



**Global Plant Council  
Annual Report 2016–2017**

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## Introduction

### The Global Plant Council

The Global Plant Council (GPC) is a coalition of national, regional and international societies and affiliates representing plant, crop, agricultural, and environmental sciences across the globe. As a registered not-for-profit organization, the GPC represents thousands of experts from 26 Member Organizations on six continents.

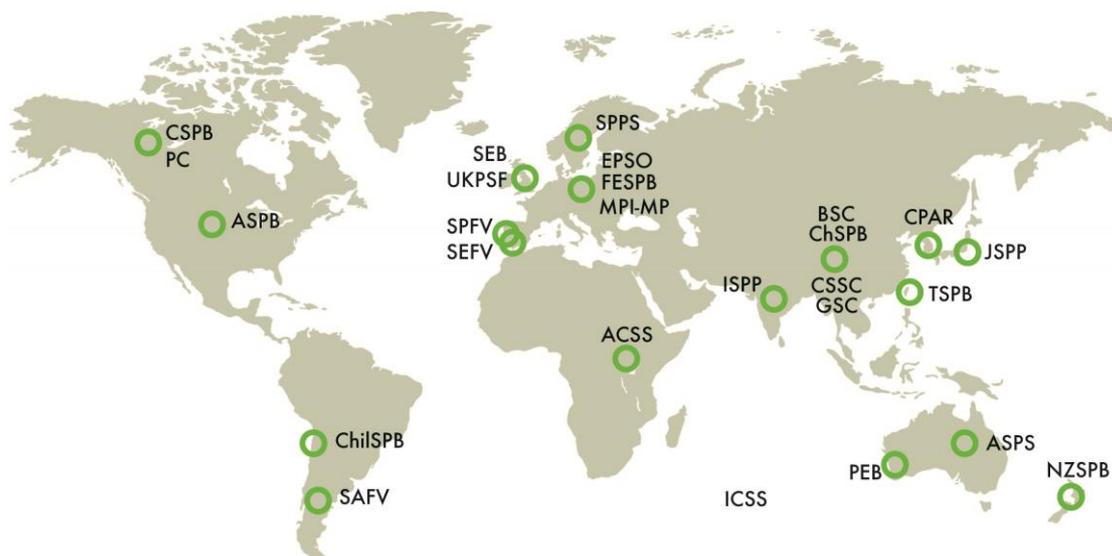


Figure 1. Map showing the distribution of Global Plant Council Member Societies and Affiliates

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 Initiatives

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

Diversity Seek (DivSeek) is a community-driven effort consisting of a diverse set of Partner organizations including funding bodies, universities, non-governmental organizations (NGOs) and government departments. These organizations have voluntarily come together to help DivSeek seek meet its mission to enable breeders and researchers to mobilize a vast range of plant genetic variation to accelerate the rate of crop improvement, and furnish food and agricultural products to the growing human population.

From 28<sup>th</sup> November–1st December 2016, 18 experts from a range of disciplines were hosted by The Rockefeller Foundation at its Bellagio Center in Italy to discuss how plant genetic resources (PGRs) relate to, and can be instrumental in meeting the United Nations' Sustainable Development Goals (SDGs). Working with many other collaborators, DivSeek helped to organize this meeting, which was funded by The Rockefeller Foundation with additional support from the UK's Biotechnology and Biological Sciences Research Council, and the New Phytologist Trust.

Several outputs will be generated from this meeting, including a meeting report and publication. During the Bellagio meeting, DivSeek representatives gathered input for their response to an invitation by the Secretary of the International Treaty for Plant Genetic Resources in Food and Agriculture (ITPGRFA; 'The Treaty') "to report on the implications for the objectives of the Treaty of the technologies underlying the DivSeek initiative" (as per paragraph 6 of Resolution 3/2015 of the Sixth Session of the Treaty Governing Body). This outcome can be used by the Secretariat to compile a synthesis on this report for consideration by the Governing Body of the Treaty at its Seventh Session in 2017.

DivSeek also held its annual roundtable event and a workshop at the Plant and Animal Genome Conference in San Diego, USA, in January 2017. These events provided an opportunity to introduce the DivSeek Working Groups to the DivSeek Partners and wider community.

To date, seven Working Groups have been established to address issues of importance to the DivSeek Community. These are:

- Working Group 1 – Data Standards for Interoperable Tools
- Working Group 2 – Genebank Information Management System
- Working Group 3 – Genomics for Genebanks
- Working Group 4 – Phenotyping for Seed Diversity
- Working Group 5 – Semantics for Harmonizing Trait and Agronomic Data
- Working Group 6 – Translational Approaches for Minor and Underutilized Crops
- Working Group 7 – FAIR Data

Via these Working Groups, the DivSeek Partners will help to advance the mission of DivSeek. Through the activities of the Working Groups, DivSeek Partners can form teams, design projects, fund initiatives, gain visibility, generate vitality, and help achieve the goals of the DivSeek initiative.

## **Nutritional Security**

Led by Professor Barry Pogson (GPC Chair), with assistance from a steering committee comprising Dr Ruth Bastow (GPC), Professor Wilhelm Gruissem (ETH Zurich, Switzerland), Professor Rodomiro Ortiz (Swedish University of Agricultural Sciences), and Professor Cathie Martin (John Innes Centre, UK), the GPC Nutritional Security initiative aims to define the challenges and opportunities for improving the nutritional value of crops.

A Biofortification Symposium and Discussion Forum held in China in 2014, which was attended by 30 experts representing 11 countries and 25 organizations, generated a set of 10 recommendations on the future of research into nutritional security. These recommendations formed the basis for a report that was published in 2016, entitled *Integration of Nutritional Security, Food Security and Health*. This document is available for free download at: <http://globalplantcouncil.org/initiatives/nutritional-security>.

In 2017, nearly 200 hard copies of the GPC report were distributed to research leaders funders, governments, non-governmental organizations, charities and other key stakeholders in this area.

## **Stress Resilience**

The GPC hosted a symposium in 2015, which brought together 36 global experts from 14 countries to discuss research efforts in stress resilience, showcase new approaches and technologies, and build networks and collaborations. Based on this meeting, in 2017 the GPC published four commentaries and an accompanying editorial in the open access journal *Food & Energy Security*, discussing the strategies and initiatives needed to develop sustainable crops and cropping systems under fluctuating and stressful environmental conditions.

- Martin L, Jose S, Bastow R. The Global Plant Council [Editorial]. *Food & Energy Security* 2017;6(1):3–4.
- Gilliam M, Chapman S, Martin L, et al. The case for evidence-based policy to support stress-resilient cropping systems. *Food & Energy Security* 2017;6(1):5–11.
- Davies WJ and Ribaut JM. Stress resilience in crop plants: strategic thinking to address local food production problems. *Food & Energy Security* 2017;6(1):12–18.
- Buchanan-Wollaston V, Wilson Z, Tardieu F, et al. Harnessing diversity from ecosystems to crops to genes. *Food & Energy Security* 2017;6(1):19–25.
- Borrell A and Reynolds M. Integrating islands of knowledge for greater synergy and efficiency in crop research. *Food & Energy Security* 2017;6(1):26–32.

## **Knowledge Exchange**

Many projects have targeted crop improvement, modified crop and livestock management, and nutritional enhancement of diets, with a view to achieving enhanced food security. However, a key limitation in the delivery of these projects is the translation of knowledge and skills from the laboratory to the field, and into the market supply chain.

To help address these knowledge gaps GPC President Professor Bill Davies of Lancaster University (UK) has developed the 'Global Agricultural Practices Exchange' platform (GapX). Working with a global network of researchers and institutions – the GPC, the 'N8' Consortium of UK universities, universities in West Africa, UK supermarket chains, CGIAR centers and international consortia such as the Gates Foundation-funded project N2Africa – the project aims to develop online, open-access resources and a MOOC (massive open online course)-style training program aimed at sustainable food production, water and nutrient crop productivity, and social and economic development of farming communities.

Following a number of successful visits to Ghana in 2016 and 2017, a core team has been brought together and is now securing funding opportunities to get this exciting project off the ground.

## GPC Activities

### Plantae

The establishment of an online ‘plant knowledge hub’ was suggested as a priority initiative for the GPC following our AGM in 2014. Working with the American Society of Plant Biologists (ASPB), who had the idea to create a ‘plant science exchange’ networking database, the two ideas were combined into one social media-cum-knowledge bank platform that is now known as Plantae.org.

An early beta version of Plantae was launched in September 2015. Based on user feedback and testing, a new and improved version of Plantae is being launched at the ASPB’s annual Plant Biology 2017 meeting in June 2017.

The platform, which is free for all plant scientists to use, whether members of the ASPB or not, is developed around three central themes: Research, Careers, and Education. Through its core team at ASPB, with help from a number of ‘Plantae Fellows’, Plantae also hosts regular online seminars on research, career development or outreach themes. There is a regularly updated blog, jobs feed, and an active online community where users can interact with plant scientists across the world in public or private groups. Within these groups, users can discuss topics of interest and share papers, teaching resources, videos, links or other items of interest that can be uploaded to a searchable database.

The GPC has a dedicated Plantae page (<https://plantae.org/the-global-plant-council/>) where we feed in content from our blog (see also below), as well as news, events, and information about funding opportunities. We also regularly curate and upload content that is of interest to our members and contribute to groups. Our aim is to help expand the content from a US focus to a wider, international perspective.

We encourage all of our members to register for a free Plantae account, start sharing your resources, knowledge and expertise, and establish groups to host discussions on topics of interest. We hope that Plantae will be widely used by the global plant science community and become “the” digital home for plant science.

### Education and Outreach

- *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. Much of this content is also cross-posted to Plantae.org (see above), thus creating a useful repository of GPC-related information in a searchable format.

Since the last GPC AGM, (between 1 October 2016 and 31 May 2017) the GPC website collated 486 news items and hundreds of events for the attention of the GPC community.

The GPC website, which is maintained by Lisa Martin and Sarah Jose, has become so popular that it outgrew its original server! Therefore, to cope with the increased site traffic, the website was upgraded to a new server in December 2016.

- *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 English-language Twitter account @GlobalPlantGPC continues to grow in popularity: as of May 2017 it has 3868 followers compared to 2610 this time last year – an increase of 1258 followers, or an average of 104 new followers each month.

Initiated by Lisa Martin, a Friday feed of tweets using the hashtags #PlantSciJobs and #PlantSciPhD has proven popular, with several other plant science organizations including the SEB and the Boyce Thompson Institute now also adopting these hashtags for careers-related tweets.

In 2017 we ran our first ever Twitter-based competition to celebrate Fascination of Plants Day, in association with the science publishing company Burleigh Dodds. In return for following both the GPC and Burleigh Dodds Twitter accounts, and retweeting a message with the hashtag #PlantDay2017, two participants were rewarded with a free copy of a Burleigh Dodds book from their 'Crops' series.

The GPC also has a Spanish-language Twitter account, @GPC\_EnEspanol, which was initiated in April 2015 and is managed by a Spanish-speaking volunteer Juan-Diego Santillana Ortiz. As of May 2017 this account had 815 followers (193 more than this time last year).

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

The GPC blog was started in May 2014 to increase the GPC's 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.

Since the last GPC AGM (October 2016–May 2017) 36 blog posts were published. The most popular posts have been 'Genome editing: an introduction to CRISPR/Cas9' written by Dr Damiano Martignano at Rothamsted Research (UK) (1106 views); a post advertising a travel bursary to attend the State of the World's Plants Symposium (generously offered by the Society for Experimental Biology in association with the GPC – see more below) (623 views); a piece about 'The importance of botanic gardens in the 21<sup>st</sup> century', written by Sarah Jose (596 views), and an article contributed by Professors Susanne Schmidt and Rana Munns from the Australian Society of Plant Science (ASPS), who wrote about their free, open access, online plant science textbook, Plants in Action (385 views).

As well as the ASPS post mentioned above, other GPC Member Organizations have been featured on the blog, including the Argentine Society of Plant Physiology, and the New Zealand Society of Plant Biology. Other notable posts in the last 6 months include interviews (by Sarah Jose) with Professor Henk Hilhorst from Wageningen University & Research (Netherlands), and Professor Jonathan Lynch from Penn State University (USA); and insights into the work of the People Plant Council and the Global Food Security Programme's TempAg network. GPC Executive Director Ruth Bastow was also featured in a blog post by the Australian Plant Phenomics Facility.

In the period October 2016–May 2017, the blog received 15,536 views (vs. 11,851 in during the same period last year); an average of 1942 views per month (vs. 1481 views per month during the same period in 2015–16).

- *GPC e-Bulletin* – <http://tinyurl.com/GPCsignup>

The GPC e-Bulletin is sent out every month to individuals from the plant science community who can subscribe via the GPC website or a link on our Facebook page. As of May 2017, the e-Bulletin had 1194 subscribers, and it is also circulated by some of our Member Organizations, either by forwarding the email directly to individual members, or by providing a link on the Member's website and/or social media pages. The e-Bulletin is maintained by Lisa Martin, and provides a monthly summary of the vast amount of information published on the GPC website.

- *GPC Facebook* – <http://www.facebook.com/GlobalPlantGPC>

Launched in August 2015, the GPC Facebook page now has 809 'fans' (May 2017). The Facebook page is used to reach people who may not use Twitter or visit our website, and to create longer posts to make announcements, share interesting stories, and promote events from the GPC, our Member Organizations and the wider plant science community. Lisa Martin maintains the GPC Facebook page with help from Sarah Jose.

- *Outreach to Member Organizations*

As well as the GPC e-Bulletin (see above), which is sent monthly to anyone who wants to subscribe to it, we have also established a separate mailing list specifically for Member Organization representatives, presidents, and other key MO contacts. This mailing list is used to disseminate specific information from the GPC and on behalf of Member Organizations. For example, recent announcements have included calls to register for the GPC/SEB 'New Breeding Technologies in the Plant Sciences' symposium, participate in Botany.Live!, a live-streaming Fascination of Plants Day initiative led by Dr Anne Osterrieder (Oxford Brookes University, UK), and to advise members of the article that GPC recently published in the journal *Food and Energy Security*.

## Conferences, Meetings and Workshops

Over the last 8 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 AAFC, BBSRC, Genome Canada, FAO, NSF and USDA.

### November 2016:

- GPC Executive Director Ruth Bastow participated in and gave a presentation about the DivSeek Initiative at the *ASA, CSSA and SSA International Annual Meeting* in Phoenix, Arizona, USA
- As an invited speaker at the *Argentine Society of Plant Physiology meeting* in Corrientes, Argentina, Ruth Bastow gave a presentation about the GPC activities and initiatives.
- GPC President Bill Davies gave a talk and met with colleagues on behalf of the GPC at the World Life Sciences Congress in Beijing, China.
- GPC Treasurer Deena Errampalli presented on the GPC's initiatives at the Canadian Phytopathological Society's Ontario Regional Meeting.
- Bill also gave talks and held meetings on behalf of the GPC at Ghana Springboard.

### December 2016:

- Along with other organizations, DivSeek organized and hosted a discussion forum on how plant genetic resources relate to, and can be instrumental in meeting the United Nations' Sustainable Development Goals. This was held at the Rockefeller Foundations' Bellagio Center in Italy.
- Deena Errampalli presented on the GPC's initiatives to the members of Plant Canada.

### January 2017:

- As an invited speaker at *Plant and Animal Genome Conference* (San Diego, USA), Ruth gave a presentation about the DivSeek Initiative. Working with others Ruth also chaired three workshop sessions: 'Data Management in the Plant Sciences', 'Plant Phenotyping' and 'DivSeek – Addressing the challenges and opportunities for information and data sharing associated with plant germplasm'.
- DivSeek held its annual roundtable meeting at the *Plant and Animal Genome Conference*. Over 70 individuals from the DivSeek Partner organizations and other interested parties attended the event to learn about the progress made since the Partners Assembly in Saskatoon, Canada, in June 2016; to hear about technical developments, datasets, and integration efforts being carried out by the DivSeek Partners that are relevant to the DivSeek mission and aims; and to get involved in the Working Groups that were launched at the meeting.
- Bill Davies attended a meeting of the Global Food Security programme at the House of Lords, London, UK.

### February 2017:

- Ruth represented the Global Plant Council at the Advisory Meeting of the Plant Science Research Network (PSRN) in Arizona, USA and attended the associated

Phenome 2017 meeting.

- Bill Davies attended a Ghana Knowledge Exchange Workshop in Accra, Ghana and held meetings with the Ghana Water Management Institute, the International Water Management Institute (CGIAR), representatives from the public and private sectors, Lancaster University Ghana, and the West Africa Crop Improvement Center.

**March 2017:**

- Deena Errampalli presented GPC updates to the Plant Canada Board.
- Bill Davies gave a talk on climate change to the Worshipful Company of Fruiterers, London, UK.

**April 2017:**

- As a steering committee member and invited speaker Ruth attended the Research Data Alliance (RDA) Interest Group in Agricultural Data (IGAD) in Barcelona Spain.
- Bill Davies gave a talk on food ethics to members of the UK fresh produce supply chain in London, UK.

**May 2017:**

- GPC Board Member Katherine Denby arranged for funds from the Society for Experimental Biology's Plant Section to fund a GPC/SEB travel bursary for an early career researcher to attend the State of the World's Plants Symposium at the Royal Botanic Gardens, Kew, UK. The recipient of the award was Harison Andriambelo from the University of Antananarivo, Madagascar, who travelled to London to present his research and meet with collaborators at Oxford University. He also wrote a blog post for the GPC blog.
- Bill Davies gave a talk about the GPC to members of the Department of Plant Science at Leeds University.
- Bill represented the GPC as a course leader for a discussion on food challenges with representatives of the UK food supply chain.
- Bill discussed GPC with the Director of the N8 Consortium and colleagues.

**June 2017:**

- Deena Errampalli presented GPC updates to the Plant Canada Board.
- Bill Davies attended a meeting in Accra, Ghana, to progress the GPC's involvement with the gapX project.

## GPC Member Highlights

Activity reports from GPC Member Societies are provided in Annex 1. Highlights from the last 8 months include:

- Together with the GPC, the American Society of Plant Biology (ASPB) has improved the digital Plantae platform. This will be launched at the Plant Biology 2017 meeting in Hawaii (June 2017).
- Around 250 members of GPC Member Organizations enjoyed discounted registration rates to attend ASPB Plant Biology 2016 (Austin, TX, June 2016).
- The Australian Society of Plant Scientists co-hosted the ComBio meeting in October 2016, which was attended by 665 researchers from around the world.
- Professor Edith Taleisnik from the Argentine Society of Plant Physiology has written and published a book about the history of plant physiology research in Argentina.
- The Canadian Society of Plant Biologists welcomes Dr Owen Rowland to its Executive Board. Dr Rowland is also the new Member Organization representative for the GPC.
- The Chinese Society of Plant Biology has held several large and successful meetings in the last few months, and celebrated Fascination of Plants Day (May 2017) with 11 different events across the country.
- The European Plant Science Organisation led a very successful International Fascination of Plants Day in May 2017, with scientists and organizations from all over the world taking part in education and outreach events.
- The Federation of European Societies of Plant Biology will soon launch a new and improved website for the benefit of its members and the wider European plant science community.
- Together with other plant science organizations in China, the Genetics Society of China co-sponsored the successful 7<sup>th</sup> National Plant Biology Conference in Wuhan, Hubei province, China, in October 2016.
- In December 2016, the Indian Society for Plant Physiology organized its National Conference of Plant Physiology, at which three Memorial Lecture Awards, one Young Scientist Award and three Gold Medal Awards were presented, as well as four Fellowships of the Society.
- After the success of the Japanese Society of Plant Physiologists' 58<sup>th</sup> Annual Meeting at Kagoshima University, the JSPP will co-organize a joint meeting with the Taiwan Society of Plant Biologists in November 2017.
- Supported by five Japanese plant and crop societies, including JSPP, 37 events took place across Japan to celebrate Fascination of Plants Day 2017.
- The New Zealand Society of Plant Biologists will hold its annual meeting, Plant Science Central, in Palmerston North, New Zealand, in July 2017. At this meeting, Dr Kimberley Snowden of the New Zealand Institute for Plant and Food Research will be presented with the prestigious Robert Slack Award, and Ben Peters of the University of Otago will receive the Michael McManus Award for Best Student Paper.

- Plant Canada continues to unite plant and crop scientists across Canada. We are pleased to welcome its President, Dr Deena Errampalli, as Treasurer of the GPC's Executive Board.
- The Scandinavian Plant Physiology Society (SPPS) held an Early Career PI meeting in Tromsø, Norway, in November 2016, and announced the recipients of four prestigious awards to deserving Scandinavian plant scientists. These will be presented at the forthcoming SPPS Congress in Finland, 2017.
- The Spanish Society of Plant Physiology continues to publish a useful, weekly newsletter for the Spanish-speaking plant science community, and also issues a biannual bulletin, comprising scientific reviews, interviews with leading scientists, doctoral thesis abstracts and science policy news.
- The Society for Experimental Biology (SEB) has provided over £14,000 GBP in funding, allowing 39 plant scientists to attend meetings and present their research across the world in 2016/17.
- The SEB Plant Section generously funded a Global Plant Council travel bursary, which enabled an early career scientist from Madagascar to present his work and strengthen collaborations at the State of the World's Plants Symposium, