



**Global Plant Council
Annual Report 2014–2015**

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Introduction

The Global Plant Council

The Global Plant Council (GPC) is a coalition of national, regional and international societies representing plant, crop and agricultural and environmental sciences across the globe. As a registered not-for-profit organization, the GPC represents over 55,000 experts from 29 member organizations on six continents.

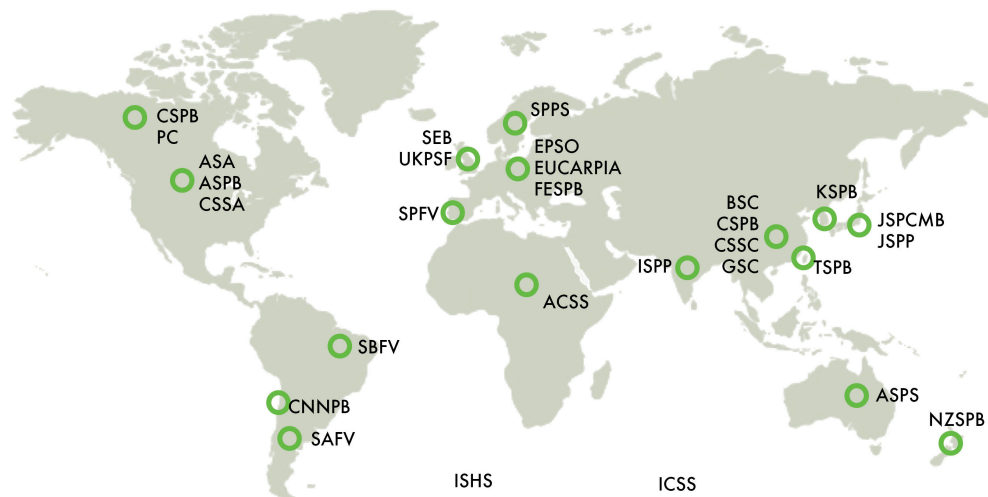


Figure 1. Map showing the distribution of Global Plant Council Member Organizations

The GPC promotes collaboration across borders and disciplines using its wide geographical distribution, the wealth of experience within its member base, and by working in partnership with other organizations. It aims to support those involved in plant and crop research, education and training to increase awareness of the important role of plant research in science and society, and to develop plant science for global challenges in non-partisan and sustainable ways.

The GPC's mission is to:

- Facilitate the development of plant science for global challenges;
- Foster international collaborations, and enable the effective use of knowledge and resources;
- Provide an independent and inclusive forum to bring together all those involved in plant and crop research, training and education.

GPC Activities

New Executive Board

The Executive Board provides leadership and strategic direction for the GPC. The current GPC Executive Board members Wilhelm Gruissem (Chair), Henry Nguyen (Vice-Chair), Gustavo Habermann (Treasurer), Kasem Ahmed and Zhihong Xu, will stand down from their roles on 31 October 2015. The contribution of these Board Members over the few last years has been substantial. Key to the success of GPC has been the tireless efforts of Wilhelm Gruissem.

During 2015 the GPC Member Organizations nominated and elected the following new Executive Board members:

- Barry Pogson, Australian Society of Plant Scientists – Chair
- Ariel Orellana, Chile's National Network of Plant Biologists – Vice-Chair
- Vicky Buchanan-Wollaston, Society of Experimental Biology – Treasurer
- Carl Douglas, Canadian Society of Plant Biologists – Board Member
- Yusuke Saijo, Japanese Society of Plant Physiologists – Board Member

The new Board Members will begin their appointments on 1 November 2015.

New Appointments

Professor Bill Davies was appointed as the GPC's new President in May 2015. Bill is a Distinguished Professor and former Director of the Lancaster Environment Centre at Lancaster University, UK. He is also an elected Honorary Lifetime Member of the Society of Experimental Biology, a Corresponding Member of the American Society of Plant Biologists, and is active in other scientific organizations. For many years, Bill's research has focused on the challenge of food security, especially environmental impacts on crop productivity. He has extensive collaborations with colleagues across the globe including in India, China and the CGIAR system.

Lisa Martin started her part-time role as Outreach & Communications Manager for the GPC in February 2015, thanks to the generous support of the Society of Experimental Biology. Lisa is an experienced writer, editor and science communicator who has previously worked with the UK-based plant science network GARNet. As well as overseeing the GPC's internal and external communications, one of Lisa's key responsibilities is to help provide curated plant science news, information and resources to the new Plantae platform (see below).

GPC New Media Fellowship

In January 2015 the GPC launched its 'New Media Fellowship' scheme, under which plant science PhD students and early-career postdoctoral scholars were invited to apply to work with the GPC team for one year in order to expand its reach via the use of social media and other online outlets. After an extensive selection process, third-year PhD students Sarah Jose and Amelia Frizell-Armitage were appointed as the first GPC New Media Fellows. Sarah and Amelia have been assisting Ruth Bastow

(Executive Director) and Lisa Martin in a variety of ways, including managing the GPC blog, using social media and other outlets to publicize the activities of the GPC, and devising new strategies to promote the GPC. Working with Ruth and Lisa, Sarah and Amelia have helped the GPC to better utilize social media to enhance the GPC's visibility, and have significantly increased its following by, and engagement with, the wider community.

The New Media Fellows are supported by fellowships donated by GPC Members Russell Jones and Wilhelm Gruissem.

Plantae Platform

At the 2014 Annual Meeting in London, the 'Plant Knowledge Hub' (PKH) was identified as one of the GPC's highest priorities. An online portal was envisaged to provide our Member Organizations and plant researchers across the world with information, news, funding opportunities, and education, teaching and outreach resources all in one place.

The aims of the PKH were to:

1. Democratize access to knowledge, information and resources;
2. Provide a content-rich pool of useful information;
3. Reduce time wasted searching for information;
4. Facilitate the sharing of knowledge, expertise and best practice across disciplines and boundaries;
5. Promote collaboration and reduce duplication of effort;
6. Expand our understanding of plants to facilitate the development of plant science for global challenges.

During 2013 and 2014, the American Society of Plant Biologists (ASPB) held similar discussions to develop an online community platform, which they termed the 'Plant Science Exchange' (PSX). Given the crossover between the goals and aims of the PKH and the PSX, the GPC is now working in partnership with ASPB to develop the platform, which has been renamed 'Plantae'.

Plantae will provide a one-stop online destination for researchers, students, industry professionals and educators. It is designed to be the leading plant science resource hub as well as a gathering place for the community, with expanded capabilities for connecting, learning and sharing. The GPC is helping to make the Plantae platform a rich and vibrant online environment by curating plant science news, events, policy information, research, funding opportunities, and education, teaching and outreach resources from across the globe, which will be made freely available to Plantae users. A beta version of the platform was launched for user testing in September 2015.

Education and Outreach Activities

- a. GPC website – <http://www.globalplantcouncil.org>

The GPC website is regularly updated with information, including relevant news articles from across the globe to keep the community up to date with recent progress; a comprehensive events calendar for researchers to find meetings, conferences, workshops and symposia they can attend; and a Resources area that provides a range of useful documents, reports, information about awards and funding opportunities, and other relevant links for plant scientists.

Between 1 October 2014 and 30 September 2015 the GPC website collated over 460 news items and numerous events and brought them to the attention of the GPC community. Website statistics illustrate that during the last 12 months the GPC website has been viewed by 11,078 individuals compared to 3,782 in the previous year (a 293% increase). The GPC website is maintained by Ruth Bastow and Lisa Martin.

- b. GPC Twitter feeds

Twitter is a useful form of social media that allows us to quickly and easily send out short updates, announcements and news items to the wider community. The GPC's main Twitter account @GlobalPlantGPC is developing a growing following: as of 30 September it has 1,280 followers compared to the 294 followers in September 2014 (a 420% increase).

The GPC also launched the Spanish-language Twitter account @GPC_EnEspanol in April 2015. Tweets from this account, which as of 30 September had 364 followers, are kindly translated by a volunteer, Juan-Diego Santillana Ortiz, an Ecuadorian-born PhD student at Heinrich-Heine University Düsseldorf, Germany.

- c. GPC blog – <http://blog.globalplantcouncil.org>

The GPC Blog was started in May 2014 to increase GPC visibility and to provide a community platform for raising awareness about current issues, highlighting new research, reviewing recent events and promoting Member Organizations and their work. From 1 October 2014–30 September 2015 28 blog posts have been published, covering a wide range of topics. The most popular posts have been an article about Fascination of Plants Day 2015 (322 views to date), and a piece on using social media in plant science communications by Dr Anne Osterrieder (300 views to date). A number of GPC Member Organizations have provided blogs about their work and activities: the Argentinean Society of Plant Physiologists, the Australian Society of Plant Scientists and the Tri-Societies (US). The blog has also provided conference reports from the annual meetings of SEB, ASPB and the Scandinavian Plant Physiology Society.

In the nine months between May and December 2014 the blog received an average of 142 views a month, while between January and September 2015, this increased by 325% to an average of 462 views per month. However, this skews the fact that there was a huge jump in monthly views after May 2015 (174 views per month between January and April, versus 692 views per month between May and September). This increase in readership has been a direct effect of the work of the Sarah Jose and Amelia Frizell-Armitage (GPC New Media Fellows), and Lisa Martin.

- d. GPC e-Bulletin – <http://tinyurl.com/GPCsignup>
The GPC e-Bulletin is sent out every month to GPC Member Organizations, as well as individuals from the wider community who can sign up to receive the bulletin via the GPC website. As of 30 September, the e-Bulletin had 1032 subscribers. The e-Bulletin is maintained by Lisa Martin, and provides a monthly summary of the vast amount of information published on the GPC website.
- e. GPC Facebook – <http://www.facebook.com/GlobalPlantGPC>
After hearing conference talks by scientists of some of the GPC Member Organizations in which they extolled the benefits of Facebook, the GPC Facebook page was launched on 13 August 2015 and by 30 September already had over 90 ‘fans’. As the world’s largest and most widely used social media platform, posting plant science news, funding opportunities, events and other updates to Facebook as well as Twitter helps us to reach more people around the world to promote the work of the GPC and its Member Organizations. The GPC Facebook page is maintained by Lisa Martin with help from Sarah Jose and Amelia Frizell-Armitage.
- f. GPC Scoop.It – <http://www.scoop.it/t/plant-science-by-global-plant-council>
The GPC Scoop.It page was initiated in September 2015 and is maintained by Sarah Jose. Scoop.It is an online platform that allows users to demonstrate their authority on a particular topic by curating ‘clippings’ from across the Internet in a visually appealing magazine-style format. This account is still very new, but we hope to increase its following over the coming months.
- g. GPC Member Quarterly – production and distribution
Throughout 2014 and 2015 quarterly newsletters have been distributed to all GPC member organizations to provide regular updates on GPC activities.
- h. Outreach to Member Organizations
During 2015 Lisa Martin promoted greater interactions between GPC and its Member Organizations. When she joined GPC in early 2015, Lisa contacted Member Organization representatives to introduce herself as the new Outreach & Communications Manager, encouraging two-way communication between herself and the representative and/or establishing other relevant society contacts. A key activity was the publication of an

article explaining what the GPC is, what it does, and how individual society members can benefit from their society's GPC membership. This article has been circulated by many of the Member Organizations, and has contributed to some of the increases in social media follower numbers and e-Bulletin sign-ups.

Lisa has also established a mailing list, separate from the public e-Bulletin, which is used to highlight specific GPC events and key information to Member Organization representatives and their communications contacts, so that it may be circulated to Members' subscribers. With the help of Portuguese and Spanish-speaking volunteers, some of this information has also been circulated in these languages. Feedback from recent meetings that GPC has attended indicates that subscribers that speak these languages appreciate these translations.

