MICROBIOLOGY SOCIETY ANNUAL REPORT 2017

MICROBIOLOGY SOCIETY

Microbiology Society
(Limited by guarantee)

Report and financial statements
31 December 2017

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INTRODUCTION FROM THE **PRESIDENT AND CHIEF EXECUTIVE**

2017 was a fascinating year for the Microbiology Society. It was the end of our five-year strategy period, and this gave us the opportunity to reflect on how much had been achieved in recent years, whilst simultaneously preparing for the next five years.

Pages 20 to 44 review what the Society achieved in 2017 in supporting the membership to advance the science of microbiology. The last five years have been characterised by change and progress. In 2017 we saw the biggest and most diverse Annual Conference in our 70-year history, and our membership is growing at a time when many societies are struggling to retain membership numbers. We publish more articles in more journal titles than we did five years ago. This reflects the fact that the community continues to value the fast, high-quality service we provide, with all of the income being ploughed back into microbiology. The publication of our report *Unlocking the Microbiome* marked a milestone in the quantity and impact of our policy work. Five years ago, our activities to promote members' professional development were limited mainly to giving grants. Financial support through the award of grants remains an important element of how we invest in members' careers, but we now offer a much richer and more diverse range of training and development opportunities, many of which are driven by the Early Career Microbiologists' Forum. The ECM Forum, perhaps more than anything, demonstrates the Society's commitment to remaining relevant to the careers of microbiologists, and to expanding and strengthening the networks available to our members.

This forward-looking attitude is set out in pages 3 to 19, which describe the Society's strategy for the period from 2018 to 2022, together with information about our plans for implementing it. Microbiology has a higher profile than ever in the public consciousness, as we understand more and more about the role that microbes play in agriculture and the environment, food security and our health and wellbeing. Our community is developing more and better ways of studying microbes not just in the laboratory, but in the complex assemblages and varied environments of the real world. These developments open up fresh and exciting opportunities for microbiologists to generate new knowledge and to share that knowledge with other communities so that it can be applied for the benefit of the public.

The members of the Microbiology Society have a unique depth and breadth of knowledge about microbes, their effects and their practical uses, and they remain our Society's greatest asset. Our primary role is to unlock and harness the potential of that knowledge and to add value to the work and careers of our members.

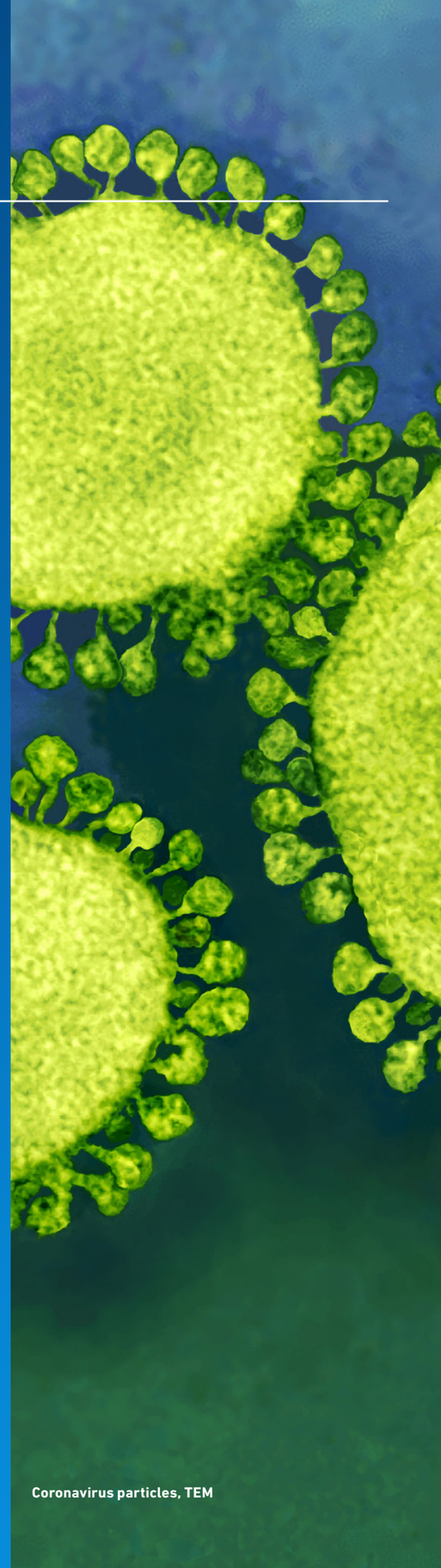
Professor Neil Gow
President

Dr Peter Cotgreave
Chief Executive

STRATEGIC PLAN **2018–2022**

In 2017, we completed a review of our activities, launching the Society's Strategy 2018–2022 at the Annual General Meeting in September. The new strategy forms the framework for our operations over the next five-year period. We will start implementing this new strategic plan during 2018; there is a high level of ambition in the strategy and to deliver that aspiration over the period, it is necessary to make a strong start immediately. This will be a hugely exciting opportunity for all involved in the Society, giving everyone the chance to shape the future of the organisation.

The Society's 75th anniversary will take place in 2020, the goal for which is to celebrate the impact of microbiologists, past, present and future. The anniversary year will fall in the middle of the plan, and we aim to emphasise our vision, mission, values and objectives throughout the activities celebrating our anniversary. Over 2018, we will continue to develop proposals and implement activities for the anniversary year. The anniversary is an opportunity to engage members right across the Society in various activities that reflect the strategy and promote microbiology. Activities in the anniversary year will be centred around a coherent message about the impact of microbiologists on the world, and targeting core audience groups. It will be important to evaluate activities, identify impact and explore opportunities for a meaningful legacy beyond the anniversary, and this will be built into implementation plans for the year.



Coronavirus particles, TEM

***Streptomyces coelicoflavus* bacteria, SEM**

STRATEGIC PLAN 2018–2022

WHY MICROBIOLOGY MATTERS

Microbes are everywhere and affect almost all aspects of our lives. We cannot see them, but our world would not function without them. Bacteria, viruses, fungi, protists, archaea, algae and other microscopic life forms are on us and in us, in the air, soil and water, and in our food. They are in and on the surfaces of everything in our homes, workplaces and other environments. Most do not harm us and many are essential for the good health of humans, animals and the planet. Microbes help keep the planet healthy by recycling waste and supplying nutrients. Agricultural systems would not function without some while others are harmful pests. Industry uses microbial processes to produce foodstuffs and drugs, benefiting society and creating wealth. Microbes are very diverse, they are fascinating, and modern imaging techniques show that they can be very beautiful.

The huge variety of microbes and the range of ways in which they affect us mean that microbiology is an enormously varied and constantly changing subject. Reflecting this diversity, microbiology intersects with many other disciplines in the natural and social sciences and is a vital element of studies in a large range of different fields. Basic research in microbiology has led to the development of most of the important molecular techniques that are now used to study organisms from microbes to humans. Biotechnology, synthetic biology, the production of therapeutic proteins, and many medical diagnoses are all dependent on these molecular tools.

The study of microbes helps us to understand our world and our place within it. It gives us insights into the complexity of nature and society, which in turn provide many different health, environmental, social, cultural, industrial and economic benefits. Microbiology answers big questions by giving us knowledge of very small things. Microbiologists are involved in addressing challenges that vary from urgent problems demanding immediate solutions, such as new and emerging diseases, through to long-term issues, like antimicrobial drug resistance, food security and environmental sustainability.

When the discipline of microbiology is strong and intellectually vibrant, we have a better chance of finding solutions to these problems, and building a healthier, more sustainable and more prosperous future.

THE MICROBIOLOGY SOCIETY

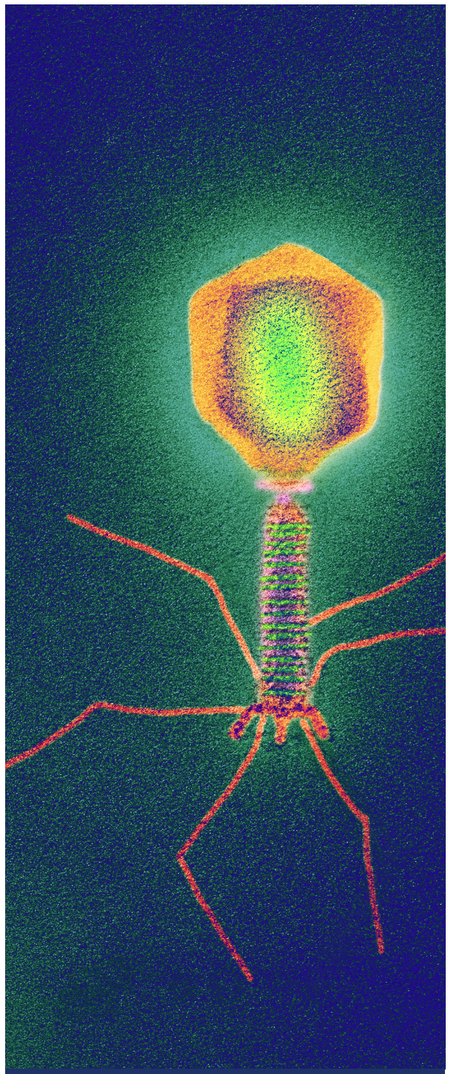
The Microbiology Society is a membership charity for scientists interested in microbes, their effects and their practical uses. It is one of the largest microbiology societies in Europe with a worldwide membership based in universities, industry, hospitals, research institutes and schools.

Our members have a unique depth and breadth of knowledge about the discipline. The Society's role is to help unlock and harness the potential of that knowledge. We do this by bringing together and empowering communities that shape the future of microbiology. We generate public benefit by fostering communication both among communities of microbiologists and between microbiologists and other communities who can translate that knowledge in useful ways.

Because of the diverse range of challenges and opportunities our members encounter, the Society works in a variety of modes. In some circumstances, it is a leader, in others it works in partnership with like-minded scientific organisations, and in others by convening different communities.

In the five years between 2018 and 2022, the Society's principal goal is to develop, expand and strengthen the networks available to our members so that they can generate new knowledge about microbes and ensure that it is shared with other communities.

The number and scale of opportunities open to communities of microbiologists in today's world is vast. By combining our members' knowledge with the expertise of our staff the Society will be a key player in the debates and solutions that will turn those opportunities into impacts. Those impacts will drive us towards a world in which the science of microbiology provides maximum benefit to society.



Coloured TEM of a T4 bacteriophage virus

STRATEGIC PLAN 2018–2022

OUR VISION

A world in which the science of microbiology provides maximum benefit to society.

OUR MISSION

Advancing the understanding and impact of microbiology by connecting and empowering communities worldwide.

OUR CORE VALUES

We are welcoming to anyone interested in microbes, their effects and their uses. Our reputation as a friendly, nurturing and approachable community, driven by the experience of a diverse set of members, is extremely important to us.

We are transparent and professional in everything we do. We believe that decisions should be informed by evidence and expertise, and that scientific methods form a robust and dependable way of developing reliable evidence.

We are dedicated to our charitable aims. We are not for profit, and strive to ensure that all our resources are applied optimally to furthering the science of microbiology and its application.

OBJECTIVE 1

We will enable our members to strengthen their existing relationships and gain access to new communities, unlocking the potential for knowledge exchange

Allergenic fungus *Alternaria alternata*, SEM

STRATEGIC PLAN 2018–2022

Maximise national and international networking opportunities for our members among existing and new communities

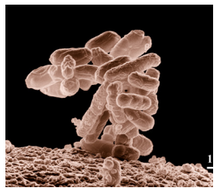
The Society's scientific meetings programme is already very strong and demand is high, largely because we have found effective ways of ensuring that it is a programme by the members, for the members, and which spans the breadth of microbiology. In addition, we have built professional development resources to enable our members to maximise their experience at Microbiology Society conferences, such as the guide on 'how to get the most out of your first conference' and 'guide to networking'.

During 2018 the Society will host several scientific meetings featuring international speakers and delegates.

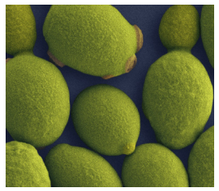
In addition, 2018 will see continued engagement with other groups with mutual interests who can help strengthen the scientific programme further and provide access to new communities for our members, including Protistology-UK and the British Yeast Group. We will also be focused on more widely communicating the opportunities available for members to hold Society meetings outside the UK and Ireland.

Annual Conference 2018
10–13 April
Birmingham, UK

Early Career Microbiologists' Forum Summer Conference
14–15 June
Birmingham, UK



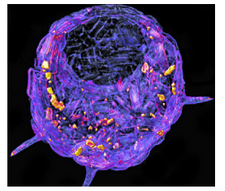
Focused Meeting:
Microbes and Mucosal Surfaces
21–22 June
Dublin, Ireland



Focused Meeting:
British Yeast Group: Embracing Variation
27–29 June
Leicester, UK

Focused Meeting:
Emerging Zoonoses and AMR: A Global Threat
2 July
Guildford, UK

Focused Meeting:
Molecular Biology and Pathogenesis of Avian Viruses
3–4 September
Oxford, UK



Focused Meeting:
9th International Symposium on Testate Amoebae (ISTA9): Recent Advances and Future Research Priorities
10–14 September
Belfast, UK

Focused Meeting:
Microbiomes Underpinning Agriculture
1–2 October
Cork, Ireland

Federation of Infection Societies (FIS) 2018
13–15 November
Newcastle, UK

STRATEGIC PLAN 2018–2022

Increase the involvement of groups of microbiologists who are not currently well represented in our activities

There are many existing opportunities at the Society in which members can get involved, and during 2018 we will build our effectiveness at communicating these opportunities, attractively, to the members in a timely way. During the year we will be embedding a new Member Engagement programme that will enable members to build new networks and to champion the microbiology that they do, through Society-led activities and by representing the Society and its membership at external events. For example, a Society staff member has represented the Society on the Microbiology in Schools Advisory Committee (MiSAC) to date. In 2017, we sought applications from members to represent the Society instead, and at the start of 2018 the Communications Committee will appoint its chosen representative, to take up the post from March 2018.

The Early Career Microbiologists' Forum (ECM Forum) Executive Committee has embedded itself well, having an impact on the decision-making of Council and Committees. Now with somewhere in the region of 350 members of the ECM Forum, its Executive Committee will improve the two-way dialogue between Committee members and the wider Forum, ensuring the Committee is representing the group as effectively as possible in shaping the Society's programmes.

Following the success of the ECM Forum over recent years, during 2017 the Professional Development Committee established a Mid-Career Working Group to consider what professional development support the Society could offer to members at this stage of their careers. Further options for this group of members will be explored over the course of 2018, and consultation with the membership will commence at the Annual Conference in April 2018.

The Society's established journals have been running for several years and developments are under way to ensure that we continue to attract the best papers from the best authors. During 2018, journal development plans will be approved and implemented, which will define a vision for each journal to meet the needs of the communities it serves. For example, the *Journal of Medical Microbiology* aims to become a hub for different communities of clinical and fundamental researchers, increasing scientific understanding across medical microbiology and ensuring effective knowledge transfer. In addition, we will strengthen our monitoring of trends within and related to the scope of each journal. This will allow us to identify new communities forming around interesting research topics (such as antimicrobial resistance), which in turn can lead to special issues, pop-up journals, or more traditional review articles.

Increase engagement and collaboration between our members and other societies, industry, funders, educators, regulators and decision makers

With the introduction of a new database system and additional website functionality at the end of 2017, much of 2018 will involve the collection of the data needed to make the newly launched Members' Directory as effective as possible. The Directory will allow members of the Society to identify and contact other members, based on searching relevant topic areas. This information will also enable us to build online communities of members and share personalised resources, using the new members-only area designed as part of the upgraded website.

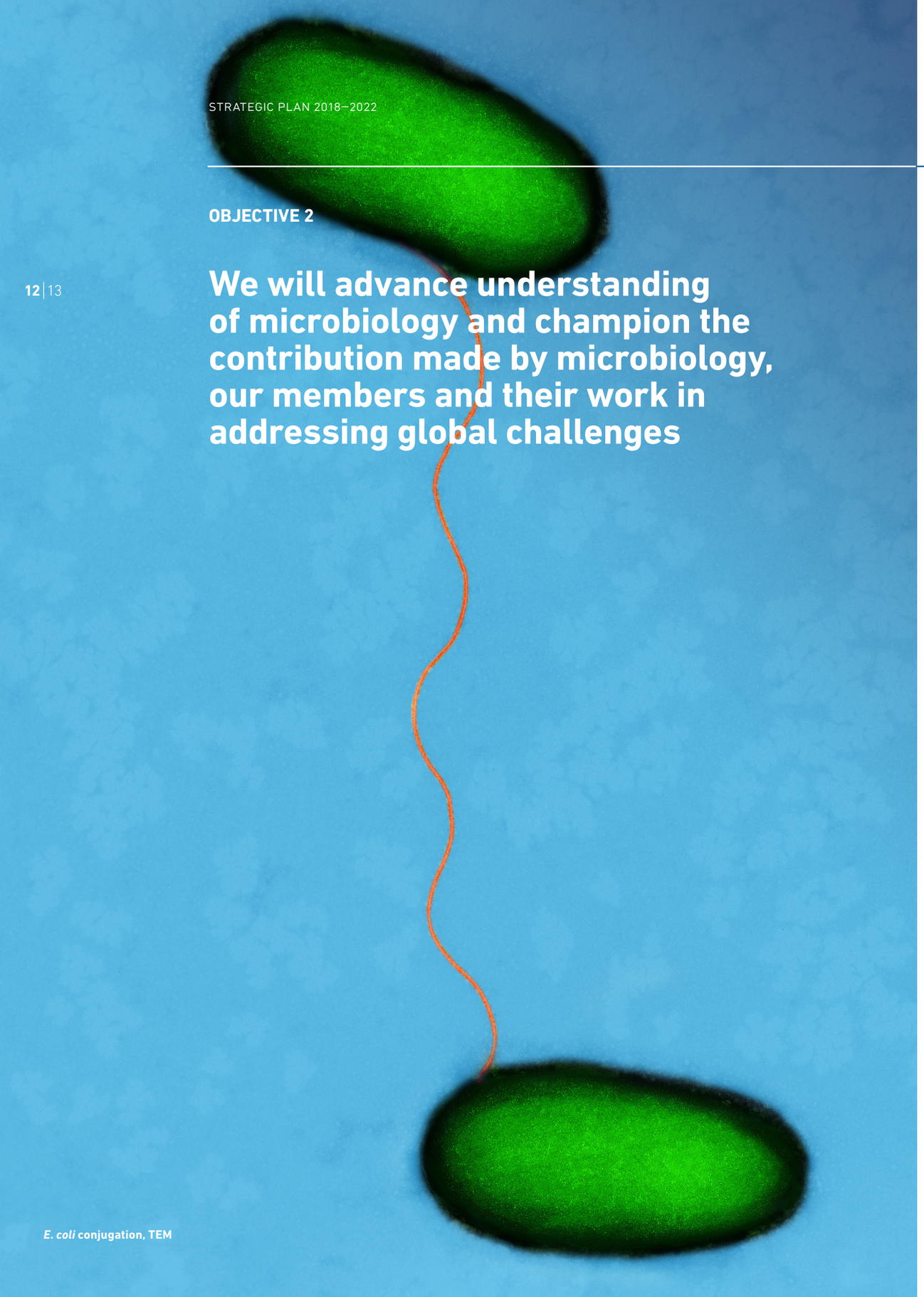
Building on the success of our policy project on *Unlocking the Microbiome* in the last two years, the Society is beginning to build relations with the Knowledge Transfer Network (KTN). Working closely with Innovate UK, the KTN is keen to collaborate with us on an industry-academia microbiome workshop and further discuss other potential opportunities for bringing our academic members closer to industry. Various funding bodies, including the Biotechnology and Biological Sciences Research Council (BBSRC), have also expressed an interest in engaging further in this area. These collaborations will deepen over 2018.

During 2018, we will also be collaborating with other organisations on various events and activities, providing opportunities for our members to engage more widely with new communities. Activities will include:

- An Essential skills: Funders roundtable at the Annual Conference 2018, which will enable our members to hear from and network with representatives from a range of research funders including BBSRC, MRC, NERC and Wellcome Trust
- An Essential skills: Engaging in science policy session at the Annual Conference 2018, bringing members closer to representatives from the Parliamentary Office of Science and Technology and Campaign for Science and Engineering
- Organising sessions at the Federation of Infection Societies Annual Conference: Action on Infection in Newcastle upon Tyne, and the 11th Healthcare Infection Society International Conference in Liverpool, both in November 2018, which will provide access to a more clinical audience for our members.

OBJECTIVE 2

We will advance understanding of microbiology and champion the contribution made by microbiology, our members and their work in addressing global challenges



***E. coli* conjugation, TEM**

STRATEGIC PLAN 2018–2022

Promote the Society's activities for communicating microbiological research across a range of disciplines

The Society's communications channels are well regarded; in 2017 our blog *Microbe Post* won the Association of British Science Writers' Dr Katharine Giles Science blog award. A new Head of Communications will be joining the Society in January 2018 and we will be reviewing and developing work plans in support of delivery of the new strategy. This will include reviewing email marketing to members and other groups, refreshing website content in specific areas, reviewing membership communications, developing social media campaigns, improving the variety and scope of digital output (including specific activities to promote members' work) and enhanced promotion of the excellent academic and research content within our journal portfolio. These renewed plans will showcase microbiology and mechanisms for communication of microbiological research across all Society activities, under four main workstreams:

- improved communication and engagement with the membership
- improved promotion of the Society's journals
- increased production of scientific content and distribution across the Society's digital and wider media channels
- improved communication of the Society's strategy and key messages across internal and corporate communications.

Our journals provide a significant opportunity for members to communicate their research across a range of disciplines and internationally. Starting in 2018, we will be working with various partners to maximise the discoverability of our journal content, with benefits for usage, impact, submissions and sales. This will include migrating to the modern JATS (Journal Article Tag Suite) standard for article mark up, allowing for better discoverability and data mining as well as preserving our content for the future; improving our presence in Google Scholar and PubMed Central; and joining industry initiatives regarding the quantity and quality of metadata that is shared freely. We will also be reviewing our platforms with the intention of making them more responsive to users' needs; for example, one long-term goal is to provide a graphic search interface able to display the interconnections between articles based on the species of microbe being studied.

At the start of 2018, we will also be reviewing the ways we communicate about our journals, including assessing the conferences that the Society attends for promotion, the social media presence, press plans and broader brand messaging. We aim to identify any missed opportunities for raising the profile of individual journals, and of the Society's journals as a portfolio, to ensure that the research we publish has maximum impact because it is seen by the right people, at the right time. We will also be investigating ways to publish novel research outputs such as video articles, data sets, and short-form notes, continuing to develop new avenues for our members to share their research through legitimate, peer-reviewed venues.

STRATEGIC PLAN 2018–2022

Increase capacity and opportunities for members to communicate microbiology and their work

The numbers of opportunities that members, especially early career researchers, have to present their work and showcase themselves is continually growing at the Society.

2018 will see the implementation of new Annual Conference rules, which will reduce the number of invited speakers and consequently free up more time for offered oral presentations and flash poster presentations. The Annual Conference will also start with a symposium on Teaching in Higher Education, which will provide a space for members to come together to discuss innovative teaching practices, including the opportunity to share lessons learned. There will also be a chance to discuss the impact of the implementation of the Teaching Excellence Framework on lecturers, as well as Higher Education Academy fellowship and degree accreditation. This will be a great opportunity for those teaching in higher education environments to come together to share best practices and form a network to learn from each other.

We have been working on a new initiative for launch in 2018 which will allow early career researchers and others who present posters at our events to publish their posters formally in one of our journals. The plan aims to raise the profile of posters as research outputs, as well as providing greater dissemination of the research presented in posters and preserving them for the future.

During the year, the Society will continue to support its members to communicate their research through international travel and facilitate new and existing international collaborations via Travel Grants and Research Visit Grants. We will also continue to encourage our members to use their expertise to contribute to the development of microbiology in low and middle-income countries via our International Development Fund by showcasing the impact of projects that we have funded.

During 2018, we will be developing more case studies to showcase the impact the Society's grants can have. In addition, the Society will continue to explore how it can offer support for members at all stages of their career, in particular those at the middle of their career, and how to support their career progression.

In order to achieve this, several communications objectives have been developed to produce content that harnesses the power of our members by putting their work at the front and centre of our communications, and by championing why microbiology matters in the world. These include engaging members in writing articles for *Microbiology Today*, writing blog posts and producing and presenting video content. This suite of engagement activity will be further developed over 2018 and content integrated across the Society's communication channels.

Raise the profile of microbiology, our members, and increase the influence of the Society with the public, policy-makers and other stakeholders

At the end of 2017, informed by members' views and an evaluation of the Society's work, the Policy Committee approved a new framework for the Society's policy activities, aligning with the organisational strategy and with a specific aim of empowering members to engage in science policy. The implementation of this framework will begin in earnest in 2018. In January, the Society will be giving evidence to the House of Lords Science and Technology Committee's inquiry into Life Sciences and the Industrial Strategy. We will also contribute to the House of Commons Science and Technology Committee's Brexit Science and Innovation Summit and subsequent roundtable. Microbiology Society members and representatives from the Society will continue to attend policy events across 2018 to champion the Society and microbiology to policy and decision-makers.

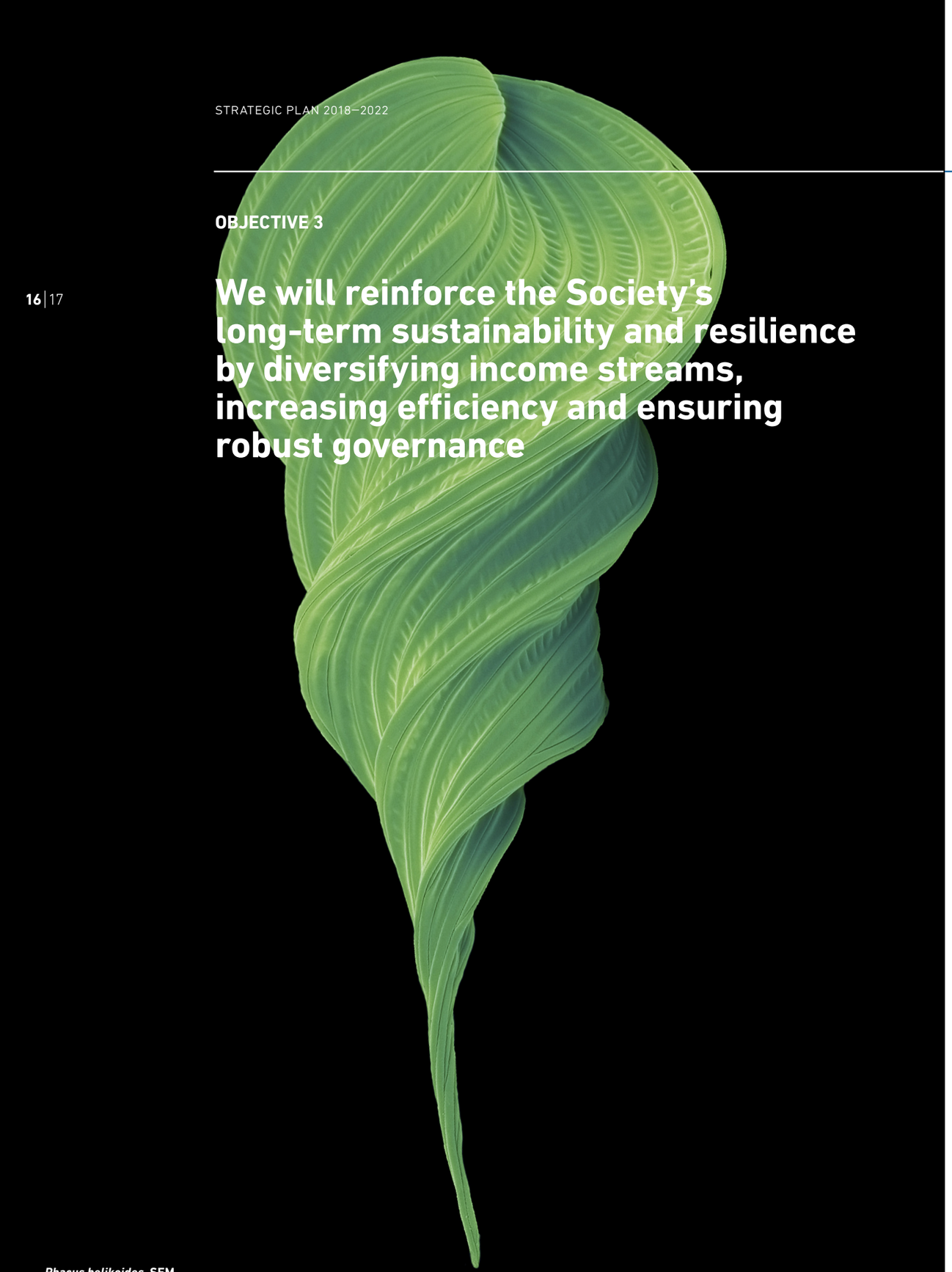
In 2018, we will start a large-scale project on the 'State of Microbiology' to build intelligence and evidence on the microbiology that happens in the UK and Ireland, funding sources, publications and other key issues of interest to the membership. Spanning the breadth of microbiology represented across our membership, as well as microbiology-related research outside of our immediate community, the project will provide a resource that enables members easily to identify where other relevant research is taking place, what microbiology has been funded in recent years, and where potential collaborations could exist, as well as enable us to explore new collaborations for the Society's own activities.

There are plans for several projects to ensure that the work of our members is well communicated. We will be producing interactive social media campaigns around key topic areas and activities to champion why microbiology matters as well as investigating the use of additional social media channels that may appeal more to sections of our audiences, better harnessing the power of our members and advancing understanding of microbiology. We will also develop the Society's email marketing output to provide a coherent channel, promoting the full range of the Society's programmes and activities whilst delivering a personalised experience for readers.

We will be further developing cross-journal collaborations and collections which will provide all readers with free access to the scientific underpinnings of our policy work, as well as other hot topics within microbiology. The first such 'pop-up' will be *X-AMR*, a home for both retrospective and new cross-disciplinary work on antimicrobial resistance, closely followed by a similar collection on the microbiome.

OBJECTIVE 3

We will reinforce the Society's long-term sustainability and resilience by diversifying income streams, increasing efficiency and ensuring robust governance



***Phacus helikoides*, SEM**

STRATEGIC PLAN 2018–2022

Increase the emphasis on placing members at the heart of Society activities and growing future leaders

We have plans to launch a new broad-scope journal during 2018 and will seek to introduce a novel form of Editorial Board, to give important opportunities to early and mid-career members of the Society, who would not normally be sufficiently experienced to be considered for Board membership. They will be partnered with experienced Editors to learn the ropes. Editorial Board membership is frequently seen as a sign of seniority, and providing this opportunity to less senior microbiologists will complement our other professional development activities.

During 2018, we will implement changes to the Prizes nomination process to make it as simple as possible for members to submit their nominations for Prize lectures, which celebrate the best microbiology.

There is a major change in legislation relating to data protection coming into effect in 2018, when the General Data Protection Regulation (GDPR) will replace the Data Protection Act 1998. This will change the way we have to collect, store and process personal data. The members made a change to the Society's Articles of Association at the Annual General Meeting in 2017 to make it clearer what we do with members' data. We have also taken legal advice to update our terms and conditions, so that when people join or register or buy something from the Society, there is a legal written statement of what we need their data for. The new Members' Directory and online area now allow members to opt in to receiving communications from us.

We will also research and implement the best ways to collect data on protected characteristics of those participating in Society activities, in line with incoming data protection legislation.

The Council Shadowing Scheme, in which members can learn about the workings of the Society's governance by attending a Council meeting and being paired with a Council member, had its first participant at the end of 2017. The scheme will now be rolled out across all Committees in 2018. This new scheme demonstrates the open and transparent way that decisions are made within the organisation, and allows any eligible member to become more involved with the Society's decision-making processes.

STRATEGIC PLAN 2018–2022

Increase opportunities for generating income from a range of commercial and philanthropic sources

In 2018, the Society will radically restructure the journals' subscription model to simplify the subscription process for existing and new customers; alongside changing the current tier structure, we will also move towards a digital-only subscription offering, complemented by print-on-demand provided through third parties. This new structure will take effect in 2019, meaning that all the preparation and messaging to our customer base needs to be in train by the end of August 2018. The Society also intends to launch a new open access journal as a venue for publishing valuable research outputs that are typically not accepted into traditional journals, such as methodologies, replication studies and updates to previous work. Articles published in the journal will attract an Article Processing Charge, covering the costs not only of the published articles but also those which are rejected as unsuitable for publication.

In the spring of 2018 our project demonstrating the value of our impact, based on an economic assessment of the 'social return on investment', will be completed. This will enable us to explore in more detail the possibility of a philanthropic fundraising campaign.

We will work to achieve targets relating to journal subscription sales whilst exploring potential new ways of selling existing content; examining whether by developing members-only resources we can boost membership recruitment and retention; or whether there is any market for additional products for members and non-members.

Maximise cost savings and efficiencies

We will respond to the growing demand on our website by devoting increased resources to support improvements to the site's structure and features to deliver an outstanding experience and ensure the site's long-term sustainability.

As described above, the Society will cease offering a print subscription option for our journals in the 2018 round of renewals. This will reduce our outgoings on materials, manufacture, shipping and storage, as well as protecting the Society from potentially fraudulent claims for non-delivery of print journals. By offering print-on-demand through third-parties, we will be able to protect our subscriber base while still satisfying the decreasing number of customers who require print. A side benefit of the print-on-demand programme will be a new opportunity to sell reprints – professionally printed bulk lots of specific articles – to pharmaceutical companies and other interested parties.

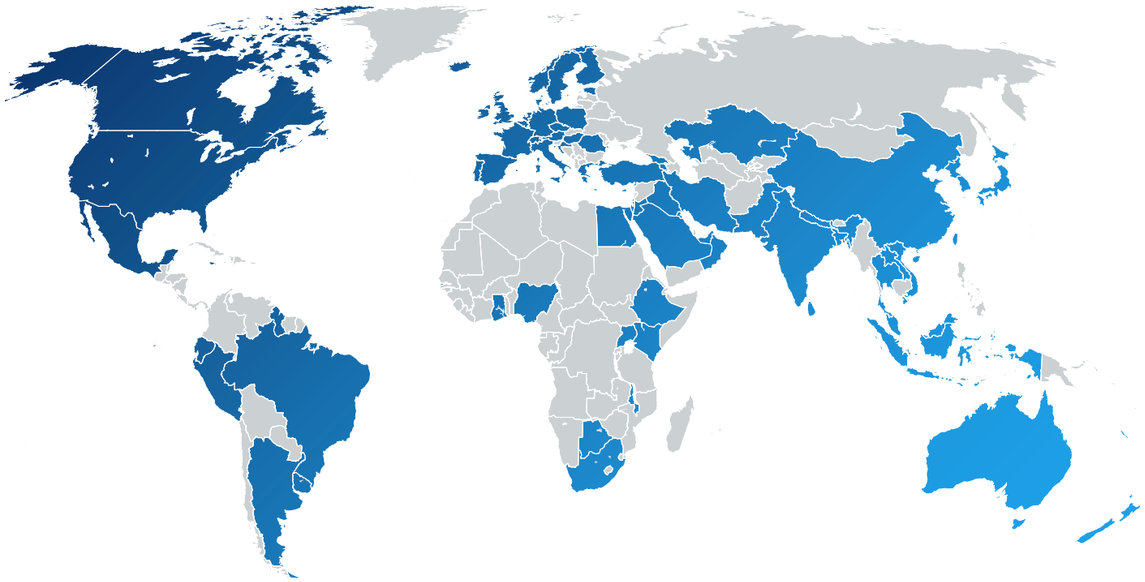
Similarly, the new open access journal will consider articles that have been rejected from one of our existing titles, and publish them if they are methodologically and scientifically sound – something often known in the publishing industry as 'cascade'. Cascade will allow the Society to retain at least part of the investment made in processing and peer reviewing articles from the existing portfolio, which is currently lost when articles are rejected. This cascade proposal is part of a suite of operational updates aiming to increase the dissemination of microbiology research to our members and subscribers, while simultaneously saving money, reducing turnaround times, and decreasing training times for new staff and new Editors.

We have been working on the process by which members apply to hold a Focused Meeting; asking the right questions of our members to ensure that we can improve budgeting for the programme, therefore, setting delegate fees at a level where we break even or generate a small surplus on direct costs rather than making a loss.

INTERNATIONAL

The Society's activities shape the future of microbiology globally by delivering relevant activities and resources, and through strengthening strategic international partnerships

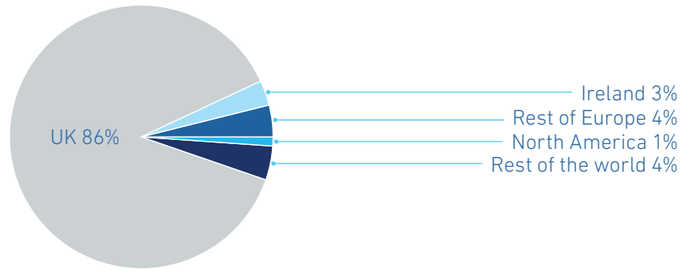
The Society is based in the UK and Ireland, but has an international presence and influence. Neither the microbiology research community nor the challenges it can help to address can be defined by national borders. The Society therefore welcomes and engages members from all over the globe as part of the worldwide community that it strives to connect and empower. In 2017, 16% of the overall membership was based outside the UK or Ireland.



Members

International conferences

One of the key ways the Society connects the global community is through its international scientific conferences, which exist to disseminate research knowledge and provide a forum for communication between microbiologists, and to grow and support communities among them. Across the year's 22 scientific meetings, the Society welcomed international invited speakers and delegates from 20 countries in six continents.



International policy and relations

Brexit is a key policy challenge the Society has increasingly been engaging with on behalf of members, including co-sponsoring a policy officer at the Campaign for Science and Engineering and holding a Brexit debate at the Society's AGM in 2017. In addition, we participated in a number of external meetings with representatives from the research community, Parliament and Government to communicate members' views.

At the Annual General Meeting, Professor Maggie Smith, the General Secretary, chaired a discussion about the process of Brexit and how it might affect the working lives of microbiologists. Importantly, this does not just mean in the UK but also members in Ireland, where the Society has a strong and vibrant membership who may be affected by Brexit in different ways from their British colleagues. We were joined for the discussion by two people intimately involved in influencing how the Brexit process will affect science. Professor Graeme Reid, Chair of the Campaign for Science & Engineering, is a member of the Government's High-Level Forum on Science and Brexit. Professor Nick Talbot, a mycologist from the University of Exeter, sits on the Russell Group's Europe Advisory Group, which is in direct contact with the Brexit negotiators both from the UK side and the EU side.

What emerged from the discussion is that while there is no doubt that the scientific community did not want Brexit, we have to find the most constructive ways to get the best possible outcome for UK research and development now that it is happening. There was a strong sense from the discussion that we will have the biggest impact where we make common cause with other communities who have common interests, not just the British research community. Examples include the City of London, the veterinary community, and importantly our colleagues in other EU countries. When the House of Lords surveyed what the other 27 EU member states were saying about Brexit, only one – Ireland – said it was worried about research collaboration. But we know that our collaborators in many European countries are nervous about the impact of the UK being left out of future projects. One thing we can do is ask them to make sure their own politicians know this.

The Society will continue to focus on representing members' views as the Brexit process continues in 2018.

International grants

The Society offers various grants schemes which provide opportunities to members to fund projects overseas, or to fund the organisation of, or attendance at, international conferences or research visits. The grants have assisted with projects and visits on a range of global issues and to a range of locations and included basic technique training in Bangladesh, training on the use of phages as antibacterial tools in Kenya, presentations at conferences across the globe and research visits to the USA, Germany, Ghana, Canada and Japan. The Society's relationships with other international organisations also allow its members access to further grant schemes, including those provided by FEMS.

International authors and readers

The majority of the Society's journal readers and authors are based outside the UK and Ireland, and this is reflected in the ways the journals are promoted. To promote international readership, the Society signed an agreement with Accucoms to provide sales representation in India, as well as with Charlesworth for representation in China, while overseas microbiologists were appointed to the roles of co-Editors-in-Chief for *Journal of Medical Microbiology* and Deputy Editor-in-Chief for *Journal of General Virology*. As a result, six of the ten most senior editorial roles for the Society's journals are occupied by microbiologists based outside the UK and Ireland, while 36.5% of all editorial roles are held by microbiologists outside the UK and Ireland, and cover the rest of Europe, North and South America, Africa, Australia and Asia.

The Society recognises the importance of making its published research as accessible as possible, and has a policy of making all research which is more than 12 months old free to read around the world. Researchers in low-income countries are also able to access current content through the Research4Life initiative.

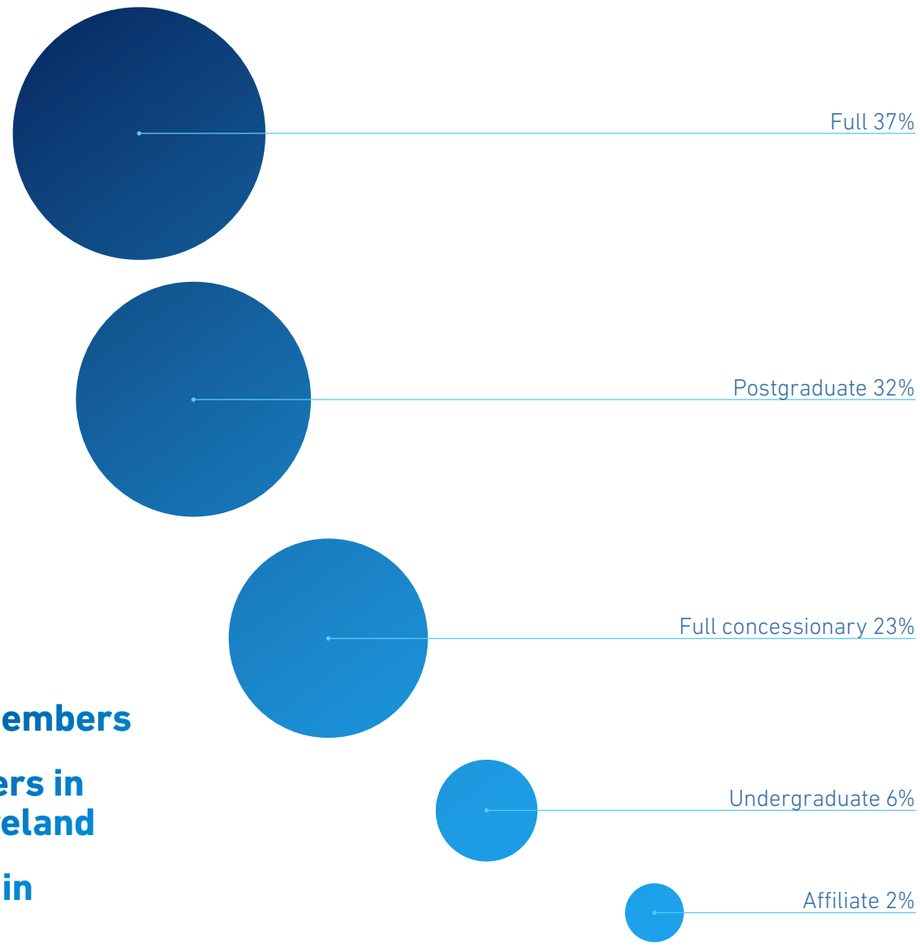
To increase the visibility of open access content, in October 2017 the Society announced a collaboration between *Microbial Genomics* and *ScienceOpen*, a free platform that allows easy access to research through advanced intuitive search and collaboration tools. The *Microbial Genomics* journal page on *ScienceOpen* had attracted over 1,400 views of the 118 hosted articles, as well as 40 recommendations and 33 shares, by January 2018.

309
editors across the globe

34
countries

MEMBERSHIP

The Society's activities enhance the membership experience so it not only meets but exceeds expectations and members feel valued, heard and part of the community



4,750 total members

3,996 members in the UK and Ireland

Membership in 77 countries

The Society's unique strength is the breadth and depth of specialist knowledge among its members. It fulfils its objects by supporting its members to develop this knowledge for the advancement of the field of microbiology and its application for social, environmental, economic and medical purposes. The Society's membership has continued to grow over 2017, reaching a total of 4,750 members by year end. The year was one of transition, moving from a relatively complex UK-centric membership model to a much simpler one that has wider application to more prospective members, irrespective of where they live.

The introduction of this new membership model, in conjunction with a new membership database, has positioned us well for future recruitment and membership management. Already we are seeing more members joining by direct debit; members joining for multiple years; and members having more choice about the membership 'package' they elect to receive. These changes will all help to build higher levels of member satisfaction, improved recruitment and retention, and a better return on our membership investment.

As part of the research undertaken to reshape the membership model, consultation exercises were conducted with several member groups across the UK to identify areas where we could do more to support them. In response to member feedback, we have reintroduced the Members' Directory. This online version replaces the old hard copy directory and offers members opportunities to build their presence within our community and to contact others based on their interests, expertise and location.

