<b>Restricted funds</b>	<b>Total</b>
	<b>£</b>	<b>£</b>	<b>£</b>
<b>a. Quoted investments</b>			
Realised gain on sale of investments	119,253	1,328	120,581
Unrealised gain in market value of investments	9,678	108	9,786
Realised and Unrealised gain (Fixed Asset Investments: Note 14)	<b>128,931</b>	<b>1,436</b>	<b>130,367</b>
Re-invested total return (investment income: Note 2)	(80,859)	-	(80,859)
	<b>48,072</b>	<b>1,436</b>	<b>49,508</b>
<b>b. Residential property investment</b>			
Realised gain on sale of investments	-	-	-
Unrealised gain in market value of the Properties	307,000	-	307,000
Realised and Unrealised gain (Fixed Asset Investments: Note 14)	<b>307,000</b>	-	<b>307,000</b>

**23. Transactions with Trustees and connected persons**

Trustees receive reimbursement only for expenses actually incurred in attending meetings. No remuneration is paid to trustees except as disclosed below. The gross amount that has been reimbursed in respect of attendance of meetings in the period amounted to £25,129 (2015: £22,017) for 17 Trustees (2015:16).

During the year £450 was paid to Dr A. Gardiner for delivering Holgate lectures. As this work falls outside of his duties as a trustee, a written agreement was produced between the Society and Dr Gardiner.

As disclosed in the Trustees' Report, where grants are awarded to Trustees the payment is always made to the relevant institution.



# NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31<sup>st</sup> July 2016

## 24. Comparison figures of each fund (2014/15 financial statements)

	Notes	Unrestricted General Funds £	Designated Funds £	Restricted Funds £	2015 Total Funds £
<b>Income and endowments:</b>					
<i>Donations and legacies</i>		3,163	-	-	3,163
<i>Income from charitable activities:</i>					
Membership subscriptions		100,306	-	-	100,306
Publications – LMS Periodicals	7a	1,351,720	-	-	1,351,720
Publications – Ventures and Royalties	7c,d	308,409	402,622	-	711,031
Grants and contracts	21	71,648	-	9,677	81,325
<b>Total income from charitable activities</b>		<b>1,832,083</b>	<b>402,622</b>	<b>9,677</b>	<b>2,244,382</b>
<i>Income from other trading activities</i>	3	253,125	-	-	253,125
<i>Income from Investments</i>	2	399,320	158	5,368	404,846
<i>Other income</i>		2,597	-	-	2,597
<b>Total Income</b>		<b>2,490,288</b>	<b>402,780</b>	<b>15,045</b>	<b>2,908,113</b>
<b>Expenditure:</b>					
<i>Costs of raising funds</i>	4	238,998	-	-	238,998
<i>Expenditure on charitable activities:</i>					
Advancing the interests of mathematics	5	303,413	-	13,500	316,913
Enabling mathematicians to undertake research & collaboration	6	832,062	130,027	20,000	982,089
Disseminating mathematical knowledge:					
- Costs of publications	7b,c,d	430,363	294,211	-	724,574
- Conferences and meeting programmes	8	139,601	19,724	-	159,325
Promoting mathematical research and its benefits	9	465,714	132,682	-	598,396
<b>Total expenditure on charitable activities</b>		<b>2,171,153</b>	<b>576,644</b>	<b>33,500</b>	<b>2,781,297</b>
<b>Total expenditure</b>		<b>2,410,151</b>	<b>576,644</b>	<b>33,500</b>	<b>3,020,295</b>
<b>Net income/(expenditure) before gains and losses on investment</b>		<b>80,137</b>	<b>(173,864)</b>	<b>(18,455)</b>	<b>(112,182)</b>
Net gains on investment assets	22	435,931	-	1,436	437,367
<b>Net Income /(expenditure) for the year</b>		<b>516,068</b>	<b>(173,864)</b>	<b>(17,019)</b>	<b>325,185</b>
Transfers between funds	18,19	87,588	(108,411)	20,823	-
Actuarial losses on defined benefit pension schemes	17	(93,334)	-	-	(93,334)
<b>Net movement in funds for the year</b>		<b>524,429</b>	<b>(282,275)</b>	<b>3,804</b>	<b>245,958</b>
<b>Reconciliation of funds:</b>					
Total funds brought forward		10,185,764	4,210,551	247,617	14,643,932
<b>Fund balances carried forward</b>		<b>10,696,086</b>	<b>3,928,276</b>	<b>251,421</b>	<b>14,875,783</b>

**NOTES TO THE FINANCIAL STATEMENTS**  
For the year ended 31<sup>st</sup> July 2016

**25. Transition to FRS 102**

The Society adopted FRS 102 at 1 August 2015. The date of transition is 1 August 2014 and the net effect on opening reserves is set out below.

Effect on the SoFA	General Funds	Designated Funds	Restricted Funds	Total Funds
<b>2016</b>				<b>2016</b>
	£	£	£	£
<b>Net Income/(Expenditure) as previously stated</b>	<b>577,445</b>	<b>(173,237)</b>	<b>6,242</b>	<b>410,450</b>
Recognition of defined benefit pension schemes	(93,284)	-	-	(93,284)
<b>Net Income/(Expenditure) as restated</b>	<b>484,161</b>	<b>(173,237)</b>	<b>6,242</b>	<b>317,166</b>
<b>2015</b>	<b>General Funds</b>	<b>Designated Funds</b>	<b>Restricted Funds</b>	<b>Total Funds</b>
	£	£	£	<b>2015</b>
				£
<b>Net Income/(Expenditure) as previously stated</b>	<b>603,656</b>	<b>(282,275)</b>	<b>3804</b>	<b>325,185</b>
Recognition of defined benefit pension schemes	(93,334)	-	-	(93,334)
<b>Net Income/(Expenditure) as restated</b>	<b>510,322</b>	<b>(282,275)</b>	<b>3,804</b>	<b>231,851</b>
			<b>As at</b>	<b>As at</b>
			<b>1 August</b>	<b>31 July</b>
			<b>2015</b>	<b>2016</b>
			£	£
<b>Net Funds (as previously stated)</b>			<b>14,969,117</b>	<b>15,379,567</b>
<b>Unrestricted Fund</b>				
Recognition of defined benefit pension schemes			(93,334)	(186,618)
<b>Net Funds (as restated)</b>			<b>14,875,783</b>	<b>15,192,949</b>

The most significant change is the recognition of a liability in respect of the deficit reduction arrangements for multi-employer pension defined benefit pension schemes that are accounted for as defined contribution schemes.