The success of our social and online media channels suggests rapidly growing awareness of the GPC around the world, and increasing acceptance of the organization as a key player in the global plant science arena. Though there is still plenty of work to do to ensure that our messages reach as many of the 55,000 individual society members as possible, this growth demonstrates our commitment to our mission statement; 'providing an independent and inclusive forum to bring together all those involved in plant and crop research, education and training' and 'enabling the effective use of knowledge and resources'.

i. Translation of education materials

Working with the Gatsby Charitable Foundation's Plant Science TREE (http://www.tree.leeds.ac.uk/tree_lectures.php), an online teaching tool giving access to inspirational educational resources from the research community, the GPC has translated four free-to-access online research lectures into Italian. This has been thanks to Maura Di Martino, who worked as a GPC intern during 2015. Thanks to Edith Talensik from the Argentinean Society of Plant Physiology, two lectures have also been translated into Spanish, and two into Portuguese thanks to Marília de Campos.

The GPC has also been collaborating with the Teaching Tools provided by Plant Cell and ASPB. 'Teaching Tools in Plant Biology' combines up-to-date, peer-reviewed, research-based content with flexible presentation components that can be used alone or integrated into lesson plans. For each teaching tool there is a short essay introducing the topic, PowerPoint slides, and suggested reading list. Thanks to the efforts of the Portuguese Society of Plant Physiology (in particular Nelson Saibo, Ana Paula Santos and Cândido Pinto Ricardo) the lecture notes associated with the Teaching Tools presentations in Epigenetics and Small RNA have been translated into Portuguese (see <http://www.plantcell.org/site/teachingtools/TTPB5.xhtml> and <http://www.plantcell.org/site/teachingtools/TTPB4.xhtml>).

Conferences, meetings and workshops

Over the last 12 months the GPC has organized and attended a wide range of conferences, workshops and meetings to help increase the awareness, promote GPC initiatives and interact with key stakeholders such as FAO.

- a) International Association for Plant Biotechnology 2014 – August 2014
As an invited speaker, Wilhelm Gruissem gave a keynote lecture in which he presented the Global Plant Council and explained its activities.
- b) Consultation of the Global Information System for PGRFA – January 2015
As an invited independent expert, Ruth Bastow attended this FAO meeting – the first expert consultation group on the Global Information System on Plant Genetic Resources for Food and Agriculture.
- c) DivSeek Partners Assembly – January 2015
Along with the Global Crop Diversity Trust, FAO, and the CGIAR Consortium Office, the GPC helped to organize and facilitate the first Partners Assembly of the Diversity Seek Initiative.
- d) Sustainable use of Plant Genetic Resources for Food and Agriculture – March 2015
As a member of the DivSeek Facilitation Unit Ruth Bastow was invited to represent the GPC at an FAO meeting entitled 'The Sustainable use of Plant Genetic Resources for Food and Agriculture'. Ruth gave a presentation on how genomic technologies could help to advance and promote the use of plant genetic resources.
- e) Climate Smart Agriculture Conference – March 2015
Ruth Bastow represented the GPC at the Climate Smart Agriculture (CSA) 2015 conference to promote awareness of the GPC. CSA brought together researchers, practitioners and policy makers to explore solutions combining three pillars: food security, climate change adaptation and mitigation, and underpinning sustainable landscapes and food systems. This is essential since the sector is facing unprecedented uncertainty and risks. More than 600 researchers and 150 stakeholders and policy makers from 75 countries and five continents convened at the 3rd Global Science Conference on CSA in Montpellier, France. The outcomes from this conference will feed into COP21 in December 2015.
- f) AgMIP Data Harmonization Workshop – May 2015
Ruth Bastow was invited to attend the AgMIP (<http://www.agmip.org/>) Data Harmonization Workshop organized by the USDA and NIFA. She gave a presentation on how the DivSeek Initiative can help to build and promote intelligent data creation and reuse in the agricultural and plant sciences.

- g) DivSeek Steering Committee Meeting – May 2015
Along with the Global Crop Diversity Trust, FAO, and the CGIAR Consortium Office, the GPC helped to organize and facilitate the first meeting of the DivSeek Steering Committee in Rome.
- h) EXPO Aquae Venezia: ‘Food, Water and Health’ – June 2015
Wilhelm Gruissem discussed the ‘Food Security Challenge: Improving Crop Yield and Nutritional Quality’, explaining the work of the GPC and the DivSeek and Digital Seed Bank initiatives.
- i) SEB Prague – June/July 2015
Lisa Martin represented the GPC at the annual meeting of the SEB to increase awareness of the GPC and its activities, and to promote the Plantae platform to SEB members and conference attendees.
- j) PAG Asia – July 2015
Antonio Costa de Oliveira (ICSS representative) and Henry Nguyen (ASA and CSSA representative) organized the Crop Genomics for Global Food Security workshop at the Plant and Animal Genome Asia conference. Speakers at the workshop included: Dave Edwards, University of Western Australia (‘Can Genomics Feed the World?’); Suk-Ha Lee, Seoul National University (‘Legume Genomics to Combat World Hunger’); and Antonio Costa de Oliveira, Federal University of Pelotas (‘Rice Genomics in South America’).
- k) EXPO Milan 2015
Ruth Bastow was invited to represent the GPC and speak at a one-day conference organized by EPSO, during EXPO Milan. The short conference was entitled ‘Sustainable and productive agriculture addressing food and nutritional security, climate change and human health’ and aimed to present and discuss societal challenges and the various plant breeding technologies that can help to address them, including conventional breeding, new breeding technologies and GM. The conference brought together participants from across Europe, including academic and industrial scientists, farmers, policy makers and civilians.
- l) Plant Biology 2015 – July 2015
Ruth Bastow and Lisa Martin attended the ASPB annual meeting to increase awareness of the GPC, and to help develop, test and promote the Plantae platform.
- m) Plant Biology Scandinavia 2015 – August 2015
Wilhelm Gruissem presented the Opening Lecture of the annual meeting of the Scandinavian Plant Physiology Society, with the theme ‘From the Lab to the Field: Improving Crop Yield and Nutritional Quality’. The lecture highlighted the GPC and the DivSeek and Digital Seed Bank initiatives.

n) IGAD Meeting – September 2015

As a member of the DivSeek Facilitation Unit Ruth Bastow was invited to chair a session at the Agricultural Data Interest Group (IGAD) meeting, organized by FAO, at the Research Data Alliance conference (RDA) in Paris. The RDA is a global initiative reaching out to experts from academia, industry and government from around the world, and across all disciplines and domains, enabling data to be shared across barriers through focused Working Groups (WG) and Interest Groups (IG). The Agricultural Data Interest Group (IGAD) is a domain-oriented interest group to work on all issues related to data important for the development of global agriculture.

o) EXPO Conference and Round Table: 'Genetic Improvement, Biodiversity and the Future of Agriculture in a Crowded Planet: Sense and Sensibility' – August 2015

Wilhelm Gruissem talked about 'Feeding 10 billion people in a sustainable way', and explained the role of GPC in this context.

As well as the meetings listed above, the GPC was also invited to provide written evidence to the FAO and United Nations Environmental Program in order to help shape its next 10-year program on Sustainable Food Systems. As a result of this submission, the GPC has been invited to become a member of the multi-stakeholder advisory committee for this program.

GPC Member Organizations

Activity reports from GPC Member Organizations are provided in Annexe 1.

Highlights from the last 12 months include:

- Development of Plantae – a ‘Digital Ecosystem for Plant Science’ – by ASPB and GPC.
- ASPS Peter Goldacre Award was given to Brett Ferguson (University of Queensland) for his research, ‘Discovery of new factors involved in the development and autoregulation of legume nodules.’
- The science and technology achievement award of the Crop Science Society of China, September 2014 was presented to Tiancai Guo and Peisong Hu.
- Botany 2015 was held in Edmonton, Alberta in July 2015 and brought together fourteen plant scientific societies from Canada and the USA.
- Fascination of Plant Day, initiated and organized by EPSO, was celebrated in 56 countries and involved a number of GPC Member Organizations.
- Mr. V. Vishnu Prasanth, Directorate of Rice Research, Rajendranagar Hyderabad, was awarded Young Scientist of the Year at the 2014 National Conference of Plant Physiology at Orissa University of Agriculture and Technology, Bhubaneshwar, India.
- The JSPP website has been upgraded and now contains a wealth of information for everyone interested in plants, ranging from academics to school children.
- NZSPB presented the Roger Slack Award to Dr Andrew Allan (NZ Institute for Plant & Food Research, and University of Auckland). Dr Allan’s research on the plant’s response to the environment via the transcriptional regulation of key molecular pathways includes a focus on anthocyanins, carotenoids, and chlorophyll in fruits, flowers and vegetables.
- SEB Plant Section awarded the President’s Medal to Wolfgang Busch from the Gregor Mendel Institute, Austria.

Financial Summary

As of 30 September 2015 the GPC had generated an income of approximately \$151,000 in 2015, compared to a total income of \$89,220 USD in 2014. The income was invested in the salaries of the Executive Director and Outreach and Communications Manager, stipends for the GPC New Media Fellows, a UK office base, strategies to increase awareness of the GPC, organization and promotion of the GPC activities and projects, attendance at international workshops, conferences and meetings, and production of marketing materials.

Financial projections for 2016 indicate that the GPC will require a minimum income of 250,000 USD to achieve its mission and goals. This would provide the necessary resources to employ two full-time personnel who would be responsible for the GPC's day-to-day administration; support for the GPC initiatives and activities; member engagement and outreach; and a program of activities to increase awareness of the GPC.

GPC Initiatives

Diversity Seek Initiative (<http://www.divseek.org/>)

DivSeek is a global collaborative project that aims to unlock the potential of crop diversity stored in gene banks around the world to enhance food and nutritional security, and provide social and economic benefits. To date, over 50 partner organizations from 25 countries have joined the DivSeek initiative.

DivSeek is jointly facilitated by the GPC, together with the CGIAR Consortium Office, the Global Crop Diversity Trust, and the International Treaty on Plant Genetic Resources for Food and Agriculture (FAO).

DivSeek Updates

In January 2015 the first DivSeek Partners Assembly was held in San Diego, a Charter for the initiative was adopted, and the Assembly Chair Susan McCouch (Cornell University) was elected. The first DivSeek Steering Committee was elected in March 2015 from among the representatives of DivSeek's Member Organizations. The Steering Committee will help to drive the development of an ongoing DivSeek strategy and work program.

The DivSeek Steering Committee consists of:

- Elizabeth Arnaud (Bioversity International)
- Sarah Ayling (The Genome Analysis Centre)
- Peter Bretting (USDA)
- Andreas Graner (IPK)
- Emily Marden (University of British Columbia)
- David Marshall (James Hutton Institute)
- Ruairaidh Sackville Hamilton (IRRI)
- Ranjeev Varshney (ICRISAT)

The Steering Committee, plus representatives from the Joint Facilitation Unit (JFU), met for the first time at the FAO premises in Rome, in May 2015. The Committee reviewed a draft landscape study of independently funded projects in areas of relevance for DivSeek, compiled by the GPC Executive Director, and initiated discussion of a multi-year strategy and an initial work plan for DivSeek.

The Steering Committee's current task is to identify a set of objectives and activities for the DivSeek initiative, and a mechanism for funding and administering those activities. A major goal underlying DivSeek's strategic plan would be to augment the potential for many independent, stand-alone efforts to work together under a common umbrella to apply state-of-the-art genomic, phenomic, molecular and bioinformatics tools and strategies to characterize crop diversity, and to integrate and share data and information. A second goal would be to enhance the utilization of crop diversity in plant breeding programs that seek to enhance local and global food and nutritional security.

Governance-related topics that are critical to the success of the DivSeek initiative

were also discussed, including private sector engagement, recruitment of new members to expand DivSeek's constituency, and examination of the roles and responsibilities of the JFU, the Steering Committee and the Partners Assembly (PA) as the initiative evolves.

Digital Seed Bank Initiative

As a key partner in the DivSeek Initiative, the Digital Seed Bank is a foundational DivSeek project and will act as a 'flagship' to illustrate the power of mining the genetic potential of crop diversity.

Following the consideration but eventual decline of a proposal for a pilot project to the Templeton Foundation, the rationale and objectives were revised and enquiries were sent to several other foundations (Howard Hughes, Gordon and Betty Moore, Two Blades, etc.) and philanthropic individuals. Although all expressed interest in the Global Plant Council and especially the Digital Seed Bank, no concrete follow-ups have been successful to date.

Biofortification

The Biofortification initiative aims to improve the nutritional value of crops. Barry Pogson (ASPS Representative) leads the initiative, and with assistance from a Steering Committee of Ruth Bastow, Wilhelm Gruissem, Rodomiro Ortiz and Cathie Martin, he organized the GPC's Biofortification Forum in July 2014 in Xiamen, China. This discussion forum generated a set of ten recommendations, listed below, which have formed the basis of a white paper that is currently in production and will be finalized by the end of the year.

- #1. Embed plant-based solutions for nutritional deficiencies into the normal process of plant research and breeding to generate locally adapted, high yielding crop cultivars.
- #2. Bring other important nutritional and health factors into specific and relevant breeding programs, while recognizing that iron, zinc and vitamin A remain priority research targets.
- #3. Promote diversity, develop and integrate programs on local crops, fruits, vegetables and forage, in addition to research to improve major staple crops.
- #4. Facilitate international coordination and assessment of research and funding in this area.
- #5. Promote exchange of knowledge, resources, protocols and best practice via an online portal to support information flow and prevent duplication of effort.
- #6. Work with other key networks and initiatives to strengthen capacity and training, promote standardization of approaches, and encourage adoption of new technologies to facilitate research and breeding.
- #7. Facilitate greater collaboration between plant and agricultural scientists, food scientists, nutritionists, biomedical scientists, and clinicians.

#8. Recognize that planning, implementation and delivery requires active engagement with social scientists, policy makers, community advocates and the food industry.

#9. Help to build and implement vertically integrated programs that address key nutritional needs for vulnerable communities.

#10. Promote the use of all relevant technologies to develop global plant-based endeavors aimed at reducing global malnutrition and improving human health.

The forum was hosted by the Chinese Society of Plant Biology, and sponsored by the Chinese Society of Plant Biology, Molecular Plant, the Australian Research Council Centre of Excellence in Plant Energy Biology, the Society for Experiment Biology, and The Plant Cell.

Stress Resilience

The Stress Resilience Initiative is led by Vicky Buchanan-Wollaston (SEB representative) and Jim Beynon (UKPSF representative), and has received assistance from Bill Davies (GPC President) and Andrew Borrell (University of Queensland, Australia).

In order to feed an expanding global population in the next decades it is crucial to increase food production in a sustainable manner, and to improve crop resilience to the stresses generated by reduced inputs, emerging pathogens, and changes in climate.

There are a number of initiatives focused on crop adaption and resilience across the world. However, these efforts operate at different scales, with varying degrees of integration and communication. International co-operation and global co-ordination is therefore needed to minimize the duplication of effort, and to maximize impact from investments.

In collaboration with SEB, the GPC will hold a Stress Resilience Symposium and Discussion Forum, 23–25 October, at the Iguaçu Falls (Brazil/Argentina border). This will immediately precede the IPMB conference, also at Iguaçu Falls. This symposium and discussion forum brings together experts from across the world to discuss current research efforts in stress resilience, showcase new approaches and technologies, and build new networks and collaborations.

The research symposium will be an open event for anyone to attend, while the discussion forum will be a closed session for a small number of invited attendees to discuss and brainstorm how the plant community can best contribute to current global efforts to develop stress resilient crops. The goal of the forum is to develop a consensus view on the strategies necessary to develop crops and cropping systems that are better able to deal with fluctuating and stressful environmental conditions. The workshop outputs will include papers and perspective articles for KEP and the Global Plant Science Status Report (see below).

GPC Working Groups

Advocacy

The Advocacy group was established in early in 2014 to support the activities of the GPC and encourage further engagement with Member Organizations. The advocacy group members are Co-Chairs Russell Jones (ASPB) and Rodomiro Ortiz (SPPS), together with Ariel Orellana Lopez (CNNPB), Ildoo Hwang (KSPB) and Crispin Taylor (ASPB). The group focused on improving GPC communication channels to help increase the GPC's profile, and as result established the GPC Blog (<http://blog.globalplantcouncil.org/>).

In late 2014 the group proposed to engage early career researchers to help manage and run the blog, and to expand the GPC's reach via the use of social media and other online outlets. Thanks to donations from two GPC Members, the GPC offered two 'New Media Fellowships' in February 2015, under which PhD students and postdoctoral scholars with a background in plant science were asked to apply to work with the GPC team for one year.

The GPC received more than 30 applications for the fellowship, and after an extensive selection process, third-year PhD students Sarah Jose and Amelia Frizell-Armitage, were appointed as the first GPC New Media Fellows. Sarah and Amelia started in April 2015 and have been assisting the GPC by promoting it, and plant science in general, in a variety of ways, including managing the GPC blog and using social media and other outlets.

As a result of the activities of the GPC New Media Fellowship the Advocacy group has paused its activities for the moment, and the new Executive Board will discuss its future role.

Strategy

In 2015, the GPC established a Strategy group consisting of Russell Jones (ASPB), Crispin Taylor (ASPB), Paul Hutchinson (SEB), Karin Metzloff (EPSO) and Machi Dilworth (ex-NSF). The remit of this committee was to advise the GPC Executive Board and President; assist in the identification of revenue sources and fundraising activities; help to devise strategies to raise the Council's profile; and assist in identifying new Member Organizations that should be represented by the Council.

The group met three times in 2015 and considered a number of issues including the possibility of a GPC journal (though it was decided that with the current staff level this was not feasible); the current and future membership fees (see Annexe 2); and the creation of a GPC Knowledge Exchange Partnership (KEP).

The GPC Knowledge Exchange Partnership (GPC KEP)

The driver behind this project is our strong feeling that plant science across the globe often exists in geographic, linguistic or disciplinary silos. After discussion with the Strategy group in June 2015, Bill Davies (GPC President) and Ruth Bastow proposed to establish a KEP to help promote the sharing of knowledge, ideas and best practice

across boundaries. We believe we can break down the aforementioned barriers to the advantage of many user communities, including those in developing countries.

The KEP project will be centered on a new, annual title called the 'Global Plant Science Status Report' (GPSS). Each Report will be published in print and online, and will focus on a small number of topics of current interest or concern. For example, the first report (scheduled for early 2017) could include:

- a) Climate Change and Plant Disease
- b) Plants, Water and Global Change
- c) Resource Capture and Growth
- d) Soil Erosion and Degradation
- e) Nutrition, Biofortification and Health
- f) Genomic Diversity and Food Security

These are just suggestions for possible content; discussions will be held with the Member Organizations to determine the content of the first report.

Annex 1. GPC Member Organization Activity Reports

i. African Crop Science Society (ACSS)

GPC Representative – Kasem Ahmed

Current President – Luisa Santos (2013–2015)

<http://www.acss.ws/>

Activity Report

Activities of the ACSS include the convening of conferences, symposia, workshops and training courses; publication of the African Crop Science Journal and regular newsletters; and organizing general or special general meetings of the Society.

The **12th ACSS Conference** (12–15 October 2015) will be held in Abuja, Nigeria. The theme is: ‘Economically viable and sustainable agricultural systems for food and nutrition security in Africa’.

Program highlights include plenary sessions, parallel scientific and technical sessions, poster sessions, symposia, panel discussions, workshops, sponsored special sessions, and a general business meeting. In addition, there will be exhibitions, a welcome reception, students’ activities, social events, excursions/field trips, and a grand finale gala night. Accommodation will be in high standard hotels within easy reach of the conference venue.

For more information, please contact Prof Dele Fakorede; Faculty of Agriculture, Obafemi Awolowo University, Ile-Ife, Nigeria. Tel: +234 8 165 582 711 or +234 8 067 830 144. Email: dele_fakorede@yahoo.com or mfakored@oauife.edu.ng.

The **African Crop Science Journal** (ACSJ) was launched in 1993 to publish original research that benefits Africa, including all aspects of crop agronomy, production, genetics and breeding, germplasm, crop protection, post harvest systems and utilization, agro-forestry, crop–animal interactions, information science, environmental science and soil science. By invitation, it also publishes authoritative reviews on crop science and environmental issues. This popular open-access journal is published four times a year in both English and French, does not compromise on quality, and is hosted by www.ajol.info and www.bioline.org/cs. Its 2014 impact factor, as issued by International Scientific Indexing (ISI), was 2.486.

The **ACSS website** (<http://www.acss.ws>) is updated weekly, providing fresh news on the Society’s activities issues of concern to members across the African continent, especially meetings, workshops, grants, projects and support opportunities at both the African and the global level. Website visitors from around the world also use the site to share and respond to opinions, comments and applications.

As well as serving its membership via the ACSS website, continental meetings and publications, the **ACSS e-Newsletter** provides a wide range of services to members (and others), including career advice and guidance to younger members, announcements about free publications, scholarships and updates concerning crop science. The newsletter is sent every two weeks to more than 13,000 email addresses in Africa and around the world and receives good feedback.

ii. American Society of Agronomy (ASA) and Crop Science Society of America (CSSA)

GPC Representative – Henry Nguyen
Current President – Jean L. Steiner (2015)
GPC Observer – Ellen Bergfeld
<https://www.agronomy.org/>

Activity Report

Membership: 8,000 +
Annual scientific meeting: 2–5 November, 2014 Long Beach, California, USA
ACSESS Digital Library
Recognition and awards
Science policy initiatives via a Washington DC office
Educational programs
Webinars

iii. American Society of Plant Biologists (ASPB)

GPC Representative – Virginia Walbot from 1 October 2015
GPC Representative – Russell Jones until 1 October 2015
Current President – Julian Schroeder until 1 October 2015
Next President – Richard Dixon from 1 October 2015
GPC Observer – Crispin Taylor
<http://my.aspb.org/>

Activity Report

The ASPB has collaborated closely with the GPC during the last calendar year and there are several exciting developments to report.

One initiative on which the GPC has worked closely with ASPB is Plantae. GPC is working in partnership with ASPB to develop the Plantae platform to provide a one-stop online destination for researchers, students, industry professionals and educators. Plantae is designed to be the leading plant science resource hub as well as a gathering place for the community, with expanded capabilities for connecting, learning and sharing.

In January 2015, the GPC secured £25,000 (ca. \$37,500) from the SEB to help curate plant science news, events, policy, research, funding opportunities, and education, teaching and outreach resources for the Plantae platform. Ruth Bastow is also working closely with ASPB staffer Susan Cato and her team to integrate activities for the development of this platform and ensure it has a global reach.

The goal of Plantae is to make it a rich and vibrant online environment that is globally accessible, attracting a wide range of users to this digital ecosystem. Plantae is an example of how collaborations between GPC and ASPB can greatly enhance the reach and influence of both organizations.

A new ASPB representative Virginia (Ginny) Walbot will replace Russell Jones on the GPC committee effective 1 October 2015. Ginny is a faculty member at Stanford University where she works on the molecular genetics of maize. She will bring a wealth of experience to the GPC committee as she has previously served on a wide range of committees and editorial boards including service as Associate Editor of the Annual Review of Plant Biology.

iv. Argentinean Society of Plant Physiology (SAFV)

GPC Representative – Luis Aguirrezabal

Current President – Pedro Sansberro (2015–2016)

<http://www.safv.com.ar/>

Activity Report

The XV Latin American Congress of Plant Physiology and the XXX Argentinean Plant Physiology meeting were held at Mar del Plata, Argentina on 21–24 September 2014. The Congress was co-organized with the Brazilian Society of Plant Physiology, and was entitled: 'Plant physiology: contributions to main challenges of the next decade' (social, environment, energy, food quantity and quality demands). This recognized the engagement of Latin American scientists in applying their knowledge and efforts to improve the life quality of our citizens.

At this meeting, Dr Ruth Bastow was invited to speak about the goals and activities of the GPC, becoming the first GPC representative to participate in a SAFV Congress. Nearly 500 Latin American scientists and students interested in Plant Physiology participated in the Congress, which included 45 dissertations from invited speakers across Latin America and Europe, and almost 550 poster presentations. Abstracts from the main conferences, and oral and poster communications, are available at www.fv2014.org.

The past president of the SAFV, Luis Aguirrezabal, represented the SAFV in the XXI Meeting of the Spanish Society of Plant Physiology and the XIV Spanish Lusitan Congress of Plant Physiology. The meeting was held in Toledo, Spain on 14–17 June 2015. This participation was useful to establish new exchanges between SAFV and the Spanish Society, and Spanish plant physiologists, and helped to identify speakers to be invited for the next Argentinean Plant Physiology meeting, which will be held in Corrientes (Argentina) in November 2016.

v. Australian Society of Plant Scientists (ASPS)

GPC Representative – Barry Pogson

Current President – John Evans (2014-2016)

<http://www.asps.org.au/>

Activity Report

The Australian Society of Plant Scientists (ASPS) promotes the discipline of Plant Science and provides professional contact and networking for plant scientists and University-level educators in Australia.

Key objectives of the Society are to:

- Facilitate the dissemination of new research
- Provide a forum for sharing of knowledge so that the membership can build both the depth and breadth of knowledge of plant functions
- Provide mutual support and collective mentorship
- Recognize and reward excellence in plant science research and teaching
- Nurture the next generation of plant scientists.

ASPS works in partnership with other relevant Australian (and New Zealand-based) societies to jointly organize the national conference ComBio (for 2014: Australian Society for

Biochemistry and Molecular Biology, and the Australia and New Zealand Society for Cell and Developmental Biology). The ComBio conference is one of the activities by which ASPS delivers several of the Society's objectives to the membership.

Other ASPS-supported conferences and workshops during the past 12 months:

- 6th Asia and Oceania Conference on Photobiology 2013 was held in Sydney, 10–13 November 2013. The conference was co-chaired by Scott Byrne and Min Chen (both The University of Sydney). Further details at: <http://www.aocp2013.org.au/>.

ASPS Awards to Recognize Excellence (2014)

Congratulations to:

- Brett Ferguson (University of Queensland) was awarded the Peter Goldacre Award for his research 'Discovery of new factors involved in the development and autoregulation of legume nodules'. This award recognizes research achievement in the past three years by an early-career member of the Society (within 10 years of PhD).
- Marilyn Ball (Australian National University) delivered the 2014 RN Robertson Lecture, 'A salty tale: the ups and downs of water use in mangroves'.
- Christine Böttcher (CSIRO, Adelaide) was awarded the ASPS–FPB Best Paper Award for an Early-Career Scientist: 'Ripening of grape berries can be advanced or delayed by reagents that either reduce or increase ethylene levels' (Böttcher et al., 2013, *Functional Plant Biology* 40(6):566–581).
- Stephanie Watts-Williams (Monash University) won the RN Robertson Travelling Fellowship to visit Professor Matthias Wissuwa at the JIRCAS (Tsukuba, Japan) in mid-2014, for her project: 'What role do arbuscular mycorrhizas and other soil microbes have in rice P-uptake efficiency?'

ASPS Communications

Phytogen ASPS newsletter

ASPS publishes a society newsletter, *Phytogen*, three times a year, which acts as a vehicle for communicating new ideas, recent professional experiences, and forthcoming events to ASPS members and those general readers with an interest in developments in Australian plant science.

Twitter: @asps_ozplants

Facebook: www.facebook.com/ASPSozplants

Plants in Action 2

This free, online textbook has a focus on the principles underlying plant biology in natural and managed communities throughout Australasia. Work on the second edition is currently underway and six chapters have now been uploaded onto the web. Three other chapters are in the final stages of being completed.

<http://www.asps.org.au/publications/plants-in-action>

<http://plantsinaction.science.uq.edu.au>

vi. Botanical Society of China (BSC)

GPC Representative – Song Ge

Current President – Wei-Hua Wu

<http://www.botany.org.cn>

Activity Report

The Organizing Committee for the **XIX International Botanical Congress** (IBC 2017) has been formally established. This meeting, co-organized by the Botanical Society of China and Shenzhen Municipal Government will be held in Shenzhen City, China from 23–29 July 2017. It is the first time that such a high-level and prestigious meeting will be held in a developing country – this is of great significance to both the Chinese and global plant science communities.

The IBC 2017 organizing committee, presided by Dr Wei-Hua Wu and Dr Qin Xu, was established on 21 October 2014 in Shenzhen City. It consists mainly of Honorary Presidents, Presidents, Secretaries-General and the Congress Secretariat across two specific committees: the Advisory Committee and the Scientific Program Committee.

On behalf of the Congress organizing committee, the Secretariat began sending official invitations in February; 43 and 47 scientists from 12 countries across the world agreed to serve as Board Members for the Advisory Committee and the Scientific Program Committee respectively. Detailed information on these Board Members is available on the IBC 2017 website (www.ibc2017.cn).

The IBC 2017 website was officially opened on 10 August 2015, and the first circular, key dates, and other related information have been issued. Please visit www.ibc2017.cn.

The Call for Symposia is currently open and will close on 31 December 2015. We welcome proposed symposia within one of six themes; those bridging multiple themes are also encouraged. Accepted symposia will be announced after the Scientific Program Committee has evaluated the proposals.

The Botanical Society of China and the Shenzhen Municipal Government are eager to welcome plant scientists from around the world to the 2017 IBC for an intellectually stimulating and socially memorable occasion.

The **National Symposium on Plant Systems and Evolution** was successfully held in Hangzhou, China on 7–10 November 2014. This symposium was hosted by the Plant Systems and Evolution Commission, which is affiliated to the Botanical Society of China, and jointly organized by the State Key Laboratory of Systematic and Evolutionary Botany, the Chinese Academy of Sciences, Zhejiang University, and the Botanical Society of Zhejiang.

At this meeting, 475 researchers from 112 universities and institutions from 28 provinces presented their latest findings in plant systems and evolution, biogeography, speciation and genetics, functional genetic evolution, and genome evolution, across 20 plenary lectures, 58 oral presentations and 37 posters. The 11th Youth Symposium was also held during this meeting, during which eight young scholars were awarded for excellent reporting.

On 8–11 May 2015, the **4th National Seed Science and Technology Symposium** was held in Guangzhou, China. With the theme, ‘Scientific Seed Research and Dreams’, the meeting was attended by over 100 experts from 40 universities and institutions. The symposium was co-

organized by the Seed Science and Technology Commission affiliated to Botanical Society of China, Sun Yat-sen University, and Guangdong Academy of Agricultural Sciences.

The symposium included four plenary lectures and 12 keynote symposia, which discussed advances and hot topics in seed science and technology, including seed germination and dormancy, seed vigor and life, and related fields.

vii. Canadian Society of Plant Biologists (CSPB)

GPC Representative – Carl Douglas

Current President – Anja Geitmann (2015–2017)

<http://www.cspp-scpv.ca/>

Activity Report

As usual, the Canadian Society of Plant Biologists held three meetings this year: two of these were regional meetings (the Eastern Regional Meeting held at the University of Guelph, Ontario in December 2014, and the Western Regional Meeting held at the University of Victoria, British Columbia in May, 2015). Both Regional meetings provided ample opportunity for student presentations.

‘Botany 2015’, the Annual Meeting of the CSPB was held in Edmonton, Alberta in July 2015, jointly with Plant Canada, the Botanical Society of America, and 10 other North American plant biology societies. The CSPB was a co-organizer of an education symposium, ‘Blended Learning and Educational Technology to Enhance Biology’, and together with Plant Canada organized a symposium on ‘Plant Resilience to Climate Challenges’. The CSPB’s Postdoctoral/Student representative to the Executive, Glen Uhrig, organized a workshop exploring avenues for the application of plant biology research; ‘Lab Bench to Boardroom: Developing Plant Science Ideas’. Finally, the CSPB and Plant Canada jointly sponsored a workshop on enhancing the societies’ advocacy and outreach activities. Approximately 60 plant biologists from across Canada attended the workshop, in which there was discussion of the Global Plant Council’s activities, as well as the challenges of federal funding for basic research in plant biology through the Natural Sciences and Engineering Research Council (NSERC).

Major plant biology initiatives in Canada related to GPC initiatives within the 2014–2015 time frame included the Genome Canada 2014 Large-Scale Applied Research Project Competition on Food Safety, Security and Sustainable Production, which funded four crop genomics projects (in wheat, sunflower, soybean, lentils; <http://www.genomecanada.ca/medias/PDF/en/BK-2014-competition.pdf>) for a total of \$32M. In addition, the Global Institute for Food Security (GIFS) at the University of Saskatchewan (<http://gifs.ca>) received \$37.2M from the federal Canada First Research Excellence Fund for the ‘Designing Crops for Global Food Security’ project, which will “...combine ... plant genomics ...with crop phenotyping ... using high performance computing and advanced imaging technology.” In addition, Genome Canada issued a call for proposals for the 2015 Large-Scale Applied Research Project Competition in Natural Resources and the Environment.

Viii Chinese Society of Plant Biology (CSPB)

GPC Representative – Zhihong Xu

Current President - Xiaoya Chen (2014-2019)

GPC Observer – Zuhua He

<http://www.cspb.org.cn/>

Activity Report

Meetings and events:

- 11th Congress and National Academic Annual Conference of the Chinese Society for Plant Biology (CSPB) was successfully held in Guiyang (8 August 2014).
- National Congress of Plant Biology (NCPB-2014) was held in Kaifeng (14 September 2014).
- 17th Annual International Moss Conference was successfully held in Beijing (27 September 2014).
- International Workshop on the Global Status of Transgenic Crops was held at Huazhong Agriculture University (17 October 2014).
- To celebrate International Women's Day, Beijing Normal University and CSPB jointly organized a forum for women scientists in life science (8 March 2015).
- 2015 Fascination of Plants Day was initiated in China by CSPB. A series of activities were held, aiming to share plant scientific knowledge to the public, and increase people's awareness for the relationship between plant science and human life (18 May 2015).
- 2nd International Brassinosteroid Conference was held in Wuhan (22 May 2015).
- 4th International Conference on Biotic Plant Interactions was held in Nanjing (3 August 2015).
- 1st Molecular Plant International Symposium: From Model Species to Crops was held in Shanghai (8 August 2015).

ix. Crop Science Society of America (CSSA)

GPC Representative – Henry Nguyen

Current President – Roch E. Gaussoin (2015)

GPC Observer – Ellen Bergfeld

<https://www.crops.org/>

Activity Report

Membership: 5,000+

Annual scientific meeting: 2–5 November 2014, Long Beach, California

ACSESS Digital Library

Recognition and awards

Science policy initiatives via a Washington DC office

Educational programs

Webinars

x. Crop Science Society of China (CSSC)

GPC Representative – Jianmin Wan

Current President – Huqu Zhai (2015–2019)

<http://www.chinacrops.org>

Activity Report

Meetings and events:

- On-site observation meeting on sweet potato varieties, 8 August 2014, Emin, Xinjiang
- 16th National Symposium on Wheat Cultivation, 13–15 August 2014, Taiyuan, Shanxi
- 5th National Wheat Genomics and Molecular Breeding Conference, 17–19 August 2014, Hefei, Anhui
- 24th National Symposium on Soybean Research and Production, 19–22 August 2014, Yinchuan, Ningxia
- National Young Scientists Symposium on Crop Cultivation and Physiology, 20–22 August 2014, Yangzhou, Jiangsu
- 15th Symposium of the Sweet Potato Specialty Committee, 26–28 August 2014, Haikou, Hainan
- International Conference on the Origin and Development of Millet, 3–5 September 2014, Aohanqi, Inner Mongolia
- 14th National Crop Physiology Symposium, 9–12 September 2014, Kunming, Yunnan
- National Congress of Plant Biology in 2014, 12 September 2014, Kaifeng, Henan
- National Symposium on Maize Genetics and Breeding, and Symposium on Construction of the MOA Key Laboratory for Maize Biology, 13–16 September 2014, Kunming, Yunnan
- National Young Scientists Symposium on Science and Technology of Highland Barley, 16–19 September 2014, Beijing
- National Conference on Development and Poverty Alleviation of Sweet Potato Industry in Hilly Areas, 10–14 October 2014, Pengshui, Chongqing
- International Symposium on Comprehensive Utilization Technology of By-products from Agricultural Products Processing, 16–18 October 2014, Beijing
- 2014 Annual Meeting of the Crop Science Society of China, 29–31 October 2014, Nanjing, Jiangsu
- Symposium of the Best Fiber Crops Specialty Committee of the Crop Science Society of China, 29–31 November 2014, Yichang, Hubei
- 1st Forum on Industry Development of Edible Soybean, 11 November 2014, Yucheng, Shandong
- 5th International Sugar Industry Symposium, 25–28 November 2014, Nanning, Guangxi
- 6th National Symposium on Oat and Buckwheat, 8–9 January 2015, Kunming, Yunnan
- 2nd Young Scientists Symposium on Maize Science and Technology, 17–19 April 2015, Changchun, Jilin
- 1st National Symposium on Maize Biology, 22–25 April 2015, Wuhan, Hubei
- 3rd Evaluation Meeting of the Collaborative Innovation Center for Crop Genetic Resources Research, 29 April 2015, Beijing
- Training for three platforms of the CSSC website and 2015 Joint Meeting of Secretary-Generals of the Crop Science Society of China, 10 June 2015, Guiyang, Guizhou
- 2015 National Symposium on Fresh Corn, 5–7 July 2015, Wuhan, Hubei

- 1st Chinese Quinoa Industry Summit, 12 August 2015, Jilin, Changchun
- 2015 National Symposium of Seed Specialty Committee of the Crop Science Society of China, 15–17 August 2015, Yangling, Shanxi
- 6th Wheat Genomics and Molecular Breeding Conference, 18–19 August 2015, Yangling, Shanxi
- 2014 Annual Meeting of the Crop Science Society of China, 20–21 August 2015, Harbin, Heilongjiang
- 25th National Symposium on Soybean Research and Production, 25 August 2015, Mudanjiang, Heilongjiang
- 14th National Symposium on Maize Cultivation, 28–30 August 2015, Baoding, Hebei

Activities:

- On 20 July 2014, science and technology was taken to the countryside to serve farmers in Guyuan, Hebei
- On 20 September 2014, National Popular Science Day, science and technology was taken to rice farmers in Panjin, Liaoning
- 100 scientists visited Ningxia, 6–10 May 2015, Wuzhong, Ningxia
- On 20 May 2015, the Communist Party branch of the CSSC took science and technology to the countryside to serve farmers in Pingquan, Hebei

Award & Prizes:

The Science and Technology Achievement Award of the Crop Science Society of China was presented to Tiancai Guo and Peisong Hu in September 2014.

xi. European Association for Research on Plant Breeding (EUCARPIA)

GPC Representative – Beat Boller, EUCARPIA President (2012–2016)

<http://www.eucarpia.org/>

Activity Report

Over the past 12 months, (September 2014 to September 2015), eight EUCARPIA Section or Working Group meetings have been held in five out of our 11 sections:

Cereals Section:

- Joint EUCARPIA–FP7 DROPS conference: Recent progress in drought tolerance: from Genetics to Modelling. Montpellier, France, 8–9 June 2015. https://colloque.inra.fr/drought-tolerant_plants_2015.
Joint EWAC (European Cereals Genetics Co-operative)–EUCARPIA Cereals Section Conference, Lublin, Poland, 24–29 May 2015. <http://www.ewac.eu>.
International Conference on Rye Breeding and Genetics, Wrocław, Poland, 24–26 June 2015. <http://eucarpia2015.up.wroc.pl/>.

Fodder Crops and Amenity Grasses Section:

- 31st meeting ‘Breeding in a world of scarcity’, Gent, Belgium, 13–17 September 2015. <http://www.eucarpia-fcag2015.be>.

Biometrics in Plant Breeding Section:

- XVI Meeting of the EUCARPIA Biometrics in Plant Breeding Section, Wageningen, The Netherlands, 9–11 September 2015. <http://www.wageningenur.nl/en/activity/XVIth-Meeting-of-the-EUCARPIA-Section-Biometrics-in-Plant-Breeding.htm>.

Maize and Sorghum Section:

- Joint DROPS and EUCARPIA Cereals and Maize and Sorghum Sections Conference, 'Recent progress in drought tolerance: from genetics to modelling', Montpellier, France, 8–9 June 2015. https://colloque.inra.fr/drought-tolerant_plants_2015.
- Joint DROPS (Drought-Tolerant Yielding Plants)–EUCARPIA Maize and Sorghum and Cereals Section Conference, 'Genomics and Phenomics for Model-Based Maize and Sorghum Breeding', Montpellier, France 10–11 June 2015. <https://colloque.inra.fr/eucarpia-maize-sorghum-2015>.

Vegetables Section:

- VIII EUCARPIA Meeting of the Leafy Vegetables Working Group, San Pedro del Pinatar, Spain, 14–17 April 2015. <http://www.verticesur.es/congresos/EUCARPIA2015/index.php>.

Fruit Section:

- XIV EUCARPIA Symposium on Fruit Breeding and Genetics, Bologna, Italy, 14–18 June 2015. <http://www.eucarpiafruit2015.org>.

Ornamentals Section:

- XXV International Symposium of the EUCARPIA Ornamentals Section, 'Crossing borders', Melle, Belgium, 28 June–2 July 2015. <http://www.eucarpiaornamentals2015.be/>.

Oil and Protein Crops Section:

- Joint EUCARPIA–PCWG International Symposium on Protein Crops, 'Plant Proteins for the Future', Misión Biológica de Galicia of the Spanish National Research Council, Pontevedra, Spain, 4–7 May 2015. <http://www.symposiumproteincrops.org>.

Organic & Low-Input Agriculture Section:

- Working group meeting on 'Breeding and Plant–Microbial Interaction', Weißenstephan, Germany, 25–26 June, 2015.

These meetings addressed a wide range of topics, including new plant breeding techniques such as next generation and whole genome sequencing, high-throughput phenotyping, the new wave of using mutagenesis through TILLING, or emerging possibilities of targeted genome editing through CRISPR-associated nucleases, which are thought to lead to a revolution in plant breeding.

We have also been busy with the organization of the EUCARPIA General Congress, which will be held 29 August–1 September 2016 in Zürich, Switzerland: 'Plant Breeding: the Art of Bringing Science to Life'. The scientific program will focus on themes that will attract plant scientists and breeders with the common goal of putting advances in all related fields to work in novel cultivars.

xii. European Plant Science Organisation (EPSO)

GPC Representative – Wilhelm Gruissem

Current President – Jose Pio Beltran (Dec 2014–Nov 2017)

GPC Observer – Karin Metzloff

<http://www.epsoweb.org/>

Activity Report

EPSO has been involved with: the European Commission Directorate for Research and Innovation (EC–RTD), Joint Research Centre (EC–JRC), and Directorate for Agriculture and Rural Development (EC–AGRI); the European Parliament (EP); Member States: Programme Committee Societal Challenge 2 (PC SC2), Standing Committee for Agricultural Research (SCAR), and the ERA-network on Molecular Plant Sciences (ERA-CAPS).

Activities:

- Karin Metzloff attended a European Innovation Partnership (EIP) High Level Steering Board Meeting, 1 July 2014
- Inclusion of text in the European Commission (EC) scoping paper for Horizon 2020 Societal Challenge 2 2016/17
- Plant European Technology Platform (ETP) submitted input to the EC towards Horizon 2020 Societal Challenge 2 Work Programme (SC2 WP) 2016/17 – Inclusion in Draft WP SC2
- Presentation of the draft concept for an Integrated Crop Production Public–Private Partnership: to EC-RTD and AGRI (4 February 2015), interested PC SC2 members (17 March 2015), SCAR Working Group (19 March 2015)
- EPSO: Submission to EC Public Consultation on Framework Programme 7 (FP7) Calls for better support for collaborative basic research, 26 May 2015
- Facilitate ERA-CAPS development towards self-sustaining network (Karin Metzloff in Management Board, Self-sustain Working Group, at Strategy and Management Board Meetings)
- Plant ETP launch event ‘Plants for the Future – Actions on Innovation, Research and Education in Europe’, 24 March 2015
- Preparation of the series of workshops jointly organized by the European Parliament and Plant ETP/EPSO on ‘Sustainable Growth – Unlocking the Potential of Plants’, to be held from November 2015–Spring 2018
- Three statements on Agricultural Technologies published 26 February 2015 and referred to in Nature (Vol 520, editorial 9 April 2015), following the AgTech Working Group Meeting on 30 October 2014 and discussion in the Board Meeting. Before that, EPSO was consulted for the briefing of the incoming Commissioner
- Forestry Working Group met 29 October 2014 by conference call and gave input to the proposal for the COFUND-ERA-net on forestry and a forestry theme towards Horizon 2020 WPs 2016/17, which were included in the EC draft
- Developing Countries Sub-Working Group met 22 June 2014 and 13 October 2014 and agreed next steps including submission of proposals and collaboration with the EC, FAO and CGIAR for which a statement was finalized
- EPSO actively participated in the annual meeting of the Global Plant Council 2014 for which Wilhelm Gruissem was President until end 2014 and is leading the Digital Seed Bank Initiative. Karin Metzloff is a member of the new Strategy Group.
- Meeting with national learned societies under the MoU 27 February 15. Foster better inclusion of basic research in Horizon 2020 SC2.
- Initiative for Science in Europe (ISE) meetings 17 February 15 and 16 June 2015 – engage in Working Groups on ‘Scientific advice in the EU’, ‘Research assessment –

misuse of impact factor', 'Horizon 2020 mid-term review', and on civil society role (e.g. in decisions on research programs)

Science/Policy Events:

- FESPB–EPSO Plant Biology Conference, Dublin, 22–26 June 2014, included EPSO stand with our team, Board, experts on Horizon 2020 and on the EIP
- Fascination of Plants Day on and around 18 May 2015: 56 countries organized over 965 events. Initiated and globally coordinated by EPSO, including generation of sponsors, design, printing and distribution of material, running the website and social media
- EC–EPSO Conference at EXPO Milano on Crop Improvement Technologies 14 July 15, from which the conclusions will feed into the official EC recommendations from EXPO 2015.
- Open letter to Commission President Juncker supporting the position of a Chief Scientific Adviser (25 July 2014), publication of the newsletters, briefings on Horizon 2020 (7 November 2014) and the EIP (13 October 2014)
- Karin Metzloff continued presentations at member institutions.

EPSO currently has 75 institutional members, which together represent 226 research institutes, universities and research departments from 31 countries. Twelve learned societies signed the Memorandum of Understanding on policy collaboration with EPSO representing the Czech Republic, France, Germany (x2), Italy, Poland, Scandinavia, Spain, Portugal and the UK (x2).

xiii. Federation of European Societies of Plant Biology (FESPB)

GPC Representative – Christine Foyer

Current President – Jana Albrechtova (2014–2016)

<http://www.fespb.org/>

Activity Report

We have initiated the process of registration of FESPB as a charity in Germany. The application is now under consideration by the German courts and the department of finances.

Preparation for the EPSO–FESPB Plant Biology Congress 2016 is well underway. The Congress will be held in Prague in June 2016. The pre-Congress meeting of FESPB and EPSO representatives with the Local Organizing Committee was held on July 21–22, 2015.

We have started to provide funding to support other conferences and activities such as student participation in the 7th European Plant Science Retreat.

xiv. Genetics Society of China (GSC)

GPC Representative – Yongbiao Xue

Current President – Yaping Zhnag (2013-2018)

<http://www.gsc.ac.cn/>

Activity Report

The National Congress of Plant Biology (NCPB-2014) was held in Henan on 12–14 September. The theme was 'Plant Science and Sustainable Development'. Nearly 100 renowned scholars were invited to give lectures and to conduct extensive discussions with the participants by means of speeches and interactive communication. The plenary lectures included: 'ROW1 regulates both Arabidopsis shoot and root apical meristem cell development via different mechanisms', 'S-nitrosylation-regulated stress responses in Arabidopsis' and 'Chloroplast retrograde signaling and plant development'. This conference promoted academic exchange in Plant Biology and propelled the progress of Plant Science.

Plant Genomics in China XV was held in Hefei, 19–22 August 2014. Nearly 460 scholars attended the congress. Scientists shared their cutting-edge discoveries in Plant Genomics. Sessions included Genome Sequencing and New Technology, Functional Genomics, Proteomics, Metabolomics and Bioinformatics, Transgenic Technology and Genomics-based Breeding, Genome Diversity, and Epigenetics and Epigenomics. This conference provided a platform for scientists to exchange new ideas and discuss new advances.

xv. Korean Society of Plant Biologists (KSPB)

GPC Representative – Mi Chung Suh

President – Jeong Sheop Shin (Jan 2015–Dec 2016)

<http://www.kspb.kr>

Activity Report

The **Plant Winter Conference 2015**, co-organized by the KSPB, was held on 16 January 2015 at Kyung Hee University, Suwon, Republic of Korea.

KSPB publishes the **Journal of Plant Biology** (<http://www.kspb.re>). Recently published articles are as follows:

- February: 9 articles (<http://link.springer.com/journal/12374/58/1/page/1>)
- April: 8 articles (<http://link.springer.com/journal/12374/58/2/page/1>)
- June: 6 articles (<http://link.springer.com/journal/12374/58/3/page/1>)
- August: 8 articles (<http://link.springer.com/journal/12374/58/4/page/1>)

The **2015 International Symposium on Plant Sciences & the Annual Conference of the Korean Society of Plant Biologists** will be held on 5–6 November 2015 at Chungnam National University, Daejeon, Republic of Korea.

xvi. Indian Society of Plant Physiology (ISPP)

GPC Representative – Madan Pal Singh

Current President – Sudhir K. Sopory (2015–2016)

<http://www.ispponline.org/index.html>

Activity Report

The following activities were undertaken by the Indian Society for Plant Physiology during the last 12 months (August/September 2014–August/September 2015):

- National Conference of Plant Physiology on 'Frontiers of Plant Physiology Research: Food Security and Environmental Challenges', 23–25 November 2014 at Orissa University of Agriculture and Technology, Bhubaneswar
- Indian Society for Plant Physiology South Zonal Seminar on 'Crop Physiology – Emerging Challenges and Opportunities for Sustainable Agriculture', 3 March 2015 at S.V. Agricultural College, Tirupati, Andhra Pradesh
- Indian Society for Plant Physiology West Zonal Seminar on 'Enhancement of crop productivity through physiological interventions', 28 April 2015 at NM College of Agriculture, Navsari Agricultural University, Navsari, Gujarat

Three memorial lectures were delivered by eminent researchers during the National Conference of Plant Physiology at Bhubaneswar, as outlined below:

- GV Joshi Memorial Lecture Award by Professor BC Tripathy, Vice Chancellor, Ravenshaw University, Cuttack
- KK Nanda Memorial Lecture Award by Dr Satya Ranjan Das, Orissa University of Agriculture and Technology, Bhubaneswar
- SK Sinha Memorial Lecture Award by Professor KR Koundal, Project Director, National Research Center on Plant Biotechnology, Indian Agricultural Research Institute, New Delhi

Ten young scientists presented their excellent research in a special session during the National Conference of Plant Physiology 2014 at Orissa University of Agriculture and Technology, Bhubaneswar. One of these, Mr V Vishnu Prasanth, Directorate of Rice Research, Rajendranagar, Hyderabad, was awarded 2014 Young Scientist of the Year.

xvii. Japanese Society of Plant Physiologists (JSPP)

GPC Representative – Takashi Ueda (2015)

GPC Representative – Yusuke Saijo (2016)

Current President – Ikuko HARA-NISHIMURA (2014-2015)

<http://www2.jspp.org/>

Activity Report

Over the last year, the JSPP has:

- Held the 56th Annual Meeting of the JSPP, during which we also held our annual high school student competition, as part of our efforts to support the interests of the younger generation in plant sciences.
- Organized Fascination of Plants Day (FoPD) 2015 in Japan, on and around 18 May. We had 51 events including guided tours, seminars, hands on activities and exhibitions at universities, schools, museums, and botanical gardens. This year, five organizations took part in FoPD activities for the first time. FoPD 2015 in Japan was supported by five plant and crop societies including JSPP. Japanese coordinators

updated FoPD-related web sites, called for the plant science community to join FoPD activities through several mailing lists, and passed out the event flyers with financial support from JSPP.

- Published the Society's Plant and Cell Physiology periodical.
- Substantially upgraded the JSPP web site. Operated by the academic community, the JSPP website is one of the most famous websites in Japan with over a million page views per year. Everyone from primary school children to retired masters visit our website corner 'Plant Biology Q&A'. For example, the answer to the question: "Why plants don't use green light?" received over 15,000 hits in just one week, thanks to social networks such as Twitter and Facebook, which are able to rapidly spread interesting Q&As via our website.

xviii. New Zealand Society of Plant Biologists (NZSPB)

GPC Representative – Rainer Hoffman – President

GPC Representative – Marian McKenzie

<http://plantbiology.science.org.nz/>

Activity Report

The NZSPB promotes the teaching and research of plant biology in New Zealand, and encourages the exchange of information among those with an interest in Plant Biology. Our membership is comprised primarily of professional scientists, academics and research students in New Zealand with interests in Plant Biology. Active members can be found at Crown Research Institutes, Universities and other public and private institutions throughout New Zealand.

To foster interaction amongst our members and with the wider scientific community the society organizes an annual conference, usually in collaboration with other scientific societies. Regular meeting partners include the NZ Institute of Agricultural and Horticultural Science, the NZ Society for Biochemistry and Molecular Biology and the NZ Microbiological Society. We also meet regularly with the Australian Society of Plant Scientists, joining the Australian COMBIO meetings approximately every three years, including in Melbourne in 2015. Every tenth year the COMBIO meeting is held in New Zealand, most recently as COMBIO 2009 in Christchurch.

Recent NZSPB activities include:

1. Co-organization of Combio 2015 in Melbourne, Australia

ComBio2015 incorporates the annual meetings of the Australian Society for Biochemistry and Molecular Biology, Australian Society of Plant Scientists, Australia and New Zealand Society for Cell and Developmental Biology, New Zealand Society for Biochemistry and Molecular Biology and the New Zealand Society of Plant Biologists.

2. Life Member Award

This will be conferred posthumously at COMBIO 2015 to Professor Michael McManus (Massey University), who was an instrumental and highly regarded member of our society, and who sadly recently passed away. Professor McManus was recognized nationally and internationally as having made an outstanding contribution to his field of research, which in recent years had focused on gaining deep understanding of metabolic pathways in plants, particularly ethylene and sulfur metabolism. We are also planning to create a special NZSPB Award in Michael's name.

3. Roger Slack Award

This year's award winner is Dr Andrew Allan (NZ Institute for Plant & Food Research, and University of Auckland). Andrew's research has centred on the plant's response to the environment via the transcriptional regulation of key molecular pathways and his recent research has focused on transcriptional regulation of anthocyanins, carotenoids, and chlorophyll in fruits, flowers and vegetables. The Roger Slack Award in Plant Biology is made annually by the Society to one of its members in recognition of an outstanding contribution to the study of plant biology.

4. Technician's Career Development Award

This recently established award is open for NZSPB members who are technical staff. Two awards of \$500 are available each year to support conference attendance, workshop/training courses, or to visit other research institutes.

5. Vice-presidents Advisory Committee

This committee is co-ordinated by the Royal Society of New Zealand. It provides advice on matters of concern to the biological and life sciences community, and responds with advice on biological and life sciences issues to the RSNZ.

Current members are:

- NZ Veterinary Assn;
- NZ Society of Soil Science;
- NZ Society of Plant Biologists;
- NZ Freshwater Sciences Society;
- NZ Microbiological Society;
- Physiological Society of New Zealand;
- NZ Marine Sciences Society;
- Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (NZ Section (ASCEPT));
- NZ Plant Protection Society;
- NZ Society for Parasitology; and
- New Zealand Society of Animal Production.

We met in January 2015 and discussed new roles for the advisory panel, including

- raising the profile and status of the biological and life sciences sector
- developing links with other disciplines
- changing the nature of the Expert Panel process so that the Royal Society can provide informed positions quickly if required, as there is an emphasis on dealing with big complex issues that government and the public have concerns about. Societies like NZSPB provide the point of difference of being able to provide expertise without constraints by political process.

6. Other NZSPB Activities

- Increasing interactions with the Global Plant Council.
- Conferring student conference travel awards and best student presentation awards at national and international conferences.
- Email and web-based alerts to upcoming events, awards, employment opportunities, etc. to members

xix. Plant Canada (PC)

GPC Representative – Deena Errampalli (President 2015–2019)

<http://www.plantcanada.ca/>

Activity Report

During 2014–15, and in collaboration with the Botanical Society of America, Plant Canada planned and co-organized its first international meeting entitled 'Botany 2015: Science and Plants for people'. This took place 25–29 July in Edmonton, Alberta, Canada. Fourteen plant scientific societies from Canada and the USA participated in this meeting, which was attended by over 1620 delegates from five continents, and explored a wide-range of recent advances in plant sciences. The scientific program had a total of 1396 abstracts, and included 13 special addresses, 689 papers, 480 posters, 22 symposia with 191 symposia speakers, 3 colloquia, 6 discussion sessions and 17 workshops. The delegates participated in 23 field tours.

The plenary lecture of the conference titled, 'Botany is cool: so why doesn't the public know that?' was presented by Ken Thomson from University of Sheffield, United Kingdom. A highlight of the symposia at this meeting was that each of the 22 symposia were co-sponsored by at least two different societies, allowing interaction and collaboration between different plant scientific societies from Canada and USA.

Plant Canada-specific activities at Botany 2015 included:

- Symposia: Plant Canada sponsored a symposium titled, 'Plant secondary chemistry: from biochemistry to applications', and along with other plant societies co-sponsored 6–10 symposia.
- The 2015 Plant Canada Annual Meeting of Members was held on 26 July 2015. The Board for 2015–16, including Dr Deena Errampalli (President) and Tariq Akhtar (Treasurer) and the new society representatives, was installed.
- On July 27, Plant Canada held a breakfast workshop, chaired by Carl Douglas, with over 40 participants, and discussed how Plant Canada can advocate for plant sciences in Canada. The recommendations from this workshop will be discussed at the upcoming Plant Canada Board meetings.
- Plant Canada also presented 12 student travel awards, two awards for each of the six societies under the Plant Canada umbrella.
- The New Board met on 29 July 2015 and set out preliminary goals to initiate discussions to publicize Plant Canada nationally.

The Botany 2015 meeting was a great success: it provided the stage for an international perspective and North American specific focus and allowed for networking, collaboration and discussion for the delegates belonging to 14 plant scientific societies.

Plant Canada is an umbrella organization for six Canadian plant societies: Canadian Botanical Association (CBA), Canadian Phytopathological Society (CPS), Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Canadian Society of Plant Biologists (CSPB) and Canadian Weed Science Society (CWSS). Following are individual reports from some of our Member Societies:

a) Report of the Canadian Botanical Association (CBA) <http://www.cba-abc.ca/>

In 2015 the CBA held its annual meeting as part of Botany 2015. The CBA helped to sponsor four symposia (on teaching, mycology, ecology and plant development) and sponsored the Weresub memorial lecture on mycology. Two students were awarded the Consaul Northern

research award to travel to the arctic for their graduate research work. Four awards were also given to students who published papers in the areas of plant development, ecology, mycology and systematics. Jim Lawson of the British Columbia Forest Service received the Lawson medal for his lifetime contribution to botany in Canada. This year the CBA is also partnering with the Botanical Society of America to bring the Planting Science Program (www.plantingscience.org) to Canada.

b) Report of the Canadian Phytopathological Society (CPS) <http://phytopath.ca/>

The past year was a productive year for the CPS. We fostered collaboration with national and international plant societies, the details of which can be found in CPS News 59:34. (<http://phytopath.ca/news/cps-newsletter/>). The CPS President, Deena Errampalli, was invited to be Guest of Honor at the 11th European Foundation for Plant Pathology (EFPP) conference in Kraków, Poland (8–13 September), where she offered greetings to the members of the EFPP and participated in all activities of the conference, chairing the session, summarizing it and choosing the best poster.

On invitation from the Secretary General of the International Association for Plant Protection Sciences (IAPPS), as of November 2014, the CPS has become an affiliate member of the IAPPS. The connection between the CPS and IAPPS will be mutually beneficial in achieving the common goal of global plant protection.

The CPS published four issues of Canadian Journal of Plant pathology <http://www.tandfonline.com/loi/tcjp#.VhnEDPIVhBc>

The presidents of the CPS (Deena Errampalli), CWSS (Eric Johnson), and ESC (Staffan Lindgren) are continuing to look for ways to develop collaborations. One of the initiatives is to include in our respective newsletters/bulletins an 'amplified' Table of Contents of the other societies' newsletters.

Deena Errampalli had the honor of attending, either in person or via video conference, five CPS regional meetings between October 2014 and April 2015. The meeting participants in each of the regions of Canada learned about regional plant disease issues and the solutions that are being sought and offered. These reports reaffirm that plant disease issues are as diverse as the regions and ecozones of our vast (about 6000 km from coast to coast) and beautiful Canada.

The CPS AGM took place during Botany 2015 in July and was attended by about 120 CPS members. At this meeting, CPS recognized many members who have contributed to the society and the winners of the student poster competition awards (three), graduate student travel awards (five), and graduate student scholarship awards (two). The CPS co-sponsored two symposia, the first with the Mycological Society of America and Plant Canada and the second with the Canadian Society of Plant Biologists and Plant Canada at Botany 2015.

c) Canadian Society for Horticultural Science (CSHS) <http://www.cshs.ca/>

At the Botany 2015, CSHS sponsored a workshop on 'Commercial Greenhouse Lighting: Techniques and Practicalities' and provided CSHS members with the opportunity to report and discuss new discoveries, concepts and practices in the horticultural arts and sciences in the conference. CSHS had two invited speakers in the conference and three students were awarded for travel and for best oral and best poster presentations. Four authors of the best horticultural paper published in the Canadian Journal of Plant Science (CJPS) in 2013 were also awarded.

In the past year, CSHS published its quarterly newsletter and took an active role in publishing papers in the CJPS. The significant role of the Society made a decision for selling the Journal to the Canadian Science Publishing (CSP) and necessary agreements have been made with the Agricultural Institute of Canada (AIC) and CSP. Other CSHS activities during the past year included finalizing the CSHS By-Laws (now available on the CSHS website) and taking an active role in the activities of the International Society for Horticultural Science (ISHS).

d) Report of the Canadian Society of Agronomy (CSA) <http://agronomycanada.com/>

In 2015 there were several developments that will result in the CSA being better positioned for the long term. The major activity was related to the sale of our society-sponsored journal, The Canadian Journal of Plant Science (CJPS). While the sale of the journal is not yet final, our hope is that this occurs soon. Our intent is that CSA will receive benefits from its continued role in content development for CJPS; the nature of those benefits is primarily directed at enhancing our journal editors and our conference activities. The latter will focus largely on supporting student involvement.

Renewal of the retiring demographic of agronomists is now recognized as an immediate challenge, so fostering student recruitment and development into highly qualified personnel will become more and more imperative.

CSA held its annual technical and business meetings during Botany 2015. We put together two great technical sessions, specific to CSA, that also included presentations by the Best Paper Award winner, Dr Julian Thomas as well as a presentation by the 2015 Distinguished Agronomist, Dr Cynthia Grant. We also had Dr Nancy Ames representing our society with an address at the Plant Canada Symposium.

e) Report of the Canadian Weed Science Society (CWSS) <http://weedsociety.ca/>

The CWSS held its 68th annual meeting in Montreal in November of 2014. The plenary session focused on integrated weed management while the balance of the program covered a wide variety of topics of current concern in Weed Science. Graduate student presentations were a highlight and covered areas such as harvest weed seed control, energy, control of herbicide resistant weeds and inter-row cultivation. For more details see the CWSS website and the meeting archives (<http://weedsociety.ca/resources/annual-meeting-archived-files/>).

The four major goals of CWSS are to: (1) Be recognized nationally and internationally on weed-related science. (2) Serve as a facilitator and clearing house on research, information and extension product development. (3) Expand the network of members and partners and (4) Ensure good governance. In 2015, we focused on #2 and with the assistance of public relations firm, increased the communications both within the CWSS membership and to the public at large in Canada. One of the products is an infographic. In addition, the website has been modernized and now provides rapid access for members and the general public to documents detailing the biology of Canadian weeds and invasive species, links to apps for weed identification and tagging, and spray buffer calculations.

Membership in CWSS is diverse, allowing members from the crop protection industry, provincial and private extension, regulatory agencies and government and academic researchers to share information. We are meeting again in Edmonton, November 23 to 27th, 2015.

xx. Portuguese Society of Plant Physiology (SPFV)

GPC Representative – Margarida Oliveira (President 2011–2015)

GPC Observer – Nelson Saibo

<http://www.spfv.pt/>

Activity Report

During the last year several activities were conducted by the SPFV and its working groups (WG):

- 30 September–3 October 2014, the WG on ‘Water Relations’ organized the XII Portuguese-Spanish Symposium on Plant–Water Relations, in Évora, Portugal. From this event a Book of Proceedings was produced, which is available at <http://www.srh2014.uevora.pt/index.php?/event>. A special issue with manuscripts of presentations made in Évora is being published in the Journal of Agricultural and Water Management, edited by Margarida Vaz et al.

In this Symposium both the Spanish and the Portuguese Societies of Plant Physiology awarded the best PhD thesis in Plant-Water Relations to Cristina Moreno-Gutierrez (PhD thesis entitled ‘Plant water use strategies in natural and afforested pine woodlands of semiarid Iberian Southeast’).

- The WG on ‘Mineral Nutrition’ organized the XV Portuguese-Spanish Symposium on Plant Mineral Nutrition (‘NUTRIPLANTA’): Plant Nutrition as a Tool to Improve Food Security and Environmental Sustainability’, 6–8 December, in Lisbon, Portugal. A book of Proceedings was edited by Cristina Cruz and Teresa Dias.
- The WG ‘Seeds of Knowledge’ has translated several documents from English to Portuguese. These documents (lecture notes and teaching guides) were made available by ASPB and published as ‘Teaching tools in Plant Biology: Lecture notes’, The Plant Cell, March 2013. Subjects were: ‘The Small RNA World’ and ‘Introduction to Epigenetic Gene Regulation’. These materials are becoming available through ASPB, GPC and SPFV.
- With the Portuguese Association of Horticulture, the SPFV ‘Post-Harvest’ WG has begun the joint organization of the IX Portuguese-Spanish Post-Harvest Symposium, planned for 2016.
- SPFV has launched a Facebook page to promote plant science dissemination (<https://www.facebook.com/SPFisioVeg>).
- In close collaboration with the ITQB Science Communication Department, SPFV coordinated the organization of Fascination of Plants Day 2015 in Portugal. Profiting from a close collaboration with KAUST, SPFV also promoted the involvement of Saudi Arabia in these commemorations.
- SPFV participated in the organization of the XIV Portuguese-Spanish Congress of Plant Physiology that took place in Toledo (Spain) (14–17 June).

xxi. Scandinavian Plant Physiology Society (SPPS)

GPC Representative – Rodomiro Ortiz

Current President – Stefan Jansson (2015–2017)

<http://www.spps.fi/>

Activity Report

SPPS works to promote all aspects of experimental plant biology, from molecular cell biology and biochemistry to ecophysiology. SPPS is a forum for contact and communication among plant biologists. Presently the most important efforts of SPPS are to arrange and support scientific meetings, to publish the journal *Physiologia Plantarum*, and to promote the interests and growth of plant science in general.

The SPPS **Education Committee** contributed ideas to an Education Session for the XXVI SPPS Congress in Stockholm in 2015. In 2014 the committee wrote and held a workshop in 'Communicating Science' at the 8th PhD Student Conference in Uppsala. The committee has provided material for an education section on the SPPS webpage and writes an education corner in the SPPS Newsletter. It has designed posters to advertise SPPS, and produced promotional leaflets and bookmarks that have been distributed at academic and public events. The education committee has also launched a successful social media campaign, which has amassed a substantial following.

International Activity:

- All members of SPPS are automatically members of the FESPB.
- In 2009, SPPS signed the Memorandum of Understanding (MoU) with EPSO, together with five other national societies: Spanish Society of Plant Physiology, Society of Experimental Biology, German Botanical Society, Polish Society of Experimental Plant Biology and Czech Society for Experimental Plant Biology.
- SPPS is a founding member of the Global Plant Council (GPC) that was established in Hawaii in July 2009. In June 2013 the Council appointed Prof. Rodomiro Ortiz, from Alnarp, Sweden, as a SPPS representative in GPC for a three-year period.

SPPS Conferences:

The 8th SPPS Ph.D. Student Conference was held in Uppsala, Sweden (16–19 June 2014). Approximately 100 participants, most of who were PhD students, from 12 countries gathered together and spent three intensive days together sharing the latest breakthroughs in their research fields. The conference was organized by the PhD students of the Swedish University of Agricultural Sciences, and supported in addition to SPPS also by the Linnéan Center for Plant Biology.

A new type of meeting was established: SPPS Early Career Principal Investigator (ECPI) Meeting. The first meeting was organized on 25–26 November 2014 in Nantaali, Finland. The purpose of the meeting is for early career researchers to meet their peers in order to promote collaboration and common grant proposals between SPPS members and other researchers in the Nordic and Baltic countries. Altogether 21 early career scientists took part in the meeting.

The XXVI SPPS Congress (Plant Biology Scandinavia 2015) was held in Stockholm in August 2015. Also the SPPS General Assembly was held during the congress. A new Council and other officials for the term 2015-2017 were elected in the General Assembly.

xxii. Society of Experimental Biology (SEB)

GPC Representative – Vicky Buchannan-Wollaston

Current President – Patrick Hussey (2015–2017)

GPC Observer – Paul Hutchinson

<http://www.sebiology.org/>

Activity Report

In the past year SEB has again held its Annual Scientific Meeting, this year in Prague in the Czech Republic. Over 1000 delegates attended and sessions included:

- Retrograde signalling from chloroplasts in development and stress responses
- Plant roots: new challenges in a changing world
- Plant Biotechnology: Addressing the challenges for food security, health and sustainability
- Linking N-terminal modifications to protein function in plants
- Visualising Metabolism
- Effector biology of beneficial and pathogenic microbes – a source to improve crop productivity

The Plant Section also presented the following awards:

- President's Medal Awards – Wolfgang Busch, Gregor Mendel Institute
- Irene Manton Poster Prizes – Jana Knerova, University of Cambridge
- Young Scientist Award Session: Winner: Zigmunds Orlovskis – John Innes Centre; Runner Up: Sonali Roy – John Innes Centre

SEB and GPC will be holding a symposium in Iguassu, Brazil around the GPC meeting. The symposium is focused on Stress Resilience.

In August 2015 SEB was a signatory to a letter to the Scottish Government challenging its ban on GM Crops. Meetings with Scottish Ministers are planned for later in the year.

xxiii. Taiwan Society of Plant Biologists (TSPB)

GPC Representative – Ming-Che Shih (President Jan 2014–Jan 2016)

http://tspb.org.tw/TSPB_en/

Activity Report

The TSPB Annual Meeting & Symposium will be held on 28–29 November 2015 at HSS Building, Academia Sinica. The theme for TSPB 2015 Symposium is Translational Plant Science. The topics cover frontier technologies and its application in plant science, molecular breeding, plant-microbe interactions, crops science and etc. The TSPB 2015 Symposium is expected to attract around 400 delegates.

Our members will take parts in 2015 International Plant Molecular Biology Congress, Iguazú Falls, Brazil. Dr Tzyy-Jen Chiou is the organizing committee member and Dr. Yee-yung Charng is the heat stress session panel chair. Some TSPB members will attend the symposium to share their findings and to build new networks and collaborations.

xxiv. UK Plant Sciences Federation (UKPSF)

GPC Representative – Jim Beynon

GPC Observer – Mimi Tanimoto

<http://www.plantsci.org.uk/>

Activity Report

Since publishing its report on the status of UK plant science, the **UKPSF established four working groups** to develop implementation plans to take forward the report's recommendations. The groups, focusing on: (a) Training and Skills, (b) Funding, (c) Regulation and (d) Translation, each reported their final recommendations to the UKPSF AGM in November 2014. Based on these recommendations, the Federation has prioritized activities to undertake over the next three years.

The UKPSF is developing plans to convene stakeholders from across the plant science sector and produce a **Roadmap for UK Plant Science** for the next 10 to 25 years. The Roadmap will provide evidence to support strategic decisions on investment, research, development, training, policy and public engagement necessary to plot a course to a diverse and vibrant UK plant science sector that supports economic growth and delivers toward the UK's international obligations and national needs. Representatives of UK public funding agencies, BBSRC and Innovate UK, met with the UKPSF Funding working group in 2014 and have expressed interest in contributing towards the Roadmap.

Over 135 plant scientists, policymakers and educators from across the UK and further afield came together for the fourth annual **UK PlantSci conference** at Harper Adams University on 14–15 April 2015. The meeting hosted a diverse program of talks and discussions including an open floor and panel debate on 'Building a Roadmap for UK plant science' – chaired by Anthea McIntyre, MEP for the West Midlands and member of the European Parliament's Agriculture Committee. Highlights from the meeting can be found by following the Twitter hashtag #PlantSci2015. Videos of the talks are also available online at: <http://www.lancaster.ac.uk/other/bsajxb/JXB/videos2015.htm>.

The UKPSF hosted a **BBSRC policy fellow** for three months in 2015. As part of their doctoral training program the student benefitted from exposure to a range of science policy areas, including attendance at several Parliamentary and Government departmental meetings and drafting a policy briefing paper (see below).

Stakeholder awareness of Access and Benefit Sharing regulations: The Federation has been active in raising stakeholder awareness around compliance measures for users of genetic resources in accordance with the new EU Regulation and UK implementation of the Nagoya Protocol. UKPSF is preparing a briefing paper for publication in autumn 2015 and is discussing the possibility of co-hosting a training event with the UK's National Measurement and Regulation Office. The Executive Officer attends regular meetings with Defra's Access and Benefit Sharing (ABS) stakeholder group and feeds in expertise and views from the plant science community to inform the development of guidelines on compliance measures and to urge their completion and presentation to the community.

Public engagement: UKPSF continues to provide expertise to the public-focused Sense About Science plant science panel and regularly facilitates or provides media comment on relevant topics including GM, cuts to Kew Gardens' funding, plant health and vulnerable skills. The Federation provided national coordination of UK activities taking place under

Fascination of Plants Day (FoPD) 2015, which included over 30 events involving more than 60 organisations.

Policy engagement on GM crops: The UKPSF recently joined 27 scientific organisations in co-signing a letter to Scotland's Secretary for Rural Affairs, Food and Environment, Richard Lochhead, requesting that he meets with members of the scientific community to discuss their concerns over his plan to ban the cultivation of GM crops in Scotland.

<http://news.sciencemag.org/europe/2015/08/scientists-protest-scotland-s-ban-gm-crops>.

Social media engagement has grown on Twitter (<https://twitter.com/ukpsf>), LinkedIn (www.linkedin.com/grps/UK-Plant-Sciences-Federation-4498840/about?), Google+ (<https://plus.google.com/u/0/b/108998679025064489043/108998679025064489043/posts>) and a dedicated blog (<http://blog.plantsci.org.uk/>), such that overall reach is now significant. The UKPSF 'Find a Scientist' directory (www.plantsci.org.uk/scientists) lists 752 scientists and the eNewsletter (www.plantsci.org.uk/enews) distributes news, events and funding information to over 800 subscribers. Website traffic during the past year reached 61,681 page views and 22,432 visits. The Ash Dieback newsletter and website (<http://treehealth.plantsci.org.uk/>), begun in response to the UK outbreak of the disease, continues to serve as valuable networking functions with over 250 subscribers and more than 4,000 website views per annum.

Annex 2. GPC Member Organizations

African Crop Science Society (ACSS)

GPC Representative – Kasem Ahmed

<http://www.acss.ws/>

American Society of Agronomy (ASA) and Crop Science Society of America (CSSA)

GPC Representative – Henry Nguyen

GPC Observer – Ellen Bergfeld

<https://www.agronomy.org/>

<https://www.crops.org/>

American Society of Plant Biologists (ASPB)

GPC Representative – Virginia Walbot from 1 October 2015

GPC Representative – Russell Jones until 1 October 2015

GPC Observer – Crispin Taylor

<http://my.aspb.org/>

Argentinean Society of Plant Physiology (SAFV)

GPC Representative – Luis Aguirrezabal

<http://www.safv.com.ar/>

Australian Society of Plant Scientists (ASPS)

GPC Representative – Barry Pogson

<http://www.asps.org.au/>

Botanical Society of China (BSC)

GPC Representative – Song Ge

<http://www.botany.org.cn>

Brazilian Society of Plant Physiology (SBFV)

GPC Representative – Gustavo Habermann

<http://www.sbfv.org.br/>

Canadian Society of Plant Biologists (CSPB)

GPC Representative – Carl Douglas

<http://www.cspp-scpv.ca/>

Chile's National Network of Plant Biologists (CNNPB)

GPC Representative – Ariel Orellana

Chinese Society of Plant Biology (CSPB)

GPC Representative – Zhihong Xu

GPC Observer – Zuhua He

<http://www.cspb.org.cn/>

Crop Science Society of China (CSSC)

GPC Representative – Jianmin Wan

European Association for Research on Plant Breeding (EUCARPIA)

GPC Representative – Beat Boller

<http://www.eucarpia.org/>

European Plant Science Organisation (EPSO)

GPC Representative – Wilhelm Gruissem

GPC Observer – Karin Metzloff

<http://www.epsoweb.org/>

Federation of European Societies of Plant Biology (FESPB)

GPC Representative – Christine Foyer

<http://www.fespb.org/>

Genetics Society of China (GSC)

GPC Representative – Yongbiao Xue

<http://www.gsc.ac.cn/>

Korean Society of Plant Biologists (KSPB)

GPC Representative – Mi Chung Suh

<http://www.kspb.kr>

Indian Society of Plant Physiology (ISPP)

GPC Representative – Madan Pal Singh

<http://www.ispponline.org/index.html>

International Crop Science Society (ICSS)

GPC Representative – Antonio Costa de Oliveira

International Society of Horticultural Science (ISHS)

GPC Representative – Ir. Jozef Van Assche

<http://www.ishs.org/>

Japanese Society for Plant, Cell and Molecular Biology (JSPCMB)

GPC Representative – Takashi Hashimoto

<http://www.jspcmb.jp/english/>

Japanese Society of Plant Physiologists (JSPP)

GPC Representative – Takashi Ueda (2015)

GPC Representative – Yusuke Saijo (2016)

<http://www2.jspp.org/>

New Zealand Society of Plant Biologists (NZSPB)

GPC Representative – Rainer Hoffman

<http://plantbiology.science.org.nz/>

Plant Canada (PC)

GPC Representative – Deena Errampalli

<http://www.plantcanada.ca/>

Portuguese Society of Plant Physiology (SPFV)

GPC Representative – Margarida Oliveira

GPC Observer – Nelson Saibo

<http://www.spfv.pt/>

Scandinavian Plant Physiology Society (SPPS)

GPC Representative – Rodomiro Ortiz

<http://www.spps.fi/>

Society of Experimental Biology (SEB)

GPC Representative – Vicky Buchannan-Wollaston

GPC Observer – Paul Hutchinson

<http://www.sebiology.org/>

Taiwan Society of Plant Biologists (TSPB)

GPC Representative – Ming-Che Shih

http://tspb.org.tw/TSPB_en/

UK Plant Sciences Federation (UKPSF)

GPC Representative – Jim Beynon

GPC Observer – Mimi Tanimoto

<http://www.plantsci.org.uk/>