Diversity of the membership

The Society recognises the diversity of its membership, from the range of areas of microbiology in which they work, the institutions where they are based, through to their differing career stages, and we cater to a range of needs. The Society is committed to ensuring that all members' journeys are valuable throughout their careers, engaging with them and offering support, opportunity and benefit at each stage.

In 2017 the Society agreed to collect data on the gender, ethnicity and career stage of participants in all activities. We investigated the best ways of collecting and storing this data in an anonymous fashion, while remaining easy for the user to provide.

On the recommendation of the Society's Equality and Diversity Ambassadors, a Council Shadowing Scheme was piloted this year and its first participant enjoyed the experience, noting that while she originally felt like an 'imposter', contact with the person she was shadowing, together with a warm welcome at the Council meeting, changed this:

"I didn't realise how much of what Council does is ensuring that the Society is operating in a financially sustainable, ethical and moral way."

The Society was delighted that nominations for Prizes in 2017 were more gender-diverse, and nominators also reflected this. We ran a concentrated communications campaign highlighting the need to consider all outstanding microbiologists regardless of their background. The nominations procedure was also streamlined to encourage more people to act as nominators.

Champions

The Society's Champions – those members who do that little bit more for us in their local area – undertook over 25 activities during 2017. From organising symposia, conducting outreach events, producing content for *Microbiology Today*, through to volunteering at Society events. Champions continued to make a very significant contribution to raising the awareness (and membership) of the Society. We currently have 37 Champions working in eight countries.

Microbiology Society Champion:
Manoj Pradhan, Nepal

Last year we organised three events:

- second annual agar art contest
- one-day workshop on creating stunning scientific posters
- first ever poster conference on life sciences

The series of events started from 27 September to 11 October 2017 and was held at the Nepal Academy of Science and Technology (NAST). The one-day seminar was conducted by Microbiology Society member Bivek Timalsina and Champion Sagar Aryal. The poster conference and agar art contest were reviewed and judged by Professor Dr Y. I. Singh, Associate Professor Dr Jayendra Bajracharya, Associate Professor Gyanendra Ghimire and Dr Tirth Raj Ghimire. The event was inaugurated by Professor Jibaraj Pokharel, Vice Chancellor of NAST.

The events were a huge success and well received by the students, researchers and scientists. All the winners from the agar art contest and best posters were awarded with a trophy and certificate by Dr Buddhi Ratna Khadge, Secretary of NAST.

Our events were also featured on national television as a segment of weekly NAST programme, Bigyan Prabridhi. The whole event was sponsored by the Microbiology Society under the Champions event scheme and supported by NAST, Amazing Microbiology Nepal (AMN), Centre for Health and Disease (CHDS) and Microbiology Research Society (MRS).

JAM talks

The JAM talks are run by a group of early career microbiologists from the University of Birmingham. Applications are usually received in the summer, and early career microbiologists (PhD and up to 3 years post-PhD) are invited to submit an abstract for a 20-minute talk. The format of the talks was altered in 2017 to allow for two invited speakers per session instead of the single-speaker sessions seen in 2016. This allowed for a larger number of early career researchers to present their work, and the feedback from the audience was very positive. The JAM talks were held every 6 weeks in 2017, though following audience feedback this has been updated to a monthly seminar series in 2018.

The JAM talks committee help the speakers organise their travel and provide a voucher for overnight accommodation at the University hotel, Lucas House. On the day of the talks, members of the committee meet the speakers at the University train station and take the speakers to their hotel, a 15-minute walk away, where a comfortable king room awaits them. During this time, the rest of the committee are busy preparing the room for the talks, laying out copious amounts of beer and wine (with jam jars to drink from of course!), and setting up slates laden with various cheeses, hummus, crackers, cured meats, vegetables and chocolates. At 16.00 the audience arrives

Microbiology Society Champions event:
Linda Oyama, *I Love Biology*

I ran a full day Microbiology event for girls aged 7–11 during Biology week in October 2017. The event was held at an all-girls' school, Strathearn Preparatory Department in East Belfast with 150 pupils. The aim of the event was to introduce the girls to the world of microbiology and inspire them towards science careers by stimulating their interest through hands-on science-based activities by employing early career female scientists as role models. It was the school's first Science event, which made a huge impact on the girls, teachers and parents alike. We investigated the importance of handwashing by plating hand swabs onto agar plates before and after handwashing and observing microbial load. Younger girls learned about the wonderful world of microbes around us and made 3D clay models of microbes. The event was well received with great feedback and there are plans to make it a more frequent event. The event was also supported by The Huws Lab at Queen's University Belfast.

"I like how we all had safety goggles and lab coats and it made me feel like a real scientist... I would like to say that I absolutely hated science and when I finished the science lesson with you, I really enjoyed it and now I love science."
Lucy Brown P7

"I liked the event because I now know a lot more about microbes, especially typhoid because I never knew about that disease. This event should be repeated and done in other schools."

"I liked it because it's helping children to understand more about microbes and germs on our hands. This could help to change the future."

Participants at a Society Champion event run by Linda Boniface Oyama, Queen's University Belfast.

and each speaker has a half hour slot to present their work and answer questions.

The JAM talks provide a very friendly environment; the audience is entirely early career scientists (Masters and PhD students plus postdocs within 3 years post-PhD) which takes the pressure off the presenters and encourages questions from those who might have felt intimidated asking any in a room full of PIs. The talks are of course tailored to special occasions, with mince pies and mulled wine at Christmas, Easter eggs at Easter and Prosecco for the final talk of the year. The audience and speakers usually stay behind after the talks for a few hours to make their way through all the food and drink and network with each other. Those who wish to may then join the speakers and committee as they head into town for dinner and more drinks. At the end of the year, a winner is selected from all the talks. As winner of the JAM talks 2017, Vera Pader was invited to present her work at the 5th Molecular Microbiology Meeting and 4th Midlands Microbiology Meeting (M4) in Birmingham in September 2017.

28 October 2016

An intracellular phase of *S. pneumoniae* replication in splenic macrophage precedes the onset of monoclonal antibodies
Dr Giuseppe Ercoli (University of Leicester, UK)

Single-molecule imaging of electroporated chemotaxis proteins in live bacteria
Dr Diana di Paolo (University of Oxford, UK)

20 January 2017

Ordered export in a bacterial cell surface nanomachine
Paul Berge (University of Cambridge, UK)

Role of the RNA chaperone Hfq and its cis-encoded sRNA in the regulatory network governing the *Legionella pneumophila* differentiation
Giulia Oliva (Institut Pasteur, France)

9 June 2017

Genomic potentiators of antibiotic resistance evolution
Dr Danna Gifford (University of Manchester, UK)

A quasispecies-like phenomenon operating within a group of dsDNA viruses
Damian Magill (Queen's University Belfast, UK)

2 December 2016

Inhibition of WAVE regulatory complex activation by a bacterial virulence effector counteracts pathogen pathogenesis
Dr Vikash Singh (University of Cambridge, UK)

Competition between host molecules influences susceptibility to meningococcal disease
Hayley Lavender (University of Oxford, UK)

28 April 2017

Isolation and characterisation of new phages that activate bacterial Type III toxin-antitoxin/Abi systems
Ray Chai (University of Cambridge, UK)

Intermembrane cross-talk in *E. coli*
Patrice Rassam (University of Oxford, UK)

14 July 2017

Staphylococcus aureus inactivates daptomycin by releasing membrane phospholipids
Vera Pader (Imperial College London, UK)

Grants to support members

As part of its objective 'to promote microbiology as a career from school level onwards, and support the career and professional development of microbiologists', the Microbiology Society currently offers a range of grants to support its members in a variety of activities relevant to the role of the academic scientist.

After a review of the grants programme in 2016, 2017 saw the implementation of a streamlined, clearer programme of grants, allowing our members to develop professionally and minimising unnecessary barriers to participation.

The Society offers grants for Travel, Research, Education and Outreach, Events, International activities and Careers. A total of 740 grants were awarded in 2017 reaching a total of £318,000. The Harry Smith Vacation Studentships give undergraduate students the opportunity to undertake a research project over the summer vacation. 29 students were awarded studentships for research projects in 2017, including the opportunity to apply for further funding to present their work at Annual Conference 2018. Research Visit Grants allow early career researchers to strengthen existing collaborations or build new ones by funding research visits to learn new techniques or access resources not available at their home institute. Ten research visits were funded through this scheme in 2017. The Education and Outreach Grants scheme is a wide-ranging scheme that offers our members funding to contribute to education initiatives or outreach events. Ten applications were funded in 2017.

In 2017 the Society started a mid-career working group to explore options available for those who are not early career but may require professional development support. The group arose from the 2016 grants review, and the potential for the introduction of a fund to support these members.

£318,000
awarded to members through grants

740
grants funded out of 816 applications

Events
£1,000
ECM Forum event fund (4, £1,000)

Careers
£10,000
Undergraduate microbiology prizes (64, £5,000)
Microbiology in society award (1, £5,000)

Education
£7,000
Education and outreach (10, £7,000)

International
£24,000
International development fund (4, £24,000)

Research
£80,000
Harry Smith Vacation Studentships (29, £52,000)
Research visit (10, £28,000)

Travel
£196,000
Society conference (540, £137,000)
Travel (78, £59,000)

"In terms of practical experience, I have been given the independence to complete my own tasks from start to finish such as preparing the reagents, setting up the equipment and growing and keeping track of *C. parapsilosis*. This has not only helped me by teaching me how these procedures are carried out, but by making me realise how well thought out and prepared each experiment must be, before it can be started. I have definitely developed time management skills and have grown accustomed to planning and preparing before I begin."
Aoife O'Neill, Undergraduate Student, University College Dublin
Harry Smith Vacation Student

"Aoife made excellent progress. She successfully applied a very new technique (CRISPR gene editing) in *Candida parapsilosis*. She learned how to troubleshoot, and she worked closely with other members of the lab. Some of the edited strains that Aoife generated will be used in follow-up experiments in the lab."
Professor Geraldine Butler, University College Dublin
Harry Smith Vacation Studentship awardee

"This research visit has fostered a future collaboration been Dr Banzhaf and I, and has also contributed to the continuation of the collaboration between our respective supervisors Dr Typas and Professor Vollmer. Dr Banzhaf and I have learned key techniques for our future research aspirations with genetic manipulation of *P. aeruginosa*. I have also learned how to design and execute high-throughput genomic screens."
Dr Alexander Egan, Newcastle University
Research Visit Grant awardee

"On the night, attendees [found the] talk very interesting and that they could have listened for longer. Many people in the audience had questions...and the crowd was highly engaged."
Lucy Taylor
Education and Outreach Grant awardee for 'Beer, Bread and Biotech' held in Cork City, Ireland

Networking and professional development

The Society's flagship Annual Conference is an opportunity for members to connect over their science and create interactions and communities that will benefit the advancement of microbiology. In 2017, the Society hosted a networking event for approximately 120 delegates the evening before the conference opened. The session was aimed at those attending their first conference or attending on their own and was a great way to informally meet other early career members and senior members of the Society and participate in some games to break the ice, including bingo. A video entitled 'How to network like a pro' was produced for this session and was screened at the start. Evaluation of the event feedback demonstrates the value members found in the event in feeling involved. The event was well received, with 30% providing feedback, of whom 88% reported that the event met their expectations.

In addition to the pre-conference networking event, 2017 saw the introduction of professional development sessions to the main conference. The ethos of all professional development workshops was to be welcoming, informative, and interactive. A day-long workshop entitled 'Post-PhD, what next?' gave early career delegates the chance to learn about careers open to them via careers case studies; empowered them to decide what to do next in a session delivered by careers consultant Sarah Blackford; and gave them the tools to succeed via a CV workshop. A further day was given to scientific publishing workshops run by Editors-in-Chief of the Society's journals – how to write a manuscript and how to review a manuscript. These sessions also offered the chance to network with editors.

30% of event attendees provided feedback

88% of these said that the event met or exceeded their expectations

"Lots of opportunity to meet new people."

"Good movie, good bingo, everyone knew what to do."

"Met people from unis and research areas and was able to find out about what they do and when they are presenting."

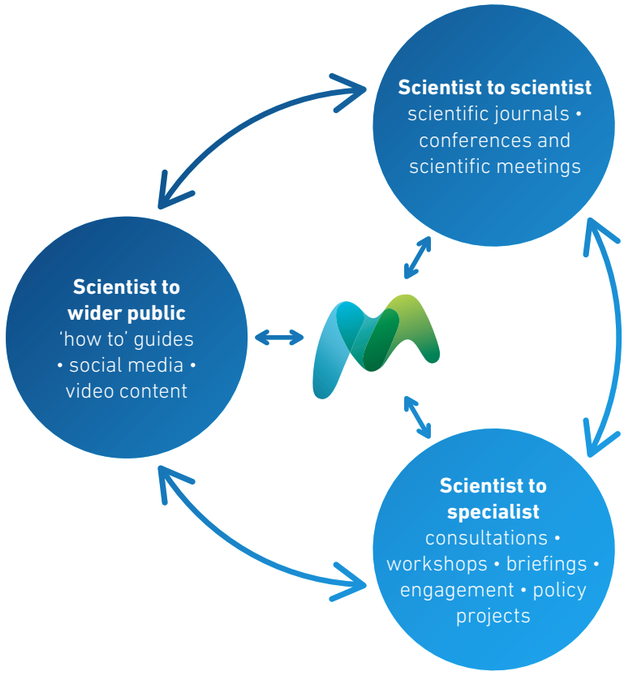
"Talked to new people, felt better integrated."

Delegates at Annual Conference 2017

ENGAGEMENT AND KNOWLEDGE TRANSFER

The Society's activities make the best use of the depth and wealth of knowledge in our diverse membership

To further its mission of advancing the understanding and impact of microbiology, the Society undertakes a range of activities aimed at engaging different types of audiences. Utilising the unique depth and breadth of knowledge that exists in our diverse membership, the Society aims to provide those audiences with access to, and the benefits of, knowledge and understanding of microbiology. This objective is achieved through activities and projects designed to connect scientists with other scientists; scientists with specialists in other fields; and researchers with school students and the general public.



Scientist-to-scientist engagement

Scientific journals

During 2017 the Society's six journals peer-reviewed 3,301 submissions and published 1,727 articles across 51 different subject categories. Including peer review, the Editorial Boards returned decisions to authors in an average of 43 days from submission; for those articles which were rejected without peer review, authors received a decision within an average of ten days.

The Society continued to invest in enhancements to journal production in 2017, including rolling out a modern article design visually aligned with the Society's branding and optimised for online viewing, and migrating to a semi-continuous publication process with significant improvements in time to publication. This bore fruit in the radically reduced time from acceptance to publication of 15 days on average, achieved during the last quarter of 2017.

The *Journal of General Virology* and the International Committee on Taxonomy of Viruses (ICTV) launched *ICTV Virus Taxonomy Profiles*, a freely available series prepared by ICTV study groups, which have rapidly become the go-to place for researchers requiring up-to-date taxonomic information on viruses. To complement the *ICTV Virus Taxonomy Profiles*, *Microbiology* launched the *Microbe Profiles* article series providing essential information about key non-viral microbes. These exciting new series contributed to the >10 million individual article downloads recorded over the course of 2017.

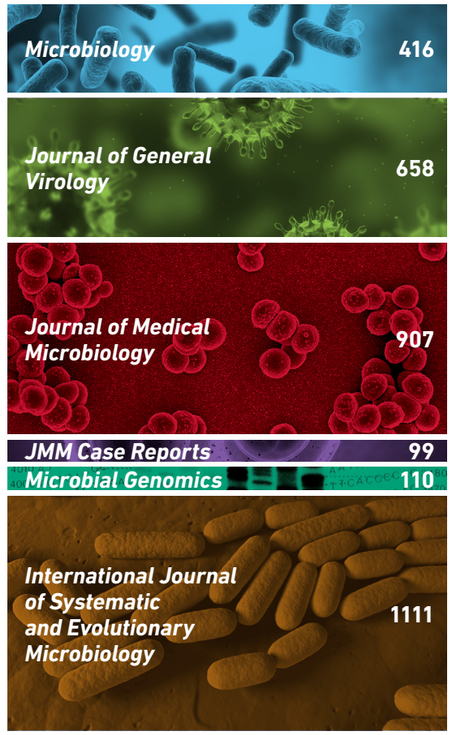
The Society's second author survey received 358 responses, among which:

- 79% of respondents indicated that the Society's journals were their first choice
- 80% of authors would recommend the Society's journals to a friend
- The overall peer review process was rated 4/5
- The weighted average for all aspects of the production process scored above 4/5

The Microbiology Society journals continue to sponsor poster presentations and oral communication prizes for early career researchers. Winners receive a cash prize, one year's complimentary membership to the Microbiology Society and a certificate for best poster or communication. These prizes are seen as a significant benefit amongst the community.

Through the latter half of 2017 we created a new plan outlining our activities for the next five years, in line with the Society's new strategy. This plan falls into four areas: portfolio development, including development of individual titles; commercial activities; technical updates; and operational changes. Implementation of the new plans started in late 2017 and will ramp up over the course of 2018.

3,301
journal submissions



"I published in *JMM* [*Journal of Medical Microbiology*] earlier this year, and the support through the whole process was second to none! Definitely would recommend for others wanting to publish, and will publish here again for sure!"
Dr Daniel Morse, Cardiff University and Microbiology Society Champion

"The editor was thoughtful and provided many helpful recommendations. The review process was completed in a timely manner which was very much appreciated."
Anonymous response to *Microbiology* author survey 2017

Conferences and scientific meetings

The Society views scientific interchange and the relationships forged at conferences as a fundamental element of a successful scientific ecosystem. It is by providing these that the Society has maintained a successful and essential role in that landscape, supporting the objective that the founders of the Society set out; to create more and better opportunities for interaction that the founders of the Society explicitly set out to create more and better opportunities for interaction. In a changing world, with more demands on people's time and different ways of communicating, it is important to have a broad programme of events that also allows flexibility to cater for niche communities to empower and connect all members.

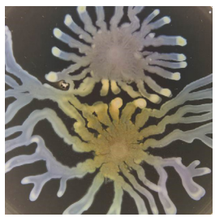
This year's conferences programme consisted of the following:

Annual Conference 2017
3–6 April 2017
Edinburgh, UK
1800 attendees

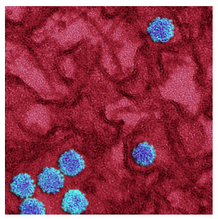
Focused Meeting:
Microbial Resources for Agricultural and Food Security
21–23 June 2017
Belfast, UK
126 attendees

ISSY33
Exploring and Engineering Yeasts for Industrial Application
26–29 June 2017
Cork, Ireland
252 attendees

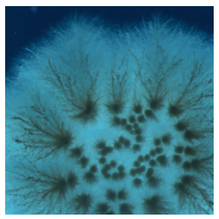
Focused Meeting:
Antimicrobial Resistance and One Health
29–30 August 2017
Maynooth, Ireland
95 attendees



Focused Meeting:
16th International Conference on Pseudomonas
5–9 September 2017
Liverpool, UK
324 attendees



Focused Meeting:
International Meeting on Arboviruses and Their Vectors
7–8 September 2017
Glasgow, UK
204 attendees



Focused Meeting:
British Yeast Group: the Versatility of Yeasts
11–13 September 2017
Kent, UK
98 attendees

Federation of Infection Societies (FIS) 2017
28 November–1 December 2017
Birmingham, UK
860 attendees

Overall, the evaluation findings from across the Annual Conference, Focused Meetings and Society Supported Conference Grants indicate another successful year for the Society. Changes that were made to elements of our meetings this year have been very positive: the professional development sessions at Annual Conference; the cost-effective social programme at all meetings enabling networking; maximising opportunities for early career members to participate at our meetings and in supporting the delivery of events; and the Society promotion and use of social media. Inevitably there are areas identified for improvement, primarily related to poster sessions where there are such large numbers of posters to be presented that making the best use of space and time is, and will continue to be, a challenge. We will work hard to respond to feedback and ideas for running even better poster sessions in 2018.

Annual Conference 2017 took place at the EICC Edinburgh, where we welcomed more than 1,800 delegates and guests from around the world. We provided four days of exciting scientific content with 208 invited speakers and 245 offered oral presentations, a trade exhibition with 51 exhibitors in attendance, and 610 poster presentations, which provide an important first chance for many early career microbiologists to present their work, with opportunities to network and meet the experts. In summary, this year's Annual Conference broke all records!

In addition to the Annual Conference, the Society also supported the delivery of six Focused Meetings across the UK and Ireland, all of which were proposed by the membership and accepted by the Scientific Conferences Committee. To bring this together, across the full programme of meetings in 2017 there were nearly 3,000 delegates enjoying 23 days of microbiology and networking!

As with previous years, the evaluation of all meetings aimed to measure outcomes and impact, with a focus on whether the events had delivered on the delegates' objectives and the opportunities that had arisen as a result of attending. Of the 2,899 delegates across the year, 457 completed the meeting evaluation surveys (15.7% response rate). The evaluation surveys for all meetings included a number of common questions to allow analysis of feedback across the full programme.

For all the meetings, by far the top two reasons for attending one of the Society's meetings are to 'update knowledge on the latest research' (n = 327) and to 'network with others in the field' (n = 315). When pressed for further comments on how the meetings had delivered on objectives, comments focused on a number of themes, including:

- improving knowledge
- networking
- professional development

When asked about any 'potential collaborations, grant opportunities, research papers, career development etc. that have arisen as a result of attending a Society meeting', a number of respondents provided positive feedback commenting that they had met potential collaborators, others doing similar research, personal professional development opportunities, speakers for future events and ideas for grants applications and papers.

ANNUAL CONFERENCE IN 2017

4
days of exciting scientific content

208
invited speakers

245
offered oral presentations

51
trade show exhibitors

610
posters

1,800
delegates

FOCUSED MEETING PROGRAMME IN 2017

89
invited speakers

699
accepted abstracts

134
offered oral presentations

558
posters

1,100
delegates

Society Supported Conference Grant meetings:

London microbiome meeting
30 January, 7 June
St Thomas' Hospital, London, UK

Young microbiologists' conference (YMB) 2017: Beyond Petri dishes: capacity building for applied research
9–10 May
Babcock University, Nigeria

7th Advanced lecture course on human fungal pathogens: Molecular mechanisms of host–pathogen interactions and virulence
13–19 May
Club Belambra Le Bergerie,
La Colle sur Loup, France

15th UK meeting on the biology and pathology of hepatitis C virus
19–20 May
Cumbria, UK

24th international HIV dynamics and evolution workshop
23–26 May
Sleat, Isle of Skye, UK

The annual Irish Fungal Society conference
15–16 June
Limerick Institute of Technology, Ireland

Exploiting algae and marine biomass for industrial biotechnology and bioenergy
4–17 August
Nelson, New Zealand

The inaugural Glasgow microbiology collective
21–22 August
Glasgow, UK

EMBO conference: Anaerobic protists: integrating parasitology with mucosal microbiota and immunology
31 August–3 September
Newcastle upon Tyne, UK

The inaugural international cancer microbiome consortium meeting
5–6 September
London, UK

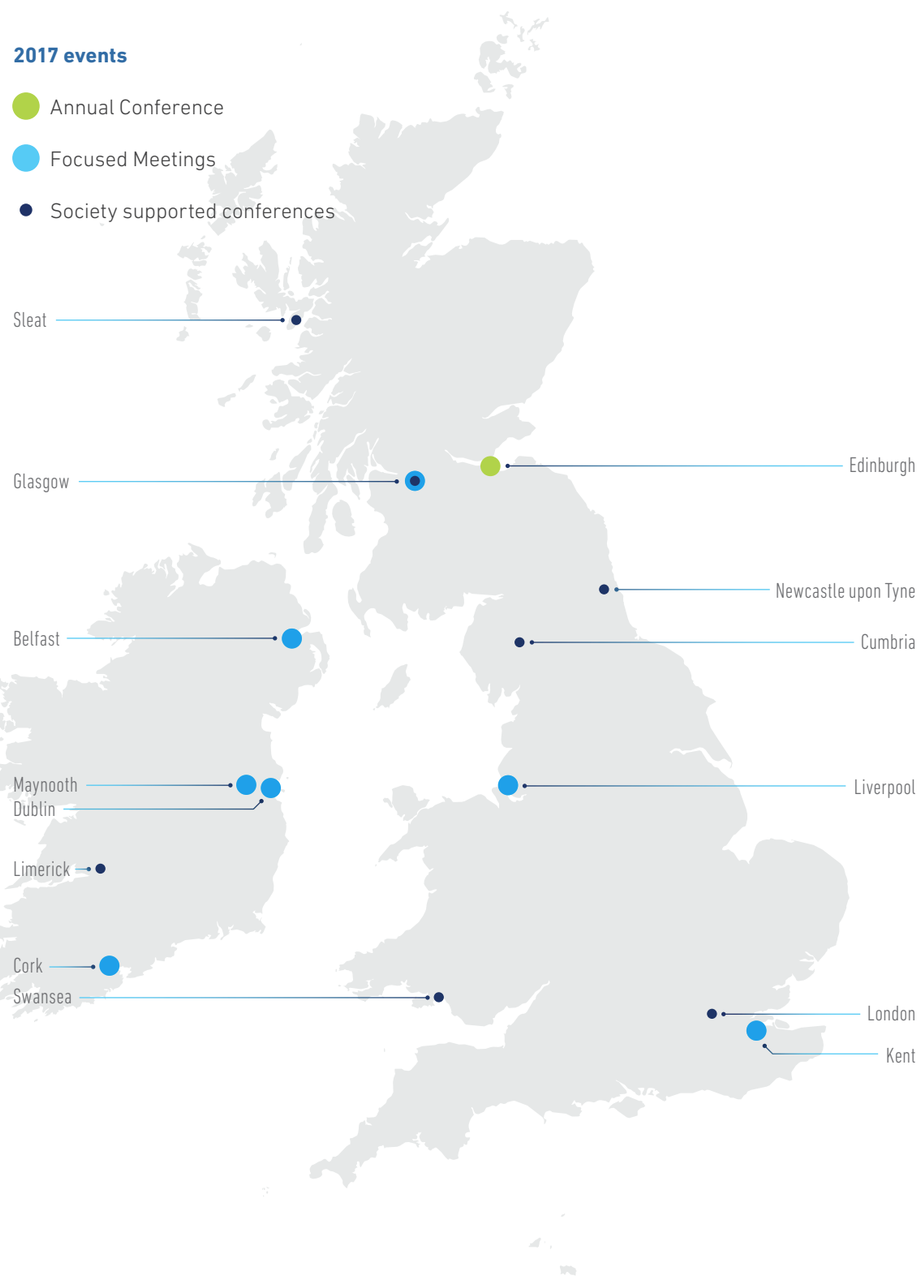
2nd international symposium on stress-associated RNA granules in human disease and viral infection
10–12 September
Germany

***Staphylococcus* Great Britain and Ireland**
14–15 September
Swansea University, UK

Fungal cell wall
9–12 October
Baja California, Mexico

8th international conference on cell-to-cell communication in bacteria
16–19 October
Athens, USA

Out of the ordinary, beyond ordinary
24 November
London, UK



ADDITIONAL SOCIETY SUPPORTED CONFERENCES AROUND THE WORLD

- France
- Germany
- New Zealand
- Nigeria
- Mexico
- USA

Scientist to specialist

The Society's policy work contributes to its vision of a world in which the science of microbiology provides maximum benefit to society. It does this by promoting the social, environmental and economic benefits of microbiology to policy-makers, opinion-formers and the public on global policy issues such as energy, food security and health. The Society uses position statements, consultation responses and Parliamentary briefings to engage members of the UK and Irish Parliaments, members of the devolved Parliaments and civil and public servants and other opinion influencers with these relevant topics to influence Science Policy.

Microbiome policy project

In November, the Society launched its *Unlocking the Microbiome* policy report at an event at the Royal Society, which brought together scientists, funders and other stakeholders to discuss opportunities and challenges for this emerging science. The report and event were very well received and have resulted in new connections and collaborations for the Society that will help build on the recommendations made in the report.

Unlocking the Microbiome summarises the views of the working group and the wider community that there are many opportunities both for the advancement of scientific knowledge about microbiomes and for the useful application of that knowledge. The science of microbiomes is highly interdisciplinary and some of the opportunities arise at the boundaries between different fields. Capitalising on the opportunities and delivering tangible benefits to society will depend on a number of interrelated processes, some relying on the approach that funders take, and others dependent on the attitude of regulatory bodies and government agencies. But perhaps the most important outlook is that of the scientific community at large, including the Microbiology Society itself, and its need to take a coordinated and constructive approach. Strong funding and well-informed regulation are dependent on transparent and rigorous scientific input, and they will not on their own unlock the potential of the microbiome. Among the recommendations are several for the research community. They call on different parts of the research community in the public and private sectors to work together in sharing data, skills and expertise, crossing disciplinary boundaries and building effective communities. If this approach can be embedded in microbiome research, the potential benefits will be huge.

Consultations

Responding to consultations is a key way in which the Society enables members to inform policy concerning microbiology. Responses in 2017 included a joint response with the Society for Applied Microbiology to the House of Commons Science and Technology Committee's *Genomics and Genome Editing* inquiry, a response to DEFRA on the Nagoya Protocol and Digital Sequence Information, and to BBSRC's consultation on Strategy for UK Biotechnology and Biological Sciences. The Society also informed several of the Royal Society of Biology's responses on topics including STEM skills gaps, Industrial Strategy and higher education and research policy.

Member engagement

Over 2017 the Society has increased its focus on supporting members to represent the Society at events connecting scientists and policy-makers. For example, staff and members represented the Society at Parliamentary Links Day at the Houses of Parliament; Science and the Assembly in Wales, where several members participated as speakers; and Science and the Parliament in Scotland.

Delegates at the launch of the *Unlocking the Microbiome* policy report at the Royal Society.

Scientist to wider public

The Society's communication strategy utilises the full range of media available to it to increase the dissemination and therefore impact of all Society projects.

2017 saw a 30% increase in traffic to the Society's homepage, rising to 240,000 hits, our highest ever. Our other channels also received record traffic, with a 270% increase in YouTube views to 120,000. The Society also received 'blue tick' verification, showing that our channel is one of public interest. 2017 saw 24,000 people 'Like' our posts on Facebook.

In 2017, the Society sent out regular mass communication emails, detailing items of interests to our members. The Society sends out a monthly email to its subscribers, containing our latest news and ways that recipients can get involved in the Society's work.

In direct pursuit of public benefit, the Society worked with members to deliver a series of education and outreach resources and public engagement activities.

DIGITAL PRESENCE IN 2017

240,000
unique website visitors (30% increase)

120,000
YouTube views (270% increase)

1,660
YouTube subscribers

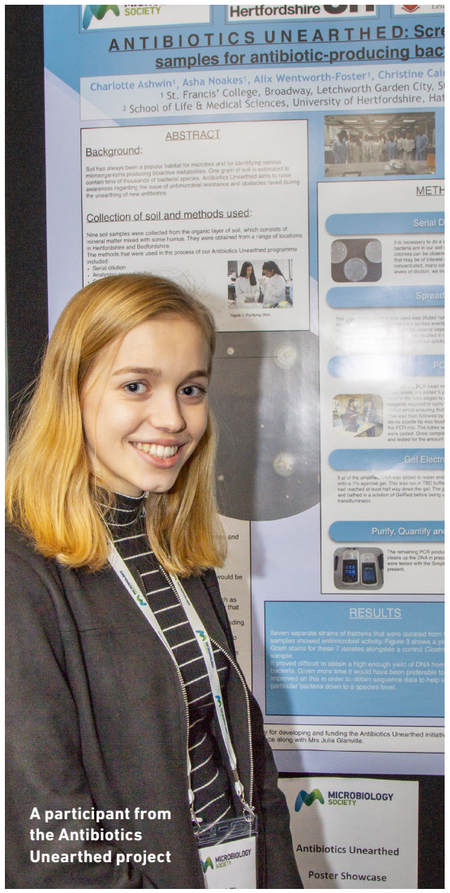
15
new YouTube videos

24,000
Facebook fans (8% increase)

130
Facebook posts

24,000
Twitter followers (18% increase)

1,400
tweets



A participant from the Antibiotics Unearthed project

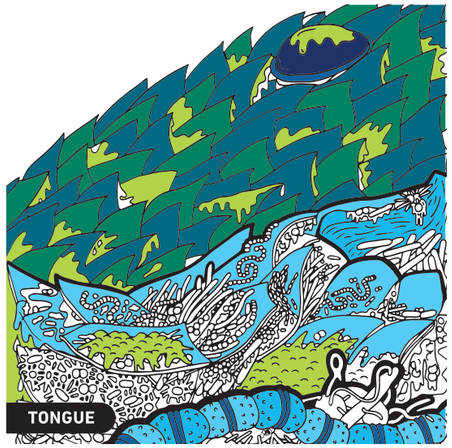
Antibiotics Unearthed

Five new undergraduate programmes and four new school partnerships joined the Antibiotics Unearthed programme in 2017, attending another successful summer school at the University of Reading in July. Teachers and technicians from schools taking part in the School Partnership along with their academic partners came to the first half of the Summer School, with the undergraduate teachers attending the second half. All participants reported feeling confident in running an engaging programme for their students in 2017/18.

A number of institutes ran the project again for the second and third years, and many of the schools and universities will present their results as part of the poster exhibition at Annual Conference 2018.

As part of the Citizen Science element of the project, the Society co-funds a PhD student, who is based at the University of East Anglia. The PhD project is split between lab-work (looking for new antibiotics in the soil/method development) and measuring the impact of long-term engagement with members of the public. As part of the PhD, two pop-up events with the public were held in 2017. In May, the Antibiotics Unearthed project visited Thetford Forest again, receiving local newspaper stories and local BBC television and radio coverage. The event saw over 70 people visit the stand, who deposited a further 50 soil samples. The final pop-up event took place in September at the Glasgow Botanic Gardens. This was extremely successful and a lot of engaging and meaningful conversations were had. The audience was slightly different to previous pop-up events and our PhD student was able to collect a lot of data for their research. In addition to the Society pop-ups, our PhD student and supervisors ran an Antibiotics Unearthed pop-up at the Norwich Science Festival in October. The lab-work part of the project has progressed well over 2017; the last samples collected at the pop-ups over the year have been analysed and 15 colonies are undergoing whole genome sequencing.

As the Antibiotics Unearthed project will come to an end at the end of the 2017–18 academic year, we will be working with participants over 2018 to evaluate, embed and ensure the legacy of the project going forward as part of our member engagement programme.



Pages from the Society's *Multicoloured Microbiomes* colouring book, designed and illustrated by Eliza Wolfson

Microbiome colouring book

Over 2017 the Society developed a colouring book on the subject of the microbiome, to complement the Microbiome Policy project that has been running since 2016. The Society worked with illustrator and Society member Eliza Wolfson to develop the colouring book and sought input from a variety of members – many of whom were on the Microbiome Expert Working Group – for the different environments that feature in the colouring book. The colouring book was launched in October 2017 and to date we have sold 1,500 copies.

SUSTAINABILITY

The Society aims to have the resources in place to enable it to deliver its Mission

It is essential that to continue delivering its objectives, the Society operates a sustainable model, in terms of the continued relevance of our activities, our financial viability, planning effectively to deal with technological opportunities, and maintaining access to the people needed to deliver enduring impact.

The Early Career Microbiologists' Forum and Executive Committee

In 2016 the Early Career Microbiologists' (ECM) Forum was established to give early career members of the Society a way to influence our work. 2017 saw the growth of the Forum, gaining members, making their Executive Committee (a group of ECM members that steer the Forum) function more effectively, increase opportunities for Forum members to feed back to the Society and provision of opportunities to contribute to Forum members' professional development.

The Executive Committee expanded: an Undergraduate Representative was recruited to enable outreach to undergraduate societies; the Programmes Representative role was revisited to enable clear representation on each Society Committee and a Publishing Representative was co-opted; a Finance Representative was also recruited, to bring the early career viewpoint to the Society's Finance and Operations Committee; and four ECM Representatives were also recruited to the Society's Divisions – four representatives bringing the early career viewpoint to the scientific programme of the Society and also enabling these representatives to learn about conference organisation.

An ECM Forum Co-chairing scheme was piloted at the Annual Conference 2017. This enabled ECM Forum members to co-chair sessions at the Annual Conference, gaining vital experience in key skills for scientists, giving them the opportunity to network with leaders in their fields, thereby directly benefiting their CVs.

The Executive Committee held a summer roadshow to go out and meet members of the Forum on a local level at their places of work – in Leeds, Glasgow and Birmingham. These events brought early career members together to learn from those further on in their careers. The Executive Committee also initiated plans for their first conference – to take place in 2018 – that will bring senior and junior ECM Forum members together to learn from each other. The ECM Division Representatives and the Conferences Representative will be the organisers of this event.

Financial viability

During 2017, the organisation continued to pursue innovative ways to diversify its income and reduce the extent of its reliance on journal subscription revenue. Amongst the activities completed were investment in marketing across all of our activities. This has benefited the Society hugely, particularly in terms of events marketing, with relationships developing with regular sponsors and exhibitors, building up to a potential corporate support programme to be developed further in 2018. Building packages of sponsorship helped to improve our offering. Exploring technological opportunities to package journal content differently and offering more journal collections with easier access.

A comprehensive review of revenue from subscription and open access publishing was carried out during 2017, examining the long-term prospects for the Society's main income stream. The financial modelling tool arising from that project will be made available to other societies during 2018 under a Creative Commons licence, to help them in their long-term planning. Some outputs from the revenue review included a proposal in respect of a new open access journal, which Council approved and which will be launched in 2018, as well as recommendations for changes to the subscription models as described in the 2018 plans section of this report. We took the results of the review into consideration when developing a five-year strategy implementation plan, and will continue to seek ways to increase efficiency and to increase revenues to ensure the Society's financial sustainability.

Technological opportunities

Following the procurement process for a replacement membership database in 2016, we implemented a new customer relationship management (CRM) system, fully integrated with the Society's corporate website, in the autumn of 2017. The system now enables the Society to offer more options to its members and delegates; including an interactive members' directory, more personalisation and improved cyber security as well as internal benefits, such as improved operational efficiency and increased cross-departmental working.

A series of technological updates and collaborations was identified during the second half of 2017. These included a ScienceOpen and *Microbial Genomics* collaboration described previously in this report, as well as building new relationships with staff at Google Scholar, Crossref, and the National Institutes of Health (PubMed and PubMed Central). These organisations all highlighted the importance of high-quality metadata for journal content, which is an area for improvement and forms a central strand of the technology development work in 2018.

Access to talent

The Society draws on two very different sets of people to deliver public benefit – a diverse and talented staff with a wide combination of skills and a community of members with a unique breadth and depth of expert knowledge. It is some of our most engaged members who form the governance bodies of the Society, the Council, Committees and Divisions. It is essential that the Society ensures the turnover of these bodies is managed effectively to maintain a consistent balance of historical knowledge and experience, as well as fresh

RISK MANAGEMENT

ideas and evolving skills and expertise. The establishment of the ECM Forum and its Executive Committee as well as the introduction of the Council and Committee shadowing scheme have enabled the Society to improve resilience and effectively succession plan; future-proofing the organisation.

Governance procedures

Council members have a range of important duties and carry out a large number functions. In doing so, they require a great deal of information both about procedural matters, and more generally. On occasion, that information relates to previous decisions by Council about how business will be conducted. We therefore developed a Governance handbook for all Council members bringing this information together into a single source.

As the new strategy defines 'transparency' as one of the Society's values, Council has in recent years taken a clear attitude to dealing with interests, loyalties and conflicts, which goes beyond what is strictly required either by law or by the Society's Articles. In the interests of transparency, it was agreed in 2017 to publish a statement on the website encapsulating Council's approach to conflicts of interest.

In 2017, the Society reviewed the Terms of Reference for all Committees in the light of the new strategy.

These help to ensure we provide members with the background information they require and that we attract members with the skills, experience and diversity required to fulfil these roles.

Staff

The Society benefits from enthusiastic, engaged and skilled staff working with Council and the Committees on the development and delivery of its projects. To ensure longevity and consistency in quality, the Society has measures in place to engage staff and provide sufficient resource structures to ensure they are fully supported to work effectively.

The Society supports staff with their own professional development, formally through the annual review and appraisal process and more informally as part of the one-to-one process. The Society has found effective ways to communicate the breadth of training opportunities and lunch-and-learn sessions to ensure staff are taking up opportunities for professional development. The job-levelling matrix continues to be an effective way for staff to see how their role is positioned within the organisational structure and helps to contribute to the delivery of the Society's strategic objectives.

Collaborations and partnerships

One of the core values under which the Society operates is to "collaborate with like-minded national and international organisations in microbiology and other relevant fields." This enhances our capacity to connect communities and provides scope to work with the broadest range of talent to create bigger, better projects for wider impact and longer-term sustainability. The Society has collaborated over 2017 with other organisations crossing all of our activities and will continue to do so in 2018, building new partnerships where appropriate, including (not mentioned elsewhere in this report): continued involvement in the Learned Society Partnership on Antimicrobial Resistance (LeSPAR), Clinical Virology Network, British Mycological Society, Irish Society for Immunology, Genetics Society, and British Yeast Group.

A vital element to ensuring our sustainability is the diligent and prudent management of risk. Council has identified the specific risks that may be faced by the charity, and put in place policies to mitigate them. It formally reviews the critical risk register twice a year, in March and September, following detailed scrutiny and proposed amendment of the register by the senior staff. To ensure that each risk is adequately scrutinised, the elected members of Council who sit on the seven major Committees take responsibility for detailed examination of the risks associated with their areas.

Council recognises three broad categories of risk – reputational, financial and operational risks. The major risks faced by the charity tend to come from activities that have the potential to contribute risk in more than one of these three categories.

The principal risks which Council has identified are:

Staff

The staff form a core resource of the Society; without which it could not achieve its objectives. The loss of corporate knowledge or skills and the operational impacts of losing key staff are major risks. This is particularly true in a small organisation with a number of different activities, which inevitably leads to reliance on one or two key individuals for some important functions.

Council mitigates the risks by:

- ensuring robust recruitment procedures
- investing in staff development
- sharing information effectively
- implementing strong HR policies.

In 2017 the Society experienced higher than average staff turnover. The majority of leavers progressed to promotions in other organisations and the risk mitigation plan describe above has ensured that there was no decline in performance.

Partnerships

Much of the Society's work is conducted in partnership with other organisations and it co-owns its headquarters with five other charities. In 2017, an additional co-owner bought into the partnership. There are significant financial, operational and reputational risks associated with all partnerships and collaborations. It was agreed in 2017 to close the commercial Conference Centre in Charles Darwin House. A change to the business rates rules meant that operating a commercial Conference Centre would not be financially viable.

During 2017, the Society began a formal independent review of its position within the partnership and sought legal and professional advice to inform it, with a final report due to Council in March 2018. The results of this review will establish the risks versus the benefits of co-ownership and if the partnership will help to support the delivery of the Society's strategic objectives.

Income and expenditure

The Society continues to be highly dependent on its peer-reviewed journals for its main source of income. In 2017, Council continued to mitigate this risk by taking action:

- to invest in the future of its publishing business
- to maximise its income from other existing sources
- to review costs regularly
- to seek new and diverse sources of income.

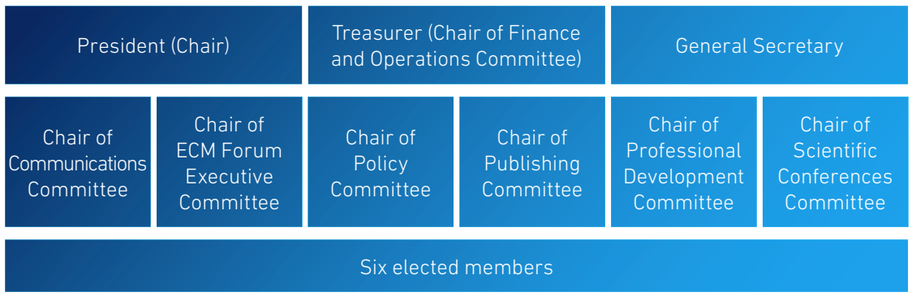
STRUCTURE, GOVERNANCE **AND MANAGEMENT**

The Microbiology Society is a company limited by guarantee, first incorporated in 1972, and a registered charity with the charitable object of advancing the art and science of microbiology. Its governing document comprises the Articles of Association, which incorporates the Memorandum of Association. These documents are all available on the Society's website.

The Trustees have given careful consideration to the Charity Commission's public benefit guidance in defining the Society's Vision and Mission statements and in ensuring that the Society continues to achieve the advancement of science and of education.

The Society is led by a Council who are the Trustees of the charity and the directors of the company. Council is made up of three Executive Officers (President, Treasurer and General Secretary), six elected members, and the Chairs of six strategic Committees: Communications, Policy, Professional Development, Publishing, Scientific Conferences and the ECM Forum Executive Committee. The Treasurer is the Chair of the Finance and Operations Committee. In 2017 it was agreed by Council that an additional Committee, the Audit, Risk and Evaluation Committee, would be formed in 2018 and have an external independent Chair.

COUNCIL MEMBERS



The Executive Officers and Chairs of Committees are appointed by Council. The Society reviewed the process for recruitment for these positions in 2017 balancing the need for an open and transparent process, provision for equality, diversity and inclusion and the importance of engaging suitable and motivated individuals. For all Executive Officer posts and Committee Chairs, there is an open call for nominations from the eligible categories of membership. Nominations are then reviewed by a nominations panel, comprised of members of Council and chaired by the General Secretary. The panel may also approach and invite nomination from identified potential candidates. The panel brings recommendations to the full Council for consideration before appointment. In the case of the President, a formal, anonymous vote is undertaken by Council, among those candidates considered suitable by the panel. In the case of Elected members, nominations are also sought from the membership and candidates elected via open election.

Professor Maggie Smith took office as General Secretary on 1 January 2017 and Professor Ian Roberts served a year as Treasurer-Elect, shadowing Professor Chris Thomas before taking office as Treasurer in 2018.

All newly appointed or elected members of Council receive induction information, and are required to complete a declaration that they are not disqualified from serving as company directors and charity Trustees. Members of Council also complete a Register of Interests form and abide by the Society's policy on potential conflicts of interest. The Society provides short training sessions to Council members on their duties and responsibilities as Trustees and directors, and governance best practice as well as providing access to external governance training courses and supporting Council members to attend these.

Council meets quarterly to transact the business of the Society, and in 2017 met in March, July, September and December.

Committee members provide expert knowledge and expertise to oversee and inform delivery of relevant projects. The Committees are formed of members of the Society who are elected to positions by the full membership. Each Committee also has provision to co-opt others who need not be members of the Society if the Committee identifies particular skills requirements. All members of Committees sign a Memorandum of Understanding to clarify roles and expectations before undertaking positions.

The Scientific Conferences Committee is supported by the Divisions of the Society to ensure coverage from a range of microbiological areas in the meetings programme. Three of these are taxonomically defined, dealing with Eukaryotic microbes, Prokaryotes and Virology. The Society also has an Irish Division to oversee its activities based in Ireland.

The ECM Forum Executive Committee is supported by the wider Early Career Forum of the Society to ensure early career members can help shape the future of the Society.

Members of Council, Committees and Divisions serve on a voluntary basis with no remuneration, but claim reimbursement of expenses incurred whilst on Society business.

The day-to-day management of Society business is delegated to the Chief Executive, supported by the Senior Management of the Society. During 2017, there were three directors, covering Members' Programmes and Strategy; Publishing and Income Diversification, and a Chief Operations Officer. The Society employs 37 staff at the freehold offices, which the Society co-owns with other biology societies, who work in the functional departments: Members' Programmes, Operations and Communications and Publishing. Staff names, job titles and key contact details can be found on the Society website.

All salaries, including those of key management personnel are reviewed and benchmarked by reference to external agencies as well as being regularly reviewed by the Finance and Operations Committee. It is the aim of the Society to attract highly talented individuals who are motivated to work in the charity and scientific sectors.

FINANCIAL REVIEW

Results for the year

The Society's results for the year are set out in detail in the statement of financial activities on page 54, which incorporates the income and expenditure account. Council has reviewed the results for the year and the position at the year end and considers them to be satisfactory.

The principal funding sources have continued to be income from sales of publications, investment income, membership subscriptions, and event registration fees and exhibitor and sponsorship fees.

The Society has continued expenditure on journal publishing, scientific conferences, grants, policy and public awareness. In line with the strategy 2018–2022, the Society will also be developing membership engagement activities and engaging a consultant to explore fundraising opportunities. It is the objective of the Society over a period of time to utilise each current year's net income after providing for non-recurring items, but had planned to run a deficit budget in 2017, with arrangements in place to break even from 2018 onwards; however through a process of income diversification and cost control we were able to eliminate this deficit one year earlier, in 2017.

In line with the Society's values, during 2018 it will review the seven principles of the Charity Commission's Governance Code. The code is not mandatory, but provides a framework and structure for good governance. The areas covered are as follows; organisational, leadership, integrity, decision-making, board effectiveness and openness and accountability.

Reserves policy

It is the policy of Council to maintain sufficient funds to meet its strategic objectives contained in its 5-year strategic plan 2018–2022. The reserve is intended to provide a source of funds for situations such as a change in circumstances, a sudden increase in expenses, unanticipated loss in funding, or uninsured losses.

The current reserves policy has a target reserves figure of £8,342,000. Actual free reserves are £10,126,000. The target minimum reserves level is equal to 2 years operating costs for publishing operations plus 1 year operating costs for all other activities. The calculation includes all recurring, anticipated expenditure such as salaries and benefits, the programme of current activities and ongoing professional services.

The reserve may also be used for one-time, non-recurring opportunities that will build long-term capacity, such as research and development, investment in infrastructure or collaboration opportunities. We will invest our reserves in the following activities which span the five years of the strategy 2018–2022; 75th Anniversary activities, investments in technology to support the publishing process, investment in physical infrastructure such as IT and investment in people, both our members, through engagement activities, and staff.

Council modelled scenarios and developed and analysed the Society's long-term financial forecast before carrying out a detailed evaluation of the potential risks to its income, of which 85% comes from journal sales. The changing external environment in this area remains a significant risk and the target reserves level was developed to take into consideration the fact that a radical change to the current publishing model would take time to take effect and would require additional investment.

The target amount will be calculated each year after approval of the annual budget, reported to the Finance & Operations Committee and Council. The Council of the Microbiology Society will carry out a full review of this policy every three years or sooner if income changes significantly.

The reserves will be funded with surplus unrestricted operating funds. The Council of the Microbiology Society may from time to time direct that a specific source of revenue be set aside for reserves. Examples may include one-time gifts or donations, special grants, or special appeals.

Investment policy and objectives

Following the development of an explicit Investment Policy document in 2014 and the appointment of Waverton as investment managers, the Society's assets are now invested primarily in a portfolio of good-quality companies worldwide that are chosen for both the long-term value of their shares and their profitability and their potential to generate dividend income. The objective is to maximise the long-term total return of the fund, subject to certain limitations and restrictions.

In addition, during 2014, the Society appointed Asset Risk Consultants (ARC) to assist in reviewing the Society's current investment management and assist in appointing new managers if appropriate. ARC regularly attend the Society's Finance and Operations Committee meetings to review the performance of the investments.

Restrictions on distribution

The Memorandum of Association prohibits the distribution of income and property of the Society to the members. Upon dissolution or winding up of the Society, the assets shall be given or transferred to some similar institution having objectives similar to those of the Society.

Tax status

The Society is entitled to exemption from taxation on income and capital gains to the extent that its funds are applied for charitable purposes.

STATEMENT OF **COUNCIL'S RESPONSIBILITIES**

Council members (who are also directors of the Microbiology Society for the purposes of company law) are responsible for preparing the Report of the Council and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires Council to prepare financial statements for each financial period which give a true and fair view of the state of affairs of the Society and of the incoming resources and application of resources, including the income and expenditure, of the Society for that period. In preparing these financial statements, Council is required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK 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 Society will continue in business.

Council is responsible for keeping adequate accounting records which are sufficient to show and explain the Society's transactions and which disclose with reasonable accuracy at any time the financial position of the Society and enable them to ensure that the financial statements comply with the Companies Act 2006, the Charities and Trustee Investment (Scotland) Act 2005, the Charities Accounts (Scotland) Regulations 2006 and the Society's constitution. They are also responsible for safeguarding the assets of the Society and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

In so far as Council is aware:

- there is no relevant audit information of which the Society auditor is unaware; and
- Council has taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

Council is responsible for the maintenance and integrity of the corporate and financial information included on the Society's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislations in other jurisdictions.

Signed on behalf of Council

Dr Peter Cotgreave
Company Secretary

Approved by Council on 6 July 2018

INDEPENDENT AUDITOR'S REPORT **TO THE COUNCIL AND MEMBERS**

Opinion

We have audited the financial statements of Microbiology Society ('the company') for the year ended 31 December 2017 which comprise the Statement of Financial Activities, the Balance Sheet, the Cash Flow Statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 'The Financial Reporting Standard Applicable in the UK and Ireland' (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the charitable company's affairs as at 31 December 2017 and of its incoming resources and application of resources, including its income and expenditure, 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 Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs(UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the audit of financial statements section of our report. We are independent of the charitable company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the Trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Other information

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The Trustees are responsible for the other information. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

INDEPENDENT AUDITOR'S REPORT

Opinions on other matters prescribed by the Companies Act 2006
In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' annual report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- Trustees' annual report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception
In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the Trustees' annual report.

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit; or
- the Trustees were not entitled to prepare the financial statements in accordance with the small companies regime and take advantage of the small companies exemption in preparing the Trustees' Annual Report and from preparing a Strategic Report.

Responsibilities of Trustees
As explained more fully in the Trustees' responsibilities statement, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the charitable company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the charitable company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs (UK) we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purposes of expressing an opinion on the effectiveness of the charitable company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Trustees.
- Conclude on the appropriateness of the Trustees' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the charitable company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the charitable company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Use of our report
This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to any party other than the charitable company and charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Date: 20 July 2018

Andrew Stickland (Senior Statutory Auditor)
for and on behalf of Kingston Smith LLP, Statutory Auditor
Devonshire House
60 Goswell Road
London, EC1M 7AD

STATEMENT OF FINANCIAL ACTIVITIES
YEAR ENDED 31 DECEMBER 2017

	Notes	2017 total £'000	2016 total £'000
Income from:			
Charitable activities			
Publishing		3,590	3,340
Professional development (includes membership)		270	221
Scientific conferences		649	394
Other income		85	52
		4,594	4,007
Investments		183	195
Total income		**4,777**	**4,202**
Expenditure on:			
Charitable activities			
Publishing		1,879	1,812
Members' programmes		1,772	1,344
Grants and awards	2	328	335
Raising awareness and influencing policy		712	1,127
		4,691	4,618
Raising funds			
Investment management costs		70	68
Total expenditure	6	**4,761**	**4,686**
Net (expenditure) before net gains (losses) on investments		16	(484)
Net gains/(losses) on investments	11	1,048	1,497
Net income/(expenditure) and movement in funds for the year		1,064	1,013
Fund balances brought forward		13,542	12,529
Fund balances carried forward		14,606	13,542

All the above amounts relate to continuing activities.
The charity had no restricted income or expenditure in the year or the previous year.

The annexed notes form part of these financial statements
Company Registration Number: 1039582

BALANCE SHEET
AS AT 31 DECEMBER 2017

	Notes	2017 total £'000	2016 total £'000
Fixed assets			
Intangible assets	9	478	64
Tangible assets	10	2,018	2,045
Investments	11	12,601	11,939
		15,097	14,048
Current assets			
Debtors	12	435	357
Cash at bank and in hand (including deposits)		1,716	1,679
		2,151	2,036
Creditors: amounts falling due within one year			
Sundry creditors		422	347
Other taxation and social security		40	43
Publication income received in advance	13	2,180	2,152
		2,642	2,542
Net current assets/(liabilities)		(491)	(506)
Net assets		14,606	13,542
Unrestricted funds			
General	15	14,606	13,542
Total funds		**14,606**	**13,542**

Small company provisions
These financial statements have been prepared in accordance with the special provisions for small companies under part 15 of the Companies Act 2006.

Approved and authorised for issue on 6 July 2018 and signed on behalf of Council.

Date: 6 July 2018

Signed:

Professor Neil Gow
President

Signed:

Professor Ian Roberts
Treasurer

The annexed notes form part of these financial statements
Company Registration Number: 1039582

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED 31 DECEMBER 2017

	2017 £'000	2016 £'000
Cash flows from operating activities:		
Net (expenditure) for the year before net gains/losses on investments (as per the statement of financial activities)	16	(484)
Adjustments for:		
Amortisation charges	10	37
Depreciation charges	27	31
Dividends and interest from investments	(183)	(195)
(Increase) in debtors	(78)	(85)
Increase in creditors	100	186
Net cash (used in) operating activities	(108)	(510)
Cash flows from investing activities:		
Dividends and interest from investments	183	195
Purchase of intangible assets	(424)	(68)
Net proceeds from sale of investments	386	171
Net cash provided by investing activities	145	298
Change in cash and cash equivalents in the year	37	(212)
Cash and cash equivalents at the beginning of the year	1,679	1,891
Cash and cash equivalents at the end of the year	1,716	1,679

The annexed notes form part of these financial statements
Company Registration Number: 1039582

NOTES TO THE FINANCIAL STATEMENTS
YEAR ENDED 31 DECEMBER 2017

1 ACCOUNTING POLICIES

Basis of accounting
These financial statements have been prepared under the historical cost convention as modified by the revaluation of investment property and fixed asset investments, and are prepared in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102). The Charity is a public benefit entity for the purposes of FRS 102 and therefore has also prepared the financial statements in accordance with the 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 (The FRS 102 Charities SORP), the Charities Act 2011, the Charities and Trustee Investment (Scotland) Act 2005 and the Charities Accounts (Scotland) Regulations 2006.

The Trustees have assessed whether the use of the going concern basis is appropriate and have considered possible events or conditions that might cast significant doubt on the ability of the Charity 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 Charity's forecasts and projections. After making enquiries the Trustees have concluded that there is a reasonable expectation that the Charity has adequate resources to continue in operational existence for the foreseeable future. The Charity therefore continues to adopt the going concern basis in preparing its financial statements.

The presentational currency used is British pound sterling, and balances are rounded to the nearest £1,000.

A separate income and expenditure account has not been prepared as the information required by the Companies Act 2006 is given in the statement of financial activities and in the notes to the financial statements.

Critical accounting judgements and key sources of estimation uncertainty
In the application of the charity's accounting policies, Trustees are required to make judgements, estimates and assumptions about the carrying values of assets and liabilities that are not readily apparent from other sources. The estimates and underlying assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

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

The key estimate used in the preparation of these Financial Statements is the depreciation rate of fixed assets (as detailed later in this note). In the view of the Trustees, there are no other key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

Financial instruments
The company has elected to apply the provisions of Section 11 'Basic Financial Instruments' and Section 12 'Other Financial Instruments Issues' of FRS 102 to all of its financial instruments. Financial instruments are recognised in the company's balance sheet when the company 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.

Intangible assets
Assets with a cost in excess of £1,000 and which have an expected useful life of over one year are capitalised.

Amortisation is provided on all intangible assets at rates calculated to write off the cost, less the estimated residual value, of each asset over its expected useful life, as follows:
- CRM – at 20% p.a. on a straight line basis
- Website – at 25% p.a. on a straight line basis.

Tangible fixed assets
Assets with a cost in excess of £1,000 and which have an expected useful life of over one year are capitalised.

Depreciation is provided on all fixed assets at rates calculated to write off the cost, less the estimated residual value, of each asset over its expected useful life, as follows:
- Office equipment, fixtures and fittings – 25% or 20% p.a. on a straight line basis
- Motor vehicles – 25% p.a on a straight line basis
- Freehold property – 2% p.a. on a straight line basis.

Fixed asset investments
The fixed asset investments are carried at market value, based on the bid price at the balance sheet date. Unrealised and realised gains are both recognised in the Statement of the Financial Activities.

Investment income includes the appropriate tax deductions and tax credits and interest accrued on all fixed-interest stocks.

Investment property
Investment property is carried at fair value. No depreciation is provided. Changes in fair value are recognised in the Statement of Financial Activities.

Income
Income from membership and publication subscriptions is included in the statement of financial activities in the period to which it relates. Subscription receipts in advance are recorded as deferred income. Income is recognised in the Statement of Financial Activities in the period in which the Society is entitled to the income, it can be measured reliably and receipt is probable. Income from memberships, publications and conferences is recognised in the period to which it relates. Any amount received in advance is deferred. Investment income is recognised on an accruals basis.

Expenditure
All expenditure is accounted for on an accruals basis and has been classified under headings that aggregate all costs related to the category. Where costs cannot directly be attributed to particular headings they have been allocated to activities on a basis consistent with the use of resources and in particular the number of employees involved in each area.

Foreign currencies
Transactions in foreign currencies, principally US dollars, are recorded at the rate ruling at the date of the transaction. Assets and liabilities denominated in foreign currencies are converted at the year-end exchange rate. All exchange differences are reflected in the income and expenditure account.

Stock
Stock is valued at the lower of cost and net realisable value.

Pensions
The Society operates defined contribution pension arrangements, the assets of which are held separately from those of the Society in independently administered funds. Contributions are charged to the income and expenditure account as they become payable.

2 GRANTS AWARDED

	2017 £'000	2016 £'000
Institutional grants		
Harry Smith Vacation Studentships (29 grants, 2016: 43)	52	74
Education and Outreach Grants (10 grants to fund microbiology promotion, 2016: 7)	7	7
ECM Forum Event Fund (4 grants, 2016: 5)	1	1
International Development Fund (4 grants to fund microbiology training in developing countries, 2016: 4)	24	13
Total institutional grants	**84**	**95**
Individual grants		
Heatley-Payne and Hayes-Burnet Awards (0 grants, 2016: 2)	–	5
Microbiology in Schools Fund (0 grants, 2016: 5)	–	6
Research Visit Grants (10 grants for research visits, 2016: 12)	28	33
Society Conference Grants (540 grants for travel and accommodation at Society meetings, 2016: 406)	137	118
Undergraduate Microbiology Prize (64 grants, 2016: 64)	5	13
Travel Grants (78 grants, 2016: 152)	59	60
Undergraduate Conference Grants (0 grants, 2016: 35)	–	5
Microbiology in society Award (1 grant, 2016: 0)	5	–
Total grants to individuals	**234**	**240**
Grants approved in the prior year not taken up	9	–
Total grants	**327**	**335**

3 TURNOVER

At 31 December 2017, included within Publication Income and Membership fees is overseas income amounting to 68.4% (2016: 78.8%) of the total income generated from these activities.

4 EXPENDITURE

	2017 £'000	2016 £'000
Costs include:		
Auditor's remuneration: audit fees	19	16
Amortisation	10	37
Depreciation	27	31

5 EXPENSES REIMBURSED TO MEMBERS OF COUNCIL

12 (2016: 12) members of Council were reimbursed expenses of £8,730 (2016: £9,179) relating to travel, subsistence and secretarial assistance.

6 EXPENDITURE

	Staff costs £'000	Other costs £'000	Support allocation £'000	2017 £'000	2016 £'000
Publication costs	533	818	528	1,879	1,812
Members' programmes	415	946	411	1,772	1,344
Grants and awards	–	328	–	328	335
Careers and promotion	257	200	255	712	1,127
Investment management	–	70	–	70	68
Support	343	851	(1,194)	–	–
Total expenditure	**1,548**	**3,213**	**–**	**4,761**	**4,686**

Support costs are apportioned to direct activities based on the direct staff costs allocated to those activities.

7 SUPPORT COSTS

	2017 £'000	2016 £'000
Governance	65	67
Human resources	67	77
Premises and general office	275	209
Information technology	127	184
Professional and legal	206	52
Depreciation and charges	111	100
Staff costs	343	326
Total	**1,194**	**1,015**

8 STAFF COSTS

	Notes	2017 £'000	2016 £'000
Salaries		1,264	1,383
Social security costs		129	140
Other pension costs	14	147	163
Redundancy		8	18
Total		**1,548**	**1,704**

The average monthly number of persons employed by the Society during the year was 33 (2016: 37).

No member of Council received any remuneration in respect of their services to the Society.

The number of employees whose emoluments amounted to over £60,000 in the year, not including pension contributions and employer National Insurance contributions, were as follows:

	2017 No.	2016 No.
£70,000 – £80,000	1	3
£80,000 – £90,000	1	1
£100,000 – £110,000	1	–
£110,000 – £120,000	–	1
	3	**5**

Contributions to the pension scheme on behalf of the employees noted above amounted to £33,704 (2016: £45,760).

The key management personnel of the Charity comprise the Trustees, the Chief Executive and Senior Management team. The total employee benefits of the key management personnel, inclusive of employer pension contributions and employer National Insurance contributions, were £416,727 (2016: £494,491).

9 INTANGIBLE ASSETS – CRM AND WEBSITE

	Total £'000
Cost or valuation	
At 1 January 2017	259
Transferred from fixed assets	424
Additions	(178)
Disposals	505
At 31 December 2017	**259**
Amortisation	
At 1 January 2017	195
Provided during the year	10
Released on disposal	(178)
At 31 December 2017	**27**
Net book value	
At 31 December 2017	**478**
At 31 December 2016	**64**

10 TANGIBLE FIXED ASSETS

	Freehold land and buildings £'000	Office equipment, fixtures and fittings £'000	Total £'000
Cost or valuation			
At 1 January 2017	2,115	60	2,175
Additions	–	–	–
Disposals	–	(1)	(1)
At 31 December 2017	**2,115**	**59**	**2,174**
Depreciation			
At 1 January 2017	72	58	130
Provided during the year	26	1	27
Released on disposal	–	(1)	(1)
At 31 December 2017	**98**	**58**	**156**
Net book value			
At 31 December 2017	**2,017**	**1**	**2,018**
At 31 December 2016	**2,043**	**2**	**2,045**

The charity holds a part share of Charles Darwin House Limited which owns 12 Roger Street and 107 Grays Inn Road on trust for the co-owners, consisting of the biologically focused charities that occupy 12 Roger Street.

12 Roger Street is used as the charity's headquarters and its share of the building is included in freehold land and buildings.

107 Grays Inn Road is accounted for as a mixed-use property as it is partly used by the charity for meeting room space with the remainder let out. The investment property component is included within investments at the Trustees estimate of its fair value. In arriving at their estimate of fair value, Trustees have taken account of a professional valuation commissioned in late 2016 by one of the other co-owners of the building.

11 INVESTMENTS

	2017 £'000	2016 £'000
Fixed asset investments	10,617	9,955
Investment property	1,984	1,984
Total	**12,601**	**11,939**

Fixed asset investments

	2017 £'000	2016 £'000
Market value at 1 January 2017	9,955	9,262
Additions at cost	2,993	2,698
Less disposals at carrying value	(3,020)	(3,595)
Net gain/(loss) on revaluation	1,048	864
Net movement in cash	(359)	726
Market value at 31 December 2017	**10,617**	**9,955**

	Cost		Market value	
	2017 £'000	2016 £'000	2017 £'000	2016 £'000
Property		1,081		549
UK equities	403	1,949	315	2,247
Overseas equities	5,009	3,042	6,373	3,659
Bonds	1,362	1,227	1,353	1,217
Alternatives	1,354	711	1,190	742
Cash	1,386	1,541	1,386	1,541
	9,514	**9,551**	**10,617**	**9,955**

All investments held are listed on the London Stock Exchange.

There were no individual investments valued at over 5% of the total investment portfolio at the year end.

Investment property

	2017 £'000	2016 £'000
Market value at 1 January 2017	1,984	–
Transferred from fixed assets	–	1,351
Net gain on revaluation	–	633
Market value at 31 December 2017	**1,984**	**1,984**

12 DEBTORS

	2017 £'000	2016 £'000
Other debtors	151	83
Prepayments and accrued income	284	274
Total	**435**	**357**

13 PUBLICATION INCOME RECEIVED IN ADVANCE

	2017 £'000	2016 £'000
Institutional sales of publications in advance	2,117	2,031
Members' subscriptions in advance	63	121
Total	**2,180**	**2,152**
Balance at 1 January 2017	2,152	1,956
Amount released to income	(2,152)	(1,956)
Amount deferred in the year	2,180	2,152
Balance at 31 December 2017	**2,180**	**2,152**

14 PENSIONS

The Society operates defined contribution pension arrangements, the assets of which are held separately from those of the Society, in independently administered funds. The pension cost charged represents contributions payable by the Society to the funds amounting to £147 thousand (2016: £163 thousand). At 31 December 2017, the amounts payable to the pension fund amounted to £nil (2016: £nil).

15 UNRESTRICTED FUND – GENERAL

	2017 £'000	2016 £'000
Balance at 1 January 2017	13,542	12,529
Net income/(expenditure) before net gains on investments	16	(484)
Net gains on revaluation of investment assets	1,048	1,497
Balance at 31 December 2017	**14,606**	**13,542**

16 FINANCE COMMITMENTS

The charity has the following amounts due to the end of the leases in:

	2017 £'000	2016 £'000
Less than one year	–	–
Within 2–5 years	–	1
Total	**–**	**1**

17 FINANCIAL INSTRUMENTS

The year-end carrying value of financial assets and financial liabilities (measured at amortised cost, with the exception of investments which are measured at fair value), was as follows:

	2017 £'000	2016 £'000
Financial assets measured at fair value	10,617	9,955
Financial assets measured at amortised cost	173	104
Financial liabilities measured at amortised cost	422	347

18 RELATED PARTY TRANSACTIONS

There were no related party transactions in the year (2016: none).

PHOTO CREDITS:

Cover: Allergenic fungus *Alternaria alternata*, SEM – Dennis Kunkel Microscopy/Science Photo Library

Page 3: Coronavirus particles, TEM – Dr Linda Stannard, UCT/ Science Photo Library

Coloured transmission electron micrograph (TEM) of three coronavirus particles. Different strains of coronavirus are responsible for diseases such as the common cold, gastroenteritis and SARS (severe acute respiratory syndrome). SARS is a fatal disease that first appeared in China in 2002. The coronaviruses take their name from their crown (corona) of surface proteins, which are used to attach and penetrate their host cells. Once inside the cells, the particles use the cells' machinery to make more copies of the virus.

Page 4: *Streptomyces coelicoflavus* bacteria, SEM – Science Photo Library

Coloured scanning electron micrograph (SEM) of *Streptomyces coelicoflavus* bacteria (strands) and chains of *Streptococcus* bacteria (round). *Streptomyces coelicoflavus* is a filamentous soil bacterium. *Streptococcus* bacteria are an example of cocci (round bacteria) that form chains.

Page 6: Coloured TEM of a T4 bacteriophage virus – Dept. of Microbiology, Biozentrum/Science Photo Library

Coloured transmission electron micrograph (TEM) of a T4 bacteriophage virus. The swollen structure at top is the head, which contains DNA inside a protein coat. Attached to this is the tail, consisting of a tube-like sheath and tail fibres (at bottom). T4 bacteriophages are parasites of *Escherichia coli*, a bacterium common in the human gut. The virus attaches itself to the host bacterial cell wall by its tail fibres; the sheath then contracts, injecting the contents of the head (DNA) into the host. The viral DNA makes the bacteria manufacture more copies of the virus.

Page 8: Allergenic fungus *Alternaria alternata*, SEM – Dennis Kunkel Microscopy/Science Photo Library

Coloured scanning electron micrograph (SEM) of filamentous allergenic fungus (*Alternaria alternata*). *Alternaria* is a dematiaceous (phaeoid) fungus commonly isolated from plants, soil, food and indoor building environment. They are causative agents of phaeohyphomycosis and other respiratory allergies. It is one of the main fungal causes of allergy, being a common type I and III allergen. It is the most common species isolated from human infections. Cases of onychomycosis, sinusitis, ulcerated cutaneous infections and keratitis, as well as visceral infections and osteomyelitis have been reported. The production of melanin-like pigment is one of its major morphological characteristics. These moulds are characterised by their dark pigmentation due to melanin, which absorbs harmful UV radiation. *Alternaria alternata* also causes leaf spots, rots and blights in plants.

Page 12: *E. coli* conjugation, TEM – Dennis Kunkel Microscopy/ Science Photo Library

Coloured transmission electron micrograph (TEM) of *E. coli* strains undergoing conjugation via a pilus. Bacterial conjugation is the ability to transfer DNA between strains of bacteria (via a pilus). It allows a new mutation to spread through an existing population. It is believed that this process led to the spread of toxin synthesis from *Shigella* to *E. coli* (O157:H7). *Escherichia coli* is a gram-negative, facultatively anaerobic, enteric, rod prokaryote. This bacterium was isolated from the human intestine and is normally a part of the human and animal microbiota. Most *E. coli* strains are harmless, but some strains can cause serious problems such as: food poisoning, urinary tract infections, traveller's diarrhoea and nosocomial infections. The *E. coli* O157:H7 strain is fatal to humans if contracted when contaminated meat is cooked inadequately.

Page 16: *Phacus helikoides*, SEM – Steve Gschmeissner/Science Photo Library

Coloured scanning electron micrograph (SEM) of *Phacus helikoides*. *Phacus* is a genus of unicellular protists, of the phylum Euglenozoa (also known as Euglenophyta), *Phacus helikoides* is actually helical in shape throughout the entire cell as opposed to flat and leaf-shaped like most *Phacus*. These eukaryotes are mostly green in colour, and have a single flagellum that extends the length of their body. *Phacus* are commonly found in freshwater habitats around the globe and include several hundred species that continue to be discovered to this day.

Page 26: Participants at a Society Champion event – Strathearn School Belfast

Page 31: Delegates at Annual Conference 2017 – Ian Atherton

Page 39: Delegates at the launch of the Unlocking the Microbiome policy report – Roya Ziaie

Page 40: A participant from the Antibiotics Unearthed project – Ian Atherton

Page 41: Pages from the Society's Multicoloured Microbiomes colouring book – illustrated by Eliza Wolfson

Cover image: Allergenic fungus *Alternaria alternata*, SEM
Coloured scanning electron micrograph (SEM) of Filamentous allergenic fungus (*Alternaria alternata*). *Alternaria* is a dematiaceous (phaeoid) fungus commonly isolated from plants, soil, food, and indoor building environment. They are causative agents of phaeohyphomycosis and other respiratory allergies. It is one of the main fungal causes of allergy, being a common type I and III allergen. It is the most common species isolated from human infections. Cases of onychomycosis, sinusitis, ulcerated cutaneous infections and keratitis, as well as visceral infections and osteomyelitis have been reported. The production of melanin-like pigment is one of its major morphological characteristics. These moulds are characterised by their dark pigmentation due to melanin, which absorbs harmful UV radiation. *Alternaria alternata* also causes leaf spots, rots and blights in plants.