



BRITISH
PHARMACOLOGICAL
SOCIETY



ANNUAL REVIEW 2016

TODAY'S
SCIENCE
TOMORROW'S
MEDICINES

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ABOUT THE SOCIETY

The British Pharmacological Society leads the way in the research and application of pharmacology around the world. We are a friendly and collaborative global community, with around 4,000 members from more than 60 countries worldwide.

Our members work in academia, industry, regulatory agencies and the health services, and many are medically qualified. The Society covers pharmacology in all its forms, including laboratory, clinical, and toxicological aspects.

MISSION

The British Pharmacological Society is a charity with a mission to promote and advance the whole spectrum of pharmacology.

Specifically, the Society is concerned with the discovery, mechanism of action, use and safety of drugs in humans and animals, in order to contribute to education and the understanding and relief of suffering.

MESSAGE FROM OUR PRESIDENT & CHIEF EXECUTIVE

2016 was a year of substantial activity for the British Pharmacological Society. We engaged a growing number of members and stakeholders across wide-ranging activities and focused on delivering our core charitable aims: promoting and advancing pharmacology in all its forms. We invite you to discover more about our year in this review, and we are pleased to have the opportunity to thank everyone who contributed to these successes.

The year was characterised by the scale and reach of the Society's projects. This is evident from the *Focus on Pharmacology* initiative: our significant, novel investment in gathering the latest evidence about the teaching, application and impact of pharmacology, which included – but was by no means limited to – our efforts to raise the profile of both *in vivo* skills and clinical pharmacology. In addition, our calendar of meetings was as busy as ever, and we participated in pharmacological events in the UK, mainland Europe, North America, South America and Australasia.

The Society continued to balance its short-term achievements, such as the meetings and events described above, with a series of long-term projects with a life beyond the year in review, such as proactive public engagement and policy campaigns, planning for our journals, and the international reach of our prescribing assessment work. In this way, the growth in delivery of policy activity¹ has been particularly significant, and ensures the Society is able to make clear statements and thoughtful contributions to debates that are at the heart of what we do.

Our members continued to contribute their expertise, as well as significant amounts of time, across the spectrum of pharmacology. We want to thank them for volunteering on committees and groups, editing and reviewing our journals, organising meetings and workshops, and – most notably this year – engaging in our work in new ways. From collaborating on a new curriculum to supporting our public engagement efforts, members embraced the different opportunities to promote our discipline that were offered by the Society in 2016.

Working in partnership with our members, the Society's 17-strong office team was critical to our success in 2016. Training and development was an important focus, and three staff were promoted to more senior roles during the year. We know first-hand that the team's enthusiasm boosts the Society's reputation, and in particular the experience of attendees at our meetings. Many congratulations to the team for their hard work and excellent results! It has been our pleasure to work with them all.



David Webb,
President 2016–2017

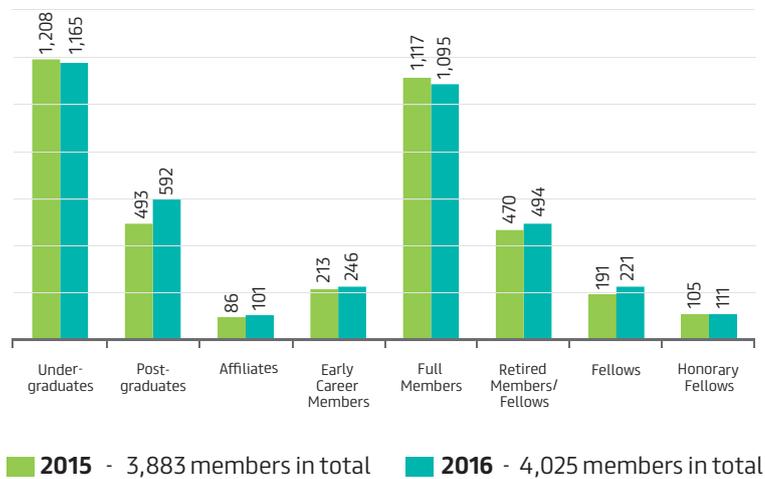


Jonathan Brüün,
Chief Executive

1. See <https://www.bps.ac.uk/about/policy-positions-and-statements>

OUR YEAR IN NUMBERS

The total membership on 31 December 2016 was 4,025, representing an increase of 4% in the space of a year. The Society was sad to report the deaths of eight members.



Pharmacology 2016



About our members in 2016



5,187
Facebook likes
20% increase from 2015



3,751
Twitter followers
29% increase from 2015



3,018
LinkedIn company followers
17% increase from 2015



92,810
YouTube views
238% increase from 2015

- £304,576 was awarded through prizes, grants and awards (2015: £379,704)
- £37,574 was awarded in bursary funding (2015: £46,466)
- 118 award nominations (2015: 127)
- 58% of nominations were for female candidates (2015: 47%)
- 82 prizes were awarded (2015: 87)
- 14 Society responses (both individually and jointly) to policy consultations

PROMOTING & ADVANCING PHARMACOLOGY



FOCUS ON PHARMACOLOGY

Ensuring pharmacology knowledge and skills are supported – now and into the future.

Focus on Pharmacology aims to help us understand how pharmacology makes an impact on the health and wealth of the UK – and how the Society can help support pharmacology education and skills to enhance this impact now and into the future. The project launched at *Pharmacology 2015* and over the next year produced tangible outputs that will help support the pharmacology community and inform the Society's strategy.

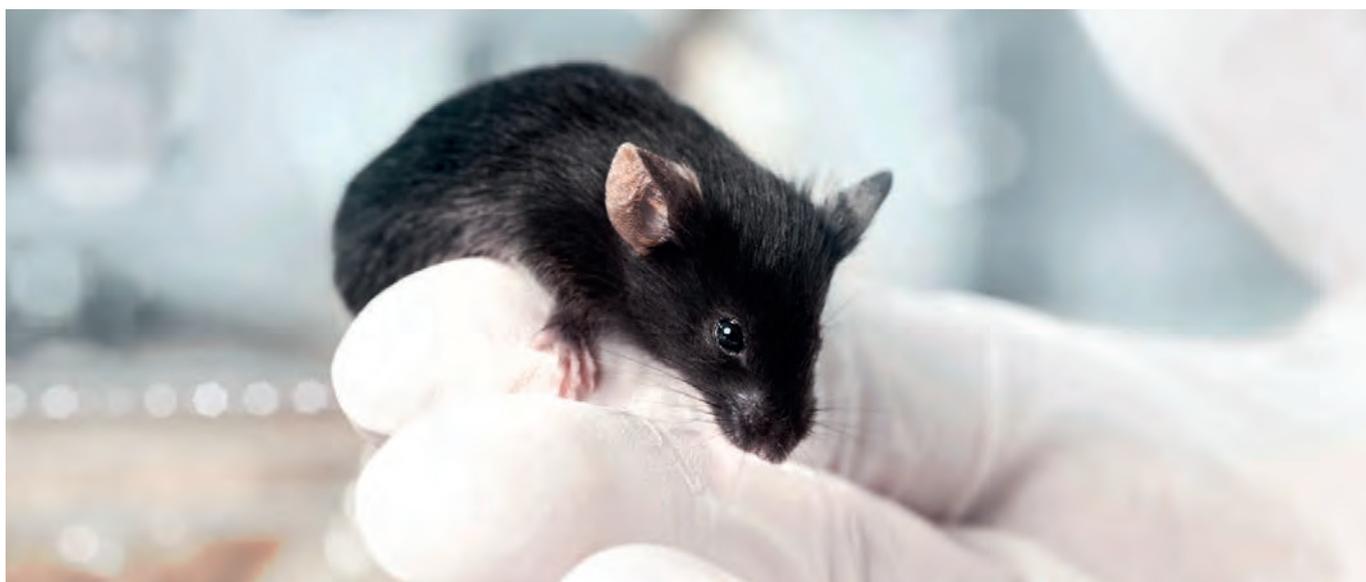
“To support pharmacology to make an impact by investing in pharmacology education and skills, the Society needed to understand trends in pharmacology education and employment. The *Focus on Pharmacology* project delivered a series of research projects and a focus on building strong relationships. We invested in our community of pharmacology educators, through networking and resource sharing events and a new core undergraduate pharmacology curriculum. We undertook research to examine the education and careers landscape, the impact of pharmacology in drug discovery and development, and released a report on the future of *in vivo* education and training.”

Anna Zecharia, Head of Education, Training & Policy

A new core curriculum for undergraduate pharmacology degrees

“The new undergraduate pharmacology core curriculum supports the Society's goal to promote and encourage the education and training of pharmacologists. It has been designed to inform undergraduate pharmacology programmes and help educators shape the graduates of the future. It was produced using a unique, community-based adaptation of the Delphi method that drew on the expertise of over 40 stakeholders from academia, industry and beyond. The curriculum is freely available on the Society website for use by educators, employers and students to identify the core knowledge, skills and attitudes of pharmacology undergraduates. We're keen to hear about experiences of using the curriculum and invite you to get in touch with the education team.”

Melisa Wallace, Deputy Chair, Education & Training Committee (2016);
Vice President – Academic Development (2017–2019)



In December the Society published “An evaluation of the Integrative Pharmacology Fund: lessons for the future of *in vivo* education & training”.

A strategic plan to support clinical pharmacology into the future

The Society continued to promote the need for clinical pharmacology and therapeutics skills in the NHS and wider life sciences industries, engaging with key stakeholders including Health Education England, the Department of Health and professional bodies. The Society progressed activity targeting an increase of 78 clinical pharmacology consultants by 2025, which would take the UK total to 150.

In August, the Clinical Committee oversaw the launch of a new Specialty Registrar Advisory Group, which was established to represent the interests and views of these younger clinical members, and to provide two-way communication between them and the Society's leadership and committees. Ultimately, it is intended that this new group will support projects designed to improve awareness of the specialty, increase security in training and support the career pathway.

In September, Lord Hunt of Kings Heath led a debate in the House of Lords outlining the importance of clinical pharmacologists in the UK and calling for immediate action to tackle the reduction of clinical pharmacologists practicing in the NHS and teaching in universities. This led to a meeting between the Society, Lord Hunt and Lord Prior of Brampton (in his capacity as Minister for NHS Productivity in the Department of Health) in November, during which the Society could share how the unique skills of clinical pharmacologists could be best served and supported in the future.

In December, the Society launched a report, *Clinical Pharmacology and Therapeutics: The case for savings in the NHS*, in partnership with PricewaterhouseCoopers, which found that £5 can be saved by the NHS for every pound invested in clinical pharmacologists.

“Through a team effort, we made substantial progress in highlighting the importance of clinical pharmacology to the UK, for the NHS, academia, industry and regulators. This campaign also emphasised the importance of all career pathways (medical and non-medical) in clinical pharmacology.”

Sir Munir Pirmohamed FBPhS, Vice President – Clinical

A new report making recommendations about the future of UK *in vivo* education and training

“In December 2016, the Society published an evaluation of the Integrative Pharmacology Fund (IPF), which was conducted in partnership with the University of Exeter. The IPF was a £22 million fund that had supported education and training in the *in vivo* (laboratory animal) sciences since 2004.

We found that the IPF successfully increased the ability of UK universities to deliver high quality *in vivo* education, training and research. However, there are significant concerns about its sustainability now that funding has ceased. We drew up ten recommendations for future action based on the evidence gathered for the evaluation and the principles that have been recognised as underpinning the fund's success. The Society is proud to be a leader in the *in vivo* sciences and is committed to taking the findings of the report forwards in collaboration with members and relevant organisations.”

Dave Lewis, Chair, Animal Welfare and *In Vivo* Pharmacology Sub-Committee

Evidence of the impact of pharmacology in drug discovery and development

“The Society used impact case studies from the 2014 Research Excellence Framework (REF) to map the contribution of pharmacology to drug discovery and development. An initial analysis of 268 identified case studies showed that pharmacology contributions assessed through using tagging in the publicly accessible REF impact case study database were a significant underestimate of actual pharmacological involvement. This ongoing work has the potential to inform data collection in REF2021 and provide a depth of knowledge about how impact is achieved – we will continue to analyse findings and explore research avenues in 2017.”

Leonard Kelleher, research partner and data analyst

POLICY

The Society actively engaged in policy development throughout 2016, responding to fourteen consultations (both individually and jointly) on a wide range of topics relating to pharmacology.

Alongside the Society's ongoing campaign to increase the number of clinical pharmacology and therapeutics consultants in the NHS and wider life sciences industries, the Clinical Committee and Specialty Registrar Advisory Group submitted a response to the consultation on the proposed establishment of a Regional Medicine Optimisation Committee. Our engagement with this consultation resulted in increased recognition of the role that clinical pharmacologists and therapeutics consultants can play in speeding up patient access to new medicines. The Society is also now involved in the Committee's formation as a direct result.

In addition, the Society collaborated with the Royal College of Physicians on a joint response which endorsed the Prescribing Competency Framework in a consultation by The Royal Pharmaceutical Society. The Prescribing Competency Framework aligned well with the Prescribing Safety Assessment and led to further interest in the assessment from pharmacy schools.

“In March, the Society responded to Lord Stern's Review of the Research Excellence Framework and highlighted issues specific to the discipline of pharmacology. We also supported the Royal Society of Biology's response to the inquiry. We were pleased to see that many of the issues raised in the Society's response (such as support for early career researchers, inclusion of all research active staff and interdisciplinarity) were reflected in the final report.”

Steve Hill FBPhS, President-Elect

In January, the Society welcomed Sir William Wakeham's review of science, technology, engineering and mathematics degree provision and graduate employability, having previously communicated members' insights on potential challenges faced by pharmacology graduates.

In response, and as part of the *Focus on Pharmacology* project, the Society commissioned PricewaterhouseCoopers to audit pharmacology in higher education and employment outcomes. The results will be published in 2017.

“The Society recognised the need to assess and enhance the impact of all graduates. In particular, we supported the review's calls for improving the data on graduate employment outcomes, and for increased engagement between employers and universities in shaping future degree provision and outcomes.

The Society is committed to working with members and employers to deepen our understanding of the education and skills needs of pharmacology graduates as part of the *Focus on Pharmacology* initiative, with the aim of producing graduates who are not only immersed in the discipline but also lifelong learners comfortable with change and uncertainty.”

Ian McFadzean FBPhS, Vice President – Academic Development (2014–2016)



PROACTIVE CAMPAIGNS & PARLIAMENTARY ACTIVITY

The Society increased the relevance of its policy and public engagement initiatives by focusing on three proactive campaign themes, and starting activity around these topics in 2016 that would be sustained into 2017.

- **Pharmacology, clinical pharmacology and the European Union (EU)** was selected as a priority topic ahead of the UK's referendum in June 2016. After the vote to leave, activity ensured that the post-referendum environment in the UK and Europe supports pharmacology in all its forms for the benefit of patients and the economy.
- **Performance and image enhancing drugs** was a theme of growing public interest around the 2016 Rio Olympics, which coincided with the start of a review by the Advisory Council for the Misuse of Drugs, involving the Society's members. The campaign aimed to support decision-making by young people that would reduce the harm caused by these types of drugs.
- **The cost and affordability of medicines** was regularly debated in the media and appeared in headlines whenever NHS agencies decided not to fund, or to limit access to, a new medicine. The aim was to raise awareness of the opportunities for improving the development and pricing of medicines, and reducing waste.

Pharmacology, clinical pharmacology and the EU

"The Society developed a briefing paper, *Pharmacology, Clinical Pharmacology and the EU Referendum*, which identified the key issues affecting our discipline. The paper, which was published on the website and in *Pharmacology Matters* magazine before the referendum, was intended to inform members' approach to the vote and its initial consequences.

The Society's Policy & Public Engagement Committee also co-funded the 2016 Parliamentary Links Day, organized annually by the Royal Society of Biology to support dialogue between MPs, peers and members of Learned Societies. Taking place less than a week after the referendum, and entitled 'Science after the referendum: what next?', the event was popular with members and politicians alike as they sought to understand the challenges and opportunities presented by Brexit.

The members of the Society met Dr Tania Mathias MP for the first time at Links Day. As a member of the House of Commons Science and Technology Committee – and a former NHS doctor – she was keen to hear about what the Society does to promote and advance pharmacology. This initial meeting resulted in Dr Mathias hosting a parliamentary dinner for *Pharmacology 2016* guest societies and citing our evidence in a House of Commons debate on science and the EU in December 2016.

The Society represented members' views by feeding their expertise into responses to consultations on the impact of leaving the EU, including to the House of Commons Science and Technology Committee and Education Committee inquiries. As a result, the President was invited to write an article on 'What will happen to science and research post-Brexit?' for *the Pharmaceutical Journal*, and another on the Society's efforts since the referendum for *Pharmacology International*."

Iain Greenwood FBPhS, Vice President – Policy & Public Engagement (2014–2016) on behalf of the Policy & Public Engagement Committee

Performance and image enhancing drugs

“I joined the Society when I learnt about the plan to engage with the thorny issue of performance and image enhancing drugs. I attended a valuable roundtable discussion hosted by the Society for stakeholders such as UK Anti-Doping, which identified gaps in existing activity that the Society would be able to address. While most activity reflecting these gaps will be developed in 2017, a definite need identified was educational resources for 10- to 14-year-olds who are at risk but aren't affiliated with sports organisations or clubs, which parents and teachers could also use to support any difficult conversations with young people.

To begin to address this, at the end of 2016 the Society released an excellent three-minute animation entitled 'Maintaining a healthy body – advice from an Olympic champion', which was voiced by Olympic gold medal-winning rower Tim Foster MBE. The Society developed the content and messaging of the video in consultation with members, stakeholders, teachers, parents and young people. The video was endorsed (shared, retweeted and liked) by eight other scientific societies and organisations; three UK and Greek anti-doping and body image campaigns; and three other international Olympic sportspeople, including the chair of the World Anti-Doping Agency Athletes' Committee, Beckie Scott.”

Julien Baker, Full Member

The cost and affordability of medicines

“I am one of the Society's many members that has been involved in the various agencies that make decisions about which medicines should be funded. The campaign was kicked off by the Society's public event 'Waste not, want not' during the Edinburgh International Science Festival in April. The discussions between Fellow Simon Maxwell, Jenna Stevens-Smith from Imperial College London, and patient representative Phil Willan about the impact of wasted medicines on the NHS budget and its ability to fund new medicines were reported by *The Scotsman*.

Input from members working across academia, the NHS and industry informed the Society's next public event, '£15 billion and counting... Can we afford our medicine?' at the Cheltenham Science Festival in June. I spoke alongside our President David Webb and clinical trial expert Frances MacDonald, and an open discussion with the 180-strong audience was chaired by the broadcaster Vivienne Parry. The event was reported by the *Daily Telegraph* and industry websites *Drug Discovery Today* and *PharmaLetter*, and an in-depth opinion article appeared in *the Pharmaceutical Journal*. An engagement toolkit with an animation and slide set based on the Cheltenham event was produced in December to help members replicate these discussions in their own institutions and with their own networks.”

Ken Paterson, Full Member

Parliamentary Reception



Parliamentary reception attendees (left–right): Chris Green MP; Stephen Benn, Royal Society of Biology; Juliet McColm, Lilly; David Webb, British Pharmacological Society; Tania Mathias MP; Stephen Metcalfe MP & Chair, Science & Technology Committee.

“The Society invited the Association of the British Pharmaceutical Industry (ABPI) to collaborate on a reception at the Palace of Westminster in December 2016. Both organisations were delighted that Stephen Metcalfe MP, Chair of the House of Commons Science and Technology Committee, agreed to host the event, entitled 'Is UK pharmacology a world leader? Bridging the skills gap in the biopharmaceutical industry'.

The event put the spotlight on the value of pharmacology and clinical pharmacology in responding to critical skills gaps in the UK biopharmaceutical industry. It offered a unique opportunity to discuss this issue with parliamentarians and for them to hear views from industry, the NHS and academia. We were pleased to be joined by around 70 attendees, including representatives from partner organisations, big pharma, spin-out companies and science parks, as well as influential figures from Parliament and Government.”

Juliet McColm, clinical pharmacologist, Lilly

PUBLIC ENGAGEMENT & OUTREACH

In 2016, the Society explained the importance of pharmacology in the modern world through increasing its member-driven outreach and engagement activity.



The Medicine Makers toolkit in action at Lambeth Country Show.

New resources library

In December 2016, the Society unveiled a new online library of resources, including toolkits, animated videos and leaflets to encourage members and other scientists to get involved with public engagement and outreach activities. The library brought together different resources into one free, easy-to-navigate hub, and many materials were aligned with the Society's ongoing campaigns on performance and image enhancing drugs, and the cost and affordability of medicines.

New training opportunities

The Society launched a new bursary fund that offered financial support for members to develop their public engagement skills. £3,364 was awarded in bursaries to support six members to participate in different externally-delivered training so that they could better champion the pharmacology community with the media, policymakers, school students and the public.

“I was given a fantastic opportunity to study speech-writing by the British Pharmacological Society. My deepest thanks to the Society for making this possible for me.”

Alistair Jennings, Public Engagement Bursary Fund recipient

Outreach grants

The Society awarded £3,500 in outreach grants to four successful applicants to support innovative pharmacology outreach and public engagement activities. Successful projects included the Oxford Hands-On Science Summer Roadshow, which featured various interactive pharmacology activities, such as a “drug development obstacle course” for young children. Students were each given a different shaped “drug” and had to pass through an obstacle course representing different phases of drug development, with only one making it to the finish line to be marketed.

Working with members at engagement events

The Society continued to raise its profile by working with members at various events across the UK in 2016: Brighton Science Festival, Cheltenham Science Festival, Edinburgh Science Festival, Lambeth Country Show, Pint of Science and Cambridge Big Biology Day.

The Society was delighted to see its members, alongside those of the Biochemical Society, test the Medicine Makers toolkit at some of these festivals. This toolkit on how painkillers work was developed in collaboration with the Biochemical Society, to disseminate how this activity had been delivered by the Societies in previous years in a way that members could replicate.



**LEADING THE
WAY IN THE
RESEARCH &
APPLICATION OF
PHARMACOLOGY**

JOURNAL HIGHLIGHTS



Journal	Impact factor	Downloads (Wiley Online Library)	Downloads (all platforms, including PubMed)
British Journal of Pharmacology (BJP)	5.259	1,175,912	3.8 million (up 5% since 2015)
British Journal of Clinical Pharmacology (BJCP)	3.830	839,962	3.6 million (up 9% since 2015)
Pharmacology Research & Perspectives (PR&P)	N/A	52,000	127,000 (up 39% since 2015)

Collaboration

Throughout 2016 the Society worked to more closely align the work of its three journals, and collaborated with other societies.

A series of subject-based joint virtual issues was published, linking content across key themes within BJP and BJCP with the aim of highlighting the breadth of research across the Society's journals, and bringing new audiences to our content. These virtual issues covered a diverse range of topics including new translational issues related to platelet pharmacology, redox pharmacology and drugs, heart rate and rhythms.

In December, BJP and BJCP ran parallel editorial meetings around the start of the *Pharmacology 2016* meeting, including a joint editorial board dinner allowing for networking and ideas generation. These meetings also offered an opportunity to present the annual journals awards, including one for the top paper by a young investigator in both BJP and BJCP and prizes for the top performing editors in each journal.

All three journals' Editors-in-Chief (Amrita Ahluwalia, Adam Cohen and Darrell Abernethy) participated in a career bootcamp at *Pharmacology 2016* for early career researchers. This informal session outlined the publishing process and best publishing practice. The session was well attended and will be repeated in 2017.

A joint virtual themed issue was developed for the Experimental Biology meeting held in San Diego in April 2016. This included articles on themes related to the conference from the journals of the Society, as well as The Physiological Society and the Biochemical Society.

“Collaboration between different specialties and branches of science will be the hallmark of drug research in the next decade. The need for collaboration is of course global and unbound by borders of nation states, despite what some politicians may think. Although the name of our journal may be seen to reflect nationalism, only one look at our editorial boards will show that although we may look national we act and think globally.”

Adam Cohen FBPhS, Editor-in-Chief, BJP

Quality and impact

“2016 was the year that BJP really began making inroads into improving the quality of design and analysis reporting. Taking the lead from my predecessor Ian McGrath, the Senior Editors and I weathered some of the criticism regarding the increased stringency in our guidelines from the pharmacology community. Our commitment to supporting authors by improving standards in reporting of design and analysis is now being held as an exemplar in the world of publishing and absolutely was the right thing to do.”

Amrita Ahluwalia FBPhS, Editor-in-Chief, BJP

BJP sponsored a number of meetings in 2016 to extend its reach and impact to new audiences; these included:

- 9th International Molecular Pharmacology of G Protein-Coupled Receptors, held in Melbourne, Australia
- The European Molecular Biology Organization Conference: Wnt Meeting, held at Masaryk University, Czech Republic
- The International Narcotics Research Conference, held in Bristol, UK

In addition, BJP and BJCP published seven themed issues, highlighting research on cutting-edge themes:

BJP:

- Molecular Pharmacology of G Protein-coupled Receptors
- Updating Neuropathology and Neuropharmacology of Monoaminergic Systems
- Chinese Innovation in Cardiovascular Drug Discovery
- Endocannabinoids
- Inflammation: Maladies, Models, Mechanisms and Molecules

BJCP:

- Mechanistic Target of Rapamycin (mTOR): Future Therapeutic Opportunities
- Antidotes in Clinical Toxicology

Pharmacology Research & Perspectives (PR&P) published two virtual issues bringing together published content to raise awareness of its mission and scope, which included translational pharmacology as well as rigorous studies that support each stage of drug discovery and development, from early discovery to clinical evaluation.

International reach

2016 saw a drive to increase our journals' international reach and submissions with the appointment of new international editors across all of our journals.

“In 2016 several new Senior Editors joined our board, substantially increasing the international representation at the most senior level of the journal: Pippo Cirino (Naples, Italy), Chris Sobey (Melbourne, Australia) and Chris George (Cardiff, UK). With Pippo's dedication as new Reviews/ Themed Issue Senior Editor, the journal has enjoyed the fruits of our collective labours in the high citations received for many of the papers published in the themed issues that emerged towards the end of the year. This year was also the first year for our new China Senior Editor, Yong Ji. Yong has spent the year raising the profile of BJP at several key meetings in China as well as partnering with me in a webinar aimed at early career researchers, which was very well attended. The rise in submissions as well as acceptance rate by the end of the year is, I believe, a reflection of this focus on China.”

Amrita Ahluwalia FBPhS, Editor-in-Chief, BJP



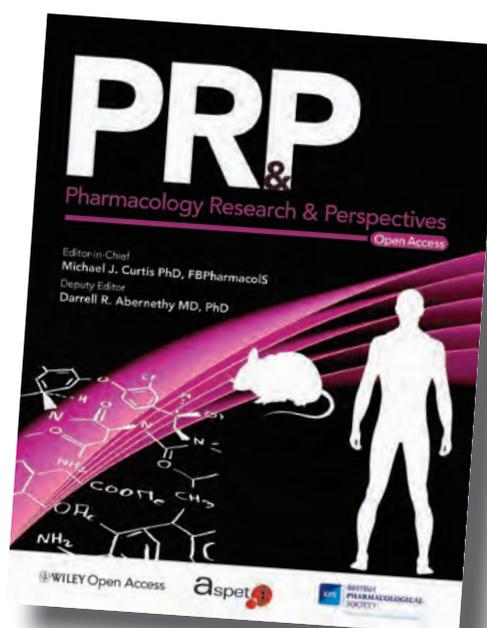


Yong Ji became BJP Senior Editor with a remit for China in 2016.

All three journals also collaborated to create two geographically themed virtual issues, showcasing top quality research from target regions: a Latin American Virtual Issue (put together for the 8th Brazilian Congress of Pharmacology and Experimental Therapeutics/21st Latin American Congress of Pharmacology), and a Chinese Virtual Issue.

“PR&P is gaining momentum as an international resource for the publication of useful and important papers in topic areas across the pharmacological sciences. In 2016 publications highlighting three areas of emphasis were assembled into virtual issues in addition to the usual publication schedule. These issues focused on translational pharmacology, pharma-based drug development, and the continuum from drug discovery to clinical evaluation. Greater international exposure has been gained by publication of Latin American and Chinese virtual issues featuring work published from those regions. To improve access to information about safety of drugs that are currently in clinical use, the journal *Pharmacoepidemiology and Drug Safety* now refers work that is worthy of publication to PR&P. The quality and quantity of pharmacological science published in PR&P is maturing as the journal moves from childhood to adolescence. We look forward to its continuing growth and success.”

Darrell Abernethy, Editor-in-Chief, PR&P



PRESCRIBING

Championing prescribing competency in the UK

“The Prescribing Safety Assessment aims to enhance the quality of prescribing by establishing a basic standard of competency that all prescribers must meet before working independently in the healthcare system. I believe that the Prescribing Safety Assessment has increased awareness of this vital patient safety issue and is stimulating better training pathways for doctors and other prescribing professionals.”

Simon Maxwell FBPhS, Medical Director, Prescribing Safety Assessment

“One of the major strengths of the Prescribing Safety Assessment is the quality assurance process, involving over 100 hospital clinicians, foundation doctors, clinical pharmacologists, general practitioners and pharmacists who author, review and approve items for use in assessments. This multidisciplinary process helps to provide confidence that the assessment is relevant to contemporary prescribing practice and is of an appropriate standard to ensure patient safety.”

Lynne Bollington, PSA Lead Consultant

The Prescribing Safety Assessment is an online examination that allows students to demonstrate competency in prescribing before they begin their work as independent junior prescribers in UK hospitals. The Prescribing Safety Assessment is delivered jointly by the Society and the Medical Schools Council.

A total of 7,343 final year medical students from 31 UK medical schools sat the Prescribing Safety Assessment in 2016. A further 828 medical students participated from medical schools in Malta and the Republic of Ireland. The overall pass rate for all medical students was 95%, and 80% for re-sits.

In 2016 the Prescribing Safety Assessment was also piloted by 236 preregistration pharmacists, 397 MPharm pharmacy students and 260 Foundation Year 1 doctors in pharmacy schools and foundation schools.

As it has developed, delivering the Prescribing Safety Assessment has become a major activity for the Society and our partners at MSC Assessment:

- The assessment was sat by over **3,000** students in a single day.
- Over **17,000** candidate hours of assessment were undertaken and over half a million patient safety-related questions set and marked.
- Over **70,000** prescriptions were written and rapidly marked as part of the assessment.
- **27** new question authors were trained over three events across the UK in 2016, taking the total number of authors to 118.



Championing prescribing competency worldwide

Demand for the Society's prescribing expertise is growing rapidly as it becomes increasingly recognised internationally. The Society is providing this expertise to local teaching professionals as the Prescribing Skills Assessment – a valid and reliable test of prescribing competency.

In 2016 the Society worked with the Royal College of Physicians and Surgeons of Canada to evaluate the potential of a new prescribing assessment for continuing professional development and collaborative delivery.

Also in Canada, 243 students at the Schulich School of Medicine & Dentistry, Western University, and McMaster University Medical School piloted the assessment.

235 students sat the assessment in Australia at Monash University's campuses and the University of Newcastle, as did 216 students at the University of Auckland, New Zealand. In India 25 students at the Seth Gordhandas Sunderdas Medical College, KEM Hospital – one of the country's foremost teaching institutions – took part in a successful one-hour pilot.

“We found the Prescribing Skills Assessment to be a very valuable addition to how we teach prescribing to our final year medical students. The implementation of the exam was efficiently and comprehensively supported by the Society, with an adaptable online platform. Students and staff were provided with timely, useful feedback to both drive further learning and inform further curricular enhancement. We look forward to working on an expanded Australian pilot in 2017”

Claire Harrison, Prescribing Skills Assessment Lead, Monash University, Australia



At Pharmacology 2016 in December, the international partners in the Prescribing Skills Assessment met to exchange information on implementation in their respective countries. Back row (left-right): Simon Maxwell, David Webb, Michael Rieder, David James, Peter Wright. Front row (left-right): Lynne Bollington, Helen Kwanashie, Nilima Kshirsagar, Jennifer Martin, Chris Parsons.

Making improvements to address attendee feedback

The Society values the feedback it receives from attendees. Reviewing and listening to this feedback led to a number of improvements being made in 2016, including:

Meetings calendar

- 11 meetings and workshops were held across the UK, including in Bath, Birmingham, Cambridge, Edinburgh and Leicester, to better serve members outside London and the South East of England.

Pharmacology 2016

- More themes were covered, with 16 symposia across five tracks.
- Oral presentation opportunities were increased by 55%, from 74 presentation slots in 2015 to 116 in 2016.
- The programme offering for young pharmacologists was expanded, including a half-day Young Pharmacologists Advisory Group satellite meeting, three “career bootcamps” for young scientists, and flash poster presentations.
- The capacity of the Welcome Reception was significantly increased, from 150 to 250, to make it more inclusive.
- The length of the plenary lectures was reduced to allow for additional activities to be scheduled.
- The number of prizes was increased, from six to 15.

“Members of the Meetings Team and Committee, Affinity Group Co-Chairs and symposium organisers did a stellar job. There was creative expansion and scheduling of the *Pharmacology* programme and 2016 saw another year of increased delegate numbers and satisfaction. We were also involved in managing many smaller meetings in the UK and in collaborative ventures with cognate groupings and other pharmacological societies worldwide. Indeed, increased member engagement has enabled an exciting trajectory of activity that is well developed for 2017 and into 2018.”

Barbara McDermott FBPhS, Vice President – Meetings (2014–2016)



Undergraduate Member Sam Groom delivers a winning flash poster presentation at Pharmacology 2016.



Pharmacology 2016

13–15 December 2016 | London

- 1,200 registrations
- 106 speakers
- 23 exhibitors
- £12,000 allocated for bursaries
- 90% of survey respondents were satisfied or more than satisfied with the scientific programme

The Society welcomed delegates from 44 countries to its annual meeting, *Pharmacology 2016*, at the Queen Elizabeth II Conference Centre in central London, including members of our guest societies: the American Society for Clinical Pharmacology and Therapeutics, the American Society for Pharmacology & Experimental Therapeutics, the Biochemical Society and the Chinese Pharmacological Society. *Pharmacology 2016* attracted the greatest number of symposia (32) and abstract submissions (449) to date, illustrating the popularity of the meeting.

The meeting also saw the introduction of flash poster presentations, a delegate lounge (the “London Lounge”), and career bootcamps. These daily career sessions, aimed at all young scientists attending the meeting, took place during the morning and provided insights and knowledge on industry, education and publishing.

Following very positive feedback, all of these new features will return at *Pharmacology 2017*. The most popular sessions were the plenary prize lectures, which filled the lecture theatre to capacity throughout all three days.

The *Pharmacology 2016* conference app was downloaded by 41% of attendees, an increase of 26.5% compared to app usage at *Pharmacology 2015*. We will seek to improve user experience and accessibility, to ensure all visitors can benefit and engage through the conference app in future.



Delegates network at *Pharmacology 2016*.

Education @ Pharmacology 2016

Education was a priority throughout the second day of *Pharmacology*. An education career bootcamp discussed routes into pharmacology education and top tips for the audience.

A group of demonstrators marked the official launch of the new undergraduate pharmacology core curriculum by sharing the new educational approaches and teaching innovations. This developed networks and collaborations centred around delivering pharmacology teaching and training to the highest level, and raised the profile of education activities across the Society.

“The careers bootcamp was a fantastic opportunity for young pharmacologists to hear about the diverse routes into and roles in pharmacology education. Education is probably the most vital component in producing the next generation of pharmacologists so it is key for the Society to highlight and promote the importance and roles of pharmacology educators. I wish I had received (or heeded) some of the advice that was given out at the bootcamp earlier in my career!”

Clare Guilding, education workshop speaker

The day closed with vibrant education oral and poster sessions. Participants engaged enthusiastically, and took the opportunity to network and share ideas.

Pharmacology 2016 Career Bootcamps		
Industry Career Bootcamp	Education Career Bootcamp	Publications Career Bootcamp
Opportunities for young pharmacologists at the interface between academic and industry – insights from careers in small, medium and large companies.	Developing innovative practice, sharing approaches to teaching challenging areas of the core curriculum, recognition for teaching excellence and tips for promotion based on teaching and scholarship.	Understanding the publishing process – sharing experiences and best practice on publishing research.

“The interactive demonstration session was a hive of activity! The room was packed with enthusiastic demonstrators and delegates. It was great to see such a collaborative and lively atmosphere – and I know that many people shared contact details afterwards. I was really impressed by the session and the rest of the Education Day, and heard more than one person say that *Pharmacology 2016* was the best annual meeting so far.”

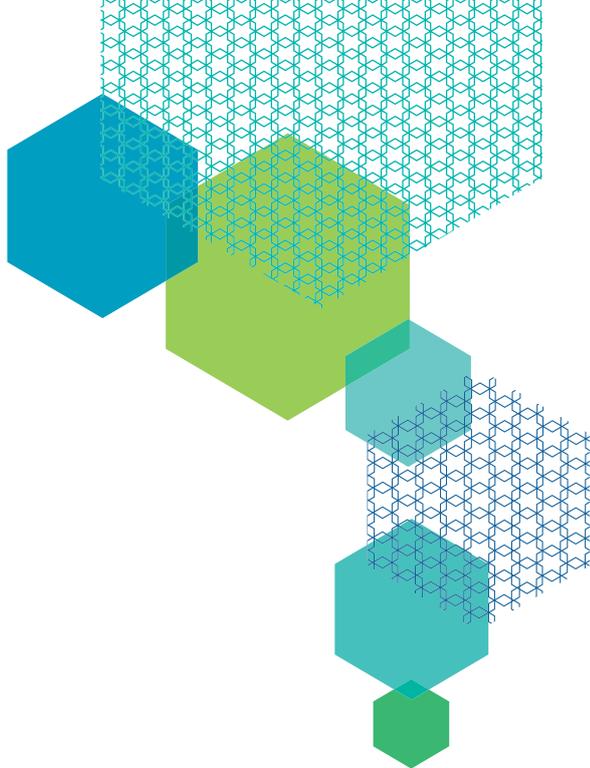
Rachel Forfar, Education & Training Committee



Left-right: Education & Training Committee representatives Richard Prince, Lisa Wallace and Steve Tucker after the Education Day at Pharmacology 2016.



Head of Education, Training & Policy Anna Zecharia speaks at the Education Day at Pharmacology 2016.



International Narcotics Research Conference 2016

11–14 July 2016 | Bath, UK

The Society held this meeting jointly with the International Narcotics Research Conference (INRC), an organisation whose purpose is to run an annual scientific meeting on the topic of opioid research. The conference brought together scientists from around the world, with over 200 attendees participating in oral and poster presentations concerning aspects of opioid research ranging from genetic and molecular to *in vivo* studies. This was the first time the Society had hosted the conference, and we were delighted to receive resoundingly positive feedback from attendees.

Session for Specialty Registrars in Clinical Pharmacology

The annual training and assessment session for Specialty Registrars in Clinical Pharmacology was attended by 31 registrars, the highest attendance to date.

The training consisted of three lectures on topics relevant to the Clinical Pharmacology and Therapeutics (CPT) curriculum. This was followed by an assessment of 30 single best answer questions based on the topics presented during the Specialty Registrars session and on associated items in the curriculum.

“The specialist registrar training day is now an educational highlight of the annual *Pharmacology* meeting. Based on topics suggested by the registrar group, each year three expert researchers and clinicians provide clinical pharmacology-specific updates in topics that are fast-evolving or especially challenging for the clinician. Their informed insights and direct discussions are highly valued by the registrars. The training day also incorporates a formative examination for the registrars that contributes to their CPT training portfolios. Along with my colleague and co-organiser, John Thompson, I wish to thank the many experts who have given so generously of their time and talent to the CPT registrars. We also thank the National Poisons Information Service who have provided access for the registrars to their specialty meetings and training days, thereby helping to fill a perennial need of CPT registrars for training in clinical toxicology.”

Patricia McGettigan, Co-Vice President – Clinical (2014–2016)

“The meeting was excellent; this was my first time in attendance. Interesting talks, lively bunch, spectacular venue, easy to follow schedule and felt organized. Good job all round!”

Young pharmacologist attendee from an academic institution

“The success of this joint meeting and the scientific buzz throughout the meeting shows that the pharmacology of opioids remains an area of intense global interest.”

Eamonn Kelly, meeting co-organiser



Attendees at INRC 2016.

Experimental Biology 2016

2–6 April 2016 | San Diego, USA



Left-right: Steve Hill, President-Elect at the 'Linking life scientists' networking event during Experimental Biology with the other hosts Sheila Graham, Honorary Meetings Secretary of the Biochemical Society, and Richard Vaughan-Jones, President of The Physiological Society.

“The British Pharmacological Society's presence at the Experimental Biology meeting has been growing year on year, and we built on this further in 2016. The Society promoted the benefits of membership, upcoming meetings and key initiatives like *The Concise Guide to PHARMACOLOGY 2015/2016*. Interactions with attendees produced over 200 leads, which were converted into new journal enquiries and new members joining the Society.

We chose an exhibition stand that would neighbour the Biochemical Society, which gave UK life scientists a focal point among the hundreds of other exhibiting organisations. An informal networking area was shared by both Societies and this successfully facilitated networking between scientists as well as in-depth conversations between our journal editors and potential authors.

2016 was the third time we held an evening networking event at Experimental Biology, but this time it was jointly organised with the Biochemical Society and The Physiological Society, in order to support our members and editors making new connections across the life sciences. I was pleased to host the evening, which attracted a greater number of attendees (over 80) and more positive feedback than ever before.

Attending Experimental Biology strengthened our relationship with the American Society for Pharmacology and Experimental Therapeutics by progressing discussions about our jointly-published journal *Pharmacology Research & Perspectives* and advancing preparations for American participation at our own scientific meeting, *Pharmacology 2016*.”

Steve Hill FBPhS, President-Elect



BJP Editor-in-Chief Amrita Ahluwalia (left) and US Senior Editor Paul Insel (right) made use of the networking area to meet with potential authors.

POSTGRADUATE EDUCATION

The Society hosted six workshops on biologics, drug discovery, ion channels, pharmacokinetics and pharmacodynamics, statistics, and general and advanced receptor theory for scientists at Master's level or above. These were developed and delivered by our volunteer members, all of whom are experts in their fields ranging from the pharmaceutical industry to academia. 100 participants from a variety of backgrounds – including medical writers, research fellows, PhD fellows and industrial scientists – attended these workshops in 2016.



Ion Channels workshop, London, March 2016.

The Society was proud to see five students graduate with a Diploma in Advanced Pharmacology in December: Alex Macpherson, Hana Cernecka, William Hull, Jonas Bystrom and James Pilling. To achieve the Diploma, students completed a 6,000–7,000-word dissertation, presented a poster and an oral communication at *Pharmacology 2016*, and attended six Society workshops.



“Drug discovery is a most fascinating area of work to be involved in, harnessing the combined effort of numerous disciplines towards a common goal. The Drug Discovery Workshop delivers a step-by-step description of the stages of this process, using a combination of lectures and interactive breakout sessions. I believe such an overview is essential for anyone who wishes to maximize their own contribution in this field and fully appreciate the efforts of others.”

Keith Bowers, Drug Discovery Workshop course lead



**NURTURING OUR
COMMUNITY**

IMPROVING MEMBERS' EXPERIENCE

The Membership and Awards Committee worked hard in 2016 to grow our diverse, global community through a range of retention and recruitment activities.

The implementation of the Society's retention strategy focused on improving the experience of existing members:

- Updated and improved membership renewal communications were developed to express the Society's pride in our members and demonstrate the value of membership.
- An updated and improved welcome letter was developed to help new joiners access key benefits and services.
- New members attending *Pharmacology 2016* were welcomed at the point of registration for the first time.
- Access to member benefits was changed to encourage lifelong membership, for example a change in eligibility for many prizes and awards required nominees to have been a member for at least two years.

In addition, the Society invested in recruitment initiatives to ensure that scientists and students active in pharmacology were more aware of the benefits of joining:

- Trial membership was offered to those who had contributed to the Society already, such as authors of papers in the *British Journal of Pharmacology* and the *British Journal of Clinical Pharmacology*, as well as non-members who had paid to participate in the *Pharmacology 2016* and *Cell Signalling 2016* meetings.
- The Society promoted its activities and the benefits of membership at 21 "roadshow" visits and presentations to UK higher education institutions.
- Non-members registering an interest in joining received a quicker response from the Membership Team.
- UK-based Fellows and Full Members were encouraged to contact potential Full Members in their networks using a template message.
- Lapsed members were approached and informed about new activities the Society was engaged in, to encourage them to re-join.

As a result, by the end of 2016, 875 new members joined (including 111 Full Members), and the Society achieved a membership retention rate of 82%.



Members and guests attend the President's Lecture at the Royal Institution in London in November 2016.

RESEARCH

The Society conducted three surveys in 2016 to better understand the needs of our members, and indeed those who had so far chosen not to join the Society.

Member engagement survey

Who participated?

- 929 members from 57 countries
- Response rate: 29%

What did members say?

- 90% were likely to recommend joining the Society to colleagues and peers (2013: 89%).
- 86% agreed that the Society fulfils its mission to promote and advance pharmacology (2013: 83%).
- "Networking with scientists across a range of age and experience" was the benefit rated as important by the highest proportion of members (94%) and was rated top across all member categories (2013: 96%).

How did the Society respond to members' comments?

Members strongly supported the Society's existing mission and strategic direction. However, the Society is ambitious about meeting the needs of members and will be working hard to reflect members' comments as it plans for the future.

- Delivering the Society's mission: the Society has begun engaging with employers about the value of pharmacology, in order to inform undergraduate curriculum development and other activities.
- Recommending membership: members were provided with a new summary of member benefits to support conversations with colleagues and peers about joining our community.
- Networking: throughout 2016 the Society supported a series of networking events in the UK, the USA and Europe.

Non-member interviews

This qualitative research identified the needs of non-members, so we can better encourage them to join the Society.

Who participated?

- 10 scientists working in pharmacology but who had never been a member of the Society

What did non-members say?

- Awareness of the Society was high but participants wanted to know more about its relevance, role and range of activities.
- A key time to encourage non-members to join the Society is when they are undergraduate or postgraduate students.

How did the Society respond to non-members' comments?

- The Society updated the criteria for Full Membership, reflecting how broad a pharmacologist's career can be, and incorporated a statement defining the breadth of pharmacology.
- The Society has committed to continue focusing on promoting and raising awareness of pharmacology as an important discipline.
- The Society has also committed to continue engaging with and encouraging potential members to join the Society, with a particular emphasis on students.

International member engagement survey

Who participated?

- 417 members from 58 countries
- Response rate: 52%

What did members say?

- "Feeling part of an internationally recognised society" and "keeping up to date" are the main reasons members joined the Society.
- Members were positive about the idea of an International Advisory Group.
- 35% were very keen to be involved with one of the Society's Advisory Groups.

How did the Society respond to members' comments?

- An International Advisory Group was established in December 2016 to ensure that the Society delivers its commitment to addressing the needs of all its members, regardless of geography.

MEMBER NETWORKS

Ambassadors

Following the launch of the two-year pilot in 2015, the Society's 13 Ambassadors were busy throughout 2016 promoting pharmacology and the Society to members, non-members, students and the public. A review of the impact of the Ambassadors pilot will be delivered to Council in 2017, which will collate evidence of the scheme's impact and specific examples including but not limited to:

- Paul Chazot (Ambassador – University of Durham) established a specialist network for pharmacologists, pharmacists, primary and secondary practitioners and social scientists, to share knowledge and improve the prescribing and use of opioid-based analgesics across the UK.
- Yvonne Dempsie (Ambassador – Glasgow Caledonian University) supported the formation of a new Glasgow Pharmacological Society, which has hosted networking events for staff and students at different career levels to promote pharmacology to students at three Glasgow universities.
- Steve Tucker and Anne Leaver sponsored a mini-symposium for students from their respective institutions (the University of Aberdeen and University of Edinburgh).
- Several Ambassadors supported student research conferences at their institutes and sponsored student poster prizes.

"I feel it has given me the confidence and support to inform the public, colleagues and students about pharmacology and its importance. The honour of being selected as an ambassador provided a real inspiration and drive to actually communicate the society's activities and messages. The Society is to be commended for the support and funds it has provided."

Steve Tucker, Ambassador – University of Aberdeen

Supporting young pharmacologists

The Young Pharmacologists Advisory Group, led by Chair Clare Stanford, worked hard throughout 2016 to serve the needs of over 2,000 younger members.

- In June, Young Pharmacologist Trustee Aidan Seeley, on behalf of the Group, submitted a successful proposal to Council for Early Career and Postgraduate members to be granted the right to vote at the Society's AGM.

"The change in voting rights demonstrates that the British Pharmacological Society is determined to include and represent all of its members. It grants many members a voice where they previously did not have one and shows that the Society believes in the principle of 'Today's students, tomorrow's scientists'."

Aidan Seeley, Young Pharmacologist Trustee

- The Group hosted its first ever (free) satellite meeting for younger members of all career stages and backgrounds. 50 members attended and six speakers shared their experiences. The half-day event, held at the Queen Elizabeth II Conference Centre in London, consisted of sessions on "how to get involved, how to make a difference, and how to influence".
- The Group awarded £1,500 in bursaries to four younger members to attend a conference hosted by the Italian Pharmacological Society.

"Attending the event in Italy was a great opportunity to make new connections that could prove valuable in the future. As a young researcher one is constantly told about the importance of networking and being at the 19th SIF Seminar Rimini event helped me to learn how research is done in different countries. I found it very useful to exchange ideas with people working in a similar field."

Olga Dorofjeva, Postgraduate Member

Affinity Groups

The Society's Affinity Groups played an important role throughout 2016 in helping to shape its programme of meetings.

Affinity Groups	Number of members signed up by the end of 2016
Cardiovascular & Respiratory Pharmacology	223
Drug Discovery, Development & Evaluation	267
Education & Skills	158
Molecular & Cellular Pharmacology	255
Neuropharmacology	253
Systems & Integrative Pharmacology	139
Toxicology	160

These groups were particularly influential in sourcing and reviewing content for meetings and events, including symposia, abstracts prior to *Pharmacology 2016* and posters and oral communications during the meeting.

The first Cardiovascular & Respiratory Affinity Group scientific meeting on microvascular cell-cell signalling and cardiovascular disease was held at Oxford's Magdalen College in September 2016, with 77 attendees.

Affinity Group co-chairs also prepared symposia proposals on behalf of the Society for the World Congress of Pharmacology in 2018 (WCP 2018) in Kyoto, Japan. The official secretariat of the WCP 2018 selected one plenary lecture, five symposia and two workshops from the Society's proposals.

Championing women in pharmacology

At *Pharmacology 2016* in December the Women in Pharmacology Advisory Group contributed a successful symposium session, "Highlights & Hurdles".

The "in conversation"-style session focused on real career journeys and offered top tips for career progression, and aimed to inspire all members regardless of gender. The session was chaired by Dr Gillian Gray (University of Edinburgh), who went on to lead a discussion with the audience based on the insights shared by three pairs of speakers (a junior/early career member paired with a senior member) representing clinical, research and academic sectors.



Panel speakers at the Women in Pharmacology Advisory Group "Highlights & Hurdles" session at *Pharmacology 2016*. Left to right: Diane Kelly, Laura Ajram, Katherine Martin, Amrita Ahluwalia, Emma Morrison.

International Advisory Group

The Society is committed to engaging our 800 international members in efforts to promote and advance pharmacology worldwide. To help direct and drive this, an International Advisory Group was established in December 2016 to ensure that the Society delivers its commitment to addressing the needs of all its members, regardless of geography.

The group included members from Asia, Australasia, Africa, North America and Europe. Chair, Patrick Sexton (Monash Institute of Pharmaceutical Sciences, Australia) and Deputy Chair, Felicity Gavins (Louisiana State University Health Sciences Center Shreveport, USA), will lead its future activities.

ENGAGING INDUSTRY

“The Society’s Industry Sub-Committee sought to better understand the needs of its members and potential partners in industry, ahead of the development of an industry engagement strategy in the near future.

We hosted two roundtable events to bring together the Society’s officers, editors-in-chief and staff with senior representatives from big pharma, contract research organisations and the biotech sector. Under ‘Chatham House rules’, our conversations were open, lively and thought-provoking, and provided valuable insights relating to how we can address skills gaps and improve links between industry and academia, as well as the Society’s own engagement with industry.

For the first time, the Society had a presence at industry forum Genesis 2016 in December, where we were a partner for the session on ‘Therapeutic Advances: What Will Impact Future Treatment of Dementia?’ and secured discounted registration for our members. We also organised a breakfast briefing on our report on *The future of in vivo education & training*, and engaged delegates at our exhibition stand.

In the interests of transparency and reporting negative clinical trial findings, the Society liaised with Portuguese company Bial ahead of *Pharmacology 2016* to ensure that the company submitted key research before our deadline. These submissions included important data from the company’s clinical trial involving BIA 10-2474, in which sadly one volunteer died and five others were hospitalized. This research was accepted for presentation, and the session sharing the clinical trial findings was well attended, debated and reported in *Nature*.”

Tom Blackburn HonFBPhS, Chair, Industry Sub-Committee

Examples of industrial organisations engaged in 2016

- AbbVie
- AstraZeneca
- Bial
- Boehringer Ingelheim
- Celentyx
- GlaxoSmithKline
- Hammersmith Medical Research
- Heptares
- Lilly
- MedImmune
- One Nucleus
- Simbec-Orion Group
- Stratified Medical
- Structural Genomics Consortium Oxford
- Takeda
- Transpharmation
- UCB

RECOGNISING ACHIEVEMENTS IN PHARMACOLOGY

Prizes & Awards Review

In 2016, the Society reviewed its prizes and awards to establish whether any changes should be made to the way in which it rewards excellence in pharmacology and clinical pharmacology. After reviewing the criteria, effectiveness and value of our current prizes and awards, the Society reached the following outcomes:

New awards

- Dunlop Prize Lectureship – this award was established to recognise the achievements of early career clinical members.
- Pickford Award – new funding was earmarked to support up to four members each year with career-enhancing opportunities while in the early stages of their careers.
- Zaimis Prize – this new biennial prize was created to recognise longstanding excellence in the teaching of pharmacology.
- Bülbring Award – this award was set up to enhance training opportunities for members following a career break.
- Vogt Prize – this prize was created to reward up to two individuals for excellence in postgraduate studies.

Improved awards

- The Society decided to transform the Gaddum Memorial Lecture into the Gaddum International Lecture, in recognition of the contribution of leading pharmacologists worldwide.
- The Society increased AJ Clark Studentship research support to £10,000; a new bursary is available.
- The value of the Schachter Award has been increased to £1,850.
- Additional Vacation Studentship awards have been made available, including separate awards for medical students.

“Receiving the Schachter Award enabled me to carry out work in Switzerland, at both the Novartis headquarters in Basel and the University of Zurich. Learning and performing new techniques has not only improved my experimental knowledge and enabled me to attain valuable and novel data, but also given me a very useful insight into varying scientific research settings. I thoroughly enjoyed my time spent in Switzerland and feel it was overall an incredibly productive trip that would not have been possible without the Schachter Award.”

Joanna Clarke, Postgraduate Member

“My Vacation Studentship funded by the British Pharmacological Society allowed me to gain knowledge of how new genetic techniques can be used to advance understanding of how current pharmacological treatments for anxiety and depression work at the circuit level in the brain. Furthermore, it gave me experience in how to carry out many of the procedures involved for this kind of research. This experience is incredibly valuable and has been enjoyable to gain. As a result, I have opted to continue the project in the final year of my MSci Neuroscience programme. I am grateful to the Society for the opportunity it gave me last summer. It has given me a huge insight into scientific research, and allowed me to feel confident that applying for a PhD is the right thing for me to do this year.”

Daniel Regester, Undergraduate Member

Prize & award winners

Our 2016 winners are detailed below – many congratulations to all of them.

Prizes

AstraZeneca Prize for Women in Pharmacology
Professor Caroline Dive, University of Manchester, UK

BJCP Young Investigator Prize
Dr Phumla Sinxadi, University of Cape Town, South Africa

BJP Early Career Researcher Prize
Dr Nicolas Monjotin, Pierre Fabre, France

Clinical Oral Communication Prize
Dr Gareth Veal, Newcastle University, UK

Clinical Poster Prize
Dr Wei Yee Chan, London North West Healthcare NHS Trust, UK

Drug Discovery of the Year
The team at Vertex Pharmaceuticals responsible for lumacraftor and ivacaftor

Education Prize
Dr Richard Prince, University of Manchester, UK

Flash Poster Presentation Prize
Chris Green, Durham University, UK
Sam Groom, University of Bath, UK
Dr Steven Tucker, University of Aberdeen, UK

Gaddum Memorial Award
Professor Arthur Christopoulos, Monash University, Australia

JR Vane Medal
Professor Graeme Milligan, University of Glasgow, UK

Novartis Prize
Dr Kevin Pflieger, Harry Perkins Institute of Medical Research, Australia

Pfizer Poster Prize
Isobel Oldfield, St George's, University of London, UK

Rang Prize (Clinical Pharmacology)
Dr Lindsey Ferrie, Newcastle University, UK

Rang Prize (Non-Clinical Pharmacology)
Dr Susan Duty, King's College London, UK

Sir James Black Award for Contributions to Drug Discovery
Dr Francesco di Giovine, University of Sheffield, UK; Professor Sir Gordon Duff, University of Oxford, UK; Professor George George Nuki, Independent Research Professional, UK

Student Choice Award for Excellence in Pharmacology Teaching
Dr Alexis Bailey, St George's, University of London, UK

Study Awards

BPS & ASCEPT Outstanding Young Investigator Award
Dr Jennifer Stott, St George's, University of London, UK

AJ Clark Studentship
Chloe Peach, University of Nottingham, UK

Schachter Award
Joanna Clarke, University of Liverpool, UK
Simon Cleary, King's College London, UK

Vacation Studentships
Naomi Culleton, University of Bristol, UK
Kevin Harkin, Queen's University Belfast, UK
Jessica Henry, Imperial College London, UK
Chalisa Iamsrithong, University College London, UK
Olivia Matthews, University of Liverpool, UK
Poorya Moghbel, Cardiff University, UK
Daniel Regester, University College London, UK
Agata Rumianek, University College London, UK
Asta Arendt Tranholm, University of Nottingham, UK

Lectureships

Australasian Visitor
Professor Graeme Milligan, University of Glasgow, UK

Bill Bowman Travelling Lectureship
Dr Nicholas Kirkby, Imperial College London, UK

Gary Price Memorial Lecturer
Professor Victoria Chapman, University of Nottingham, UK

Grants

Teaching Grants
Dr Judith Hall & Dr Sarah Rose, King's College London, UK
Dr Richard Prince, University of Manchester, UK

Outreach Grants
Professor Colin Davidson, University of Central Lancashire, UK
Dr Alan Richardson, Keele University, UK
Professor Christoph Tang, University of Oxford, UK
Tonia Thomas, St Edmund Hall College, UK

With thanks

We would not be able to offer the variety of prizes and awards without support from our sponsors:

ASCEPT, AstraZeneca, Novartis, Pfizer, Qatar Foundation and Wiley-Blackwell

Student Prizes

BSc Pharmacology Prizes

Students nominated by universities in the UK and the Republic of Ireland

Zaynab Ahmed, University of Hertfordshire
 Rossana Azzoni, King's College London
 Oliver Hugh Bell, Cardiff University
 Lindsey Bennie, University of Strathclyde
 Claudia Bento-Pereira, University of Bath
 James Camp, University of Westminster
 Nadine Godsmann, University of Aberdeen
 Kevin Harkin, Queen's University Belfast
 Mairi Macrae, University of Edinburgh
 Matthew Wilkinson, Newcastle University
 Elizabeth Young, University College Dublin

Clinical Undergraduate Prizes

Students nominated by medical schools in the UK and the Republic of Ireland

Zan Abbas, University of Birmingham
 Daniel Anderson, University of Edinburgh
 Peter Brown, University of Aberdeen
 Tom Bucknall, St George's University of London
 Joanne Byrne, Trinity College Dublin
 Fraser Campbell, Queen's University Belfast
 Amy Cash, University of Liverpool
 Georgina Clark, University of East Anglia
 Emma Dickie, University of Edinburgh
 Hadir Elbeltagi, Peninsula Medical School
 Ailbhe Fitzpatrick, Queen Mary University of London
 Marc Freemantle, Royal College of Surgeons in Ireland
 Cian Gallagher, University College Cork
 Anna Gilfedder, Cardiff University
 Aparna Ghosh, University College London
 Owen Hibberd, University of East Anglia
 Grace Knudsen, University of Bristol
 Ewan Kyle, University of Southampton
 Mohammad Lalji, Plymouth University Peninsula School of Medicine
 Sarah Mabelson, University College Cork
 Dominic Marshall, Imperial College London
 Roseanna Matt, University of Nottingham
 Miski Osman, Queen Mary University of London
 Paul Ridley, University of Birmingham
 Adam Stark, University of Glasgow
 Catharine Taube, King's College London
 Nicolas Upton, University of Southampton
 Sophie Weller, King's College London

Clinical Undergraduate Prize winning posters

1st Prize: Ewan Kyle, University of Southampton, UK
 2nd Prize: Tom Bucknall, St George's, University of London, UK
 3rd Prize: Anna Gilfedder, Cardiff University, UK

Oral Communication Prizes

Blessing Airhihen, University of Nottingham, UK
 Gareth Purvis, Queen Mary University of London, UK
 Katy Sutcliffe, University of Bristol, UK

Poster Prizes

Henry Askew-Page, St George's, University of London, UK
 Vedia Can, University of Westminster, UK
 Toni Cheung, Takeda Cambridge Ltd., UK
 Joanna Oladipo, University of Manchester, UK

Research & Development, Qatar Foundation Oral Communication Prize

Nils Rorsman, University of Oxford, UK

Student Contribution to Pharmacology

Students nominated by UK universities

Katrina Roberts, University of Portsmouth
 Martha Lenaghan, Newcastle University
 Pavandip Panasar, University of Westminster
 Nurjahan Saleque, King's College London

Young Pharmacologists Undergraduate Prizes

Almaris Figueroa-Gonzalez, University of Puerto Rico, Puerto Rico

Honorary Fellowships

An Honorary Fellowship is the highest award given by the Society. Honorary Fellows, nominated by a member, are distinguished for their sustained leadership role in science.

13 Honorary Fellowships were awarded in 2016:

- **Professor Richard Barker** for his sustained leadership in the biopharmaceutical industry
- **Professor Garret FitzGerald** for his sustained leadership in translational medicine
- **Dr Ann Hayes** for her sustained leadership in drug discovery and service to the Society
- **Dr Robin Hiley** for his sustained leadership of the Society formerly as Honorary Treasurer
- **Dr Richard Horton** for his sustained leadership in scientific publishing and support for clinical pharmacology
- **Professor Sir Robert Lechler** for his sustained leadership in health sciences, including supporting the Society's efforts to promote prescribing skills
- **Dr Judy MacArthur Clark** for her sustained leadership in the regulation of animal research
- **Professor Ian McGrath** for his sustained leadership in the Society's scientific publishing, most notably as Editor-in-Chief of the *British Journal of Pharmacology* until 2015
- **Professor Jeremy Pearson** for his sustained leadership in vascular biology
- **Professor Jim Ritter** for his sustained leadership in the Society's scientific publishing, most notably as Editor-in-Chief of the *British Journal of Clinical Pharmacology* until 2014
- **Professor Kevin Park** for his sustained leadership in clinical pharmacology
- **Professor Tom Walley** for his sustained support for clinical pharmacology and medical research
- **Elizabeth Whelan** for her sustained leadership and service across the Society's scientific publishing

Fellowships

Members may apply to become a Fellow, demonstrating distinction and peer recognition in pharmacology. Fellows have made substantial contributions to pharmacology and the Society through their work, publications and/or attendance at Society meetings.

44 members were elected to Fellowship:

- Professor Emma Baker, St George's, University of London, UK
- Professor Evan Begg, Christchurch School of Medicine, New Zealand
- Professor Richard Bond, University of Houston, USA
- Professor Alan Boobis, Imperial College London, UK
- Professor Ingolf Cascorbi, University of Kiel, Germany
- Professor Mark Caulfield, Barts and The London School of Medicine and Dentistry, UK
- Professor John Challiss, University of Leicester, UK
- Professor Lucie Clapp, University College London, UK
- Professor Oscar Della Pasqua, GlaxoSmithKline, UK/ University College London, UK
- Professor Richard Donnelly, University of Nottingham, UK
- Professor A. Mark Evans, University of Edinburgh, UK
- Dr Lorna Ewart, AstraZeneca, UK
- Professor Alasdair Gibb, University College London, UK
- Professor Simon Guild, University of Glasgow, UK
- Professor Walter Haefeli, Heidelberg University, Germany
- Professor David Heal, RenaSci Consultancy Ltd, UK
- Professor Adrian Hobbs, Barts and The London School of Medicine & Dentistry, UK
- Professor Lindy Holden-Dye, University of Southampton, UK
- Professor Geoffrey Isbister, University of Newcastle, Australia
- Professor Angelo Izzo, University of Naples, Italy
- Professor David Kerins, University College Cork, Ireland
- Dr Elliot Lilley, RSPCA, UK
- Professor Yoon Loke, University of East Anglia, UK
- Dr Pasquale Maffia, University of Glasgow, UK
- Professor Ian McFadzean, King's College London, UK
- Professor Gerard McKay, Glasgow Royal Infirmary, UK
- Professor Ian Megson, University of the Highlands and Islands, UK
- Professor Adina Michael-Titus, Barts and The London School of Medicine and Dentistry, UK
- Professor Alyn Morice, Castle Hill Hospital, UK
- Professor María Ángeles Moro, Universidad Complutense, Spain
- Professor Sandosh Padmanabhan, University of Glasgow, UK

- Professor John Posner, King's College London, UK
- Professor Michael Rowan, Trinity College Dublin, Ireland
- Professor Martina Schmidt, University of Groningen, Netherlands
- Dr Naj Sharif, Santen Inc., USA
- Professor Trevor Sharp, University of Oxford, UK
- Professor Christopher Sobey, Monash University, Australia
- Professor Andrew Somogyi, University of Adelaide, Australia
- Professor Gary Stephens, University of Reading, UK
- Professor Phillip Strange, University of Reading, UK
- Professor Christopher Trigg, Weill Cornell Medical College, Qatar
- Professor John Waddington, Royal College of Surgeons in Ireland, Ireland
- Professor Mark Wheatley, University of Birmingham, UK
- Professor Nicholas White, Mahidol University, Thailand



Bill Bowman Travelling Lectureship winner Dr Nicholas Kirkby (third from left) in Bratislava, Slovakia, to deliver his lecture. With Professor Jozef Glasa, Professor Jane Mitchell, Professor David Webb, Dr Emma Morrison, Teesha Bhuruth.



Professor Graeme Milligan (left) is presented with the ASCEPT plaque as part of the Australasian Visitor Award in Melbourne, Australia by Dominic Geraghty, President of ASCEPT.

SPONSORS & DONORS

The British Pharmacological Society is most grateful to the following organisations for donations to support our various activities, including prizes and training courses:

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 Enzo Life Sciences
 Hello Bio
 ICMAN - IUPHAR Natural Products 2017
 International Narcotics Research Conference
 LI-COR Biosciences
 Monash Institute of Pharmaceutical Studies
 Promega UK Ltd
 Science Alert
 Stoeltin
 Takeda
 The American Society for Pharmacology and Experimental Therapeutics (ASPET)
 The Physiological Society
 Tocris Bioscience
 University Of Bath
 Wiley
 World Precision Instruments

Trustees 2016

D J Webb
 President

S J Hill
 President-Elect

R J Plevin
 Honorary Treasurer

E Baker
 Elected Trustee

A Galione
 Joint Chair of Chairs and Heads of Pharmacology & Therapeutics Advisory Group (CHOPT)

C Gloor
 Appointed Trustee

A R Green
 Elected Trustee

E Mason
 Appointed Trustee

A H Morice
 Joint Chair of CHOPT

A Seeley
 Appointed Trustee

M Skingle
 Elected Trustee

I Williams
 Elected Trustee

Vice Presidents 2016

I Greenwood
 Vice President – Policy & Public Engagement

G Henderson
 Vice President – Publications

B McDermott
 Vice President – Meetings

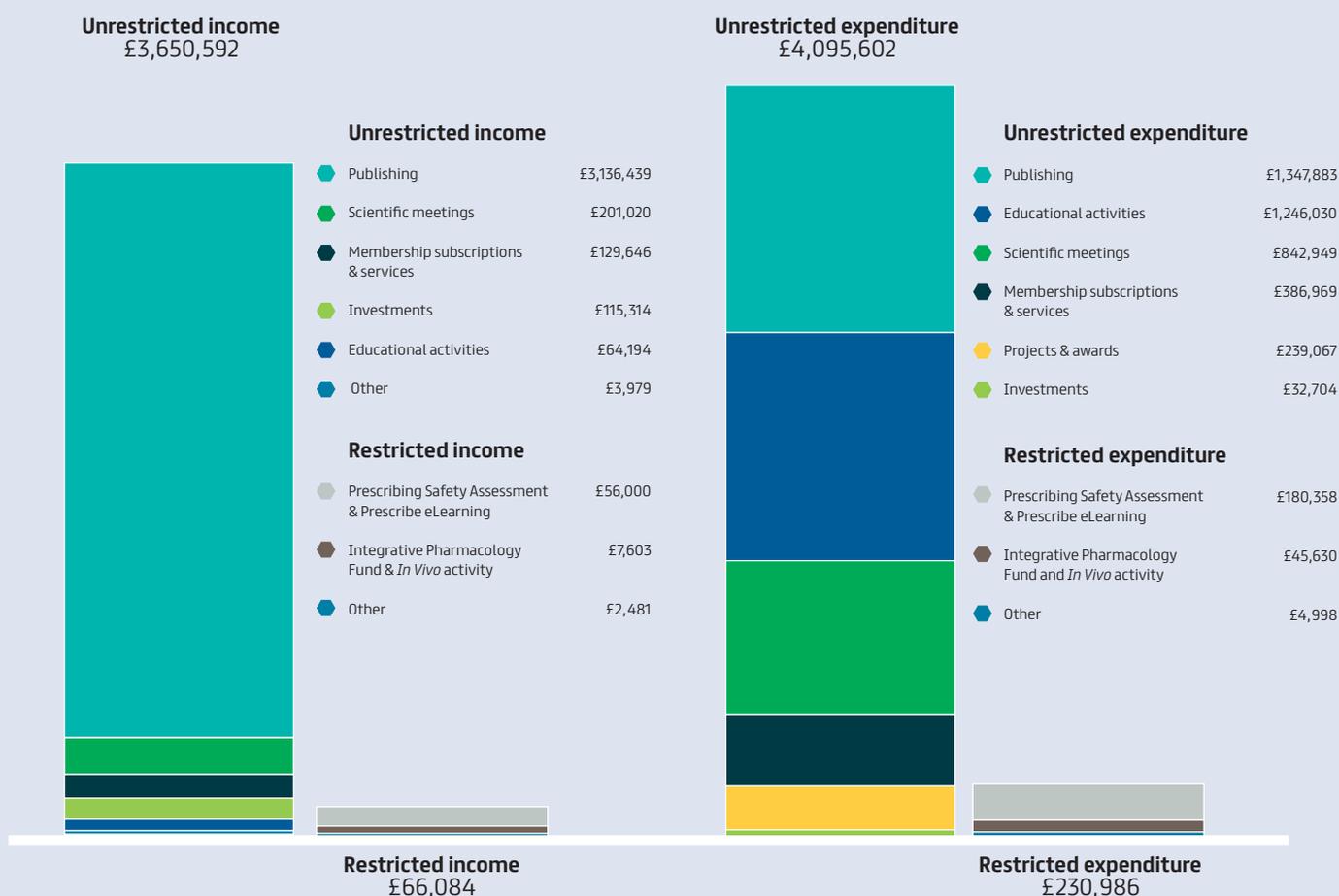
I McFadzean
 Vice President – Academic Development

M Pirmohamed
 Vice President – Clinical



FINANCIALS

Income & expenditure for 2016



You can download a PDF of the Society's financial statements for the year ended 31 December 2016 from the website, available in the "My Society" area www.bps.ac.uk/members. From there select "Useful documents and forms". The financial statements include the Financial Review, Statement of Financial Activities and Balance Sheet, together with the Notes to the Accounts. They show the overall financial performance of the Society and provide an analysis of the incoming resources and how they were applied in the performance of the Society's objectives.

Total funds of the Society

The total funds of the Society have decreased by £210,828 (2015: £245,760 increase). The resulting balance of total funds at 31 December 2016 amounted to £6,515,725 (2015: £6,726,553) of which £6,041,449 (2015: £6,134,125) is the unrestricted funds of the Society.

Income

- Income for the year totalled £3,716,676 (2015: £4,196,902), a decrease of 11.4%.
- Importantly, charitable activity income from journal publishing, which is the Society's main income source, decreased by 8.8% to £3,136,439 (2015: £3,438,855), mainly because 2015 included income from the journal publishers on completion of a new agreement.
- Member numbers increased by 3.6% to 4,025 (2015: 3,883), although membership subscription income decreased by 2.6% to £129,646 (2015: £133,082) as a result of the paying members taking greater advantage of discounts for prompt payment. The increase in membership reflects the Society's longer term approach to strengthening and growing the discipline of pharmacology.
- Scientific meetings income increased by £97,123 to £201,020 (2015: £103,897). This reflects a successful *Pharmacology 2016* and the income from other meetings in the 2016 portfolio exceeding 2015's level.
- Voluntary income was mostly for educational activities; it decreased by £303,514 to £54,981 (2015: £358,495), predominantly because 2015 included two years' worth of grant funding in respect of the Prescribing Safety Assessment.
- Investment income was £2,160 lower at £115,314 (2015: £117,474), reflecting the relatively higher proportion of cash in the portfolio and consequential lower amount invested throughout the year.
- In addition, there were gains on investments totalling £399,084 (2015: £2,766).

Expenditure

- Expenditure on charitable activities totalled £4,293,884 (2015: £3,873,338), a 10.9% increase of £420,546.
- Journal publishing costs increased by £17,528 to £1,347,883 (2015: £1,330,355); the direct costs have been carefully controlled.
- Expenditure on educational activities increased by £254,197 to £1,472,018 (2015: £1,217,821), predominantly due to the full-year cost of enhanced education activity such as *Focus on Pharmacology*, agreed by Council in 2015.
- Projects and awards expenditure decreased by £52,027 to £244,065 (2015: £296,092), mainly as a consequence of the Integrative Pharmacology Fund having been almost entirely exhausted.
- Capital expenditure totalled £226,104 (2015: £78,238) of which £142,609 (2015: £Nil) was the development cost of the new online platform being developed to initially support online assessment services from 2017.

A man with dark hair, wearing a light blue and white striped lab coat, is shown in profile, looking through the eyepiece of a white and black microscope. He is holding a small yellow object, possibly a slide, near the microscope's objective lens. The background is a blurred laboratory setting with various pieces of equipment and a window. A dark grey hexagonal graphic is overlaid on the left side of the image, containing the year '2017' and the phrase 'Looking ahead'.

2017
Looking ahead

OUR 2017 OBJECTIVES

Driving the Society's strategy from 2018

- Propose to the Society a new long term strategy to run from 2018, by conducting a full strategy review
- Make recommendations on the facilities requirements, to match the Society's next 5-year strategy
- Identify key health and disease challenges, alongside technical or scientific developments, to drive a scientific strategy for the Society for the next 5 years

Developing and modernizing of the Society's equality and diversity policy to incorporate best practice into all the Society does

- Foster greater inclusiveness in the Society, building on existing commitments to Equality & Diversity and member feedback

Working towards achieving greater financial resilience

- Establish and consolidate BPS Assessment Ltd as a sustainable trading entity
- Develop organisational capacity to identify and develop new commercial opportunities

Promoting the Society as a truly international organization, while being mindful of the value of existing international bodies and partner organizations

- Create a roadmap for the Society's delivery of WCP 2022, with a view to being 'launch-ready' by WCP 2018
- Consolidate and grow participation by all members in the Society's international networks in a sustainable way, informed and guided by a new International Advisory Group

Developing an integrated publications strategy

- Create a long term editorial strategy for BJP and BJCP, focusing on development and growth
- Investigate new ways of disseminating the outputs of pharmacological research

Reflecting the increasingly multi-disciplinary nature of modern biomedical science by further developing collaborative activities with other Societies

Greater matching of the Society's activities to the needs of its Membership

- Develop a deeper understanding of the requirements of employment sectors served by pharmacology, and deliver new activities to support them
- Continue to retain and grow our membership in a balanced way, to encourage new and established pharmacologists to join and take an active role in the Society
- Fully integrate Affinity Groups into key areas of the Society's activity
- Enhance the Customer Relations Management system to begin to establish it as the Society's knowledge-management hub
- Establish impact reporting for the Society
- Generate a vision that grows the *Pharmacology* meeting to be the international, annual, flagship congress for pharmacologists

Explaining the importance of pharmacology in the modern world by extending the Society's education and outreach initiatives

- Develop targeted information and signposting for basic, clinical and educational career pathways
- Develop the Society's leadership within *in vivo* education and training
- Develop our understanding of the pharmacology requirements of educators, and deliver new activities to support them
- Engage more effectively with policy matters that directly affect pharmacology and clinical pharmacology
- Publish the outcomes of the *Focus on Pharmacology* project, and ensure outputs and recommendations to inform the Society's long term strategy
- Build capacity among members who can effectively represent the Society externally

Maintaining the Society's central position in the promotion of clinical pharmacology, the promotion of safe and effective prescribing, and in the discovery and development of medicines in the UK

- Engage strategically with our community and decision makers to protect and advance clinical pharmacology



ABOUT THE BRITISH PHARMACOLOGICAL SOCIETY

Formed in 1931 the British Pharmacological Society is a charity with a mission to promote and advance the whole spectrum of pharmacology, including laboratory, clinical, and toxicological aspects. The Society now leads the way in the research and application of pharmacology around the world.

With around 4,000 members from more than 60 countries worldwide, the Society represents a diverse community working across academia, government agencies, industry and the health service.

British Pharmacological Society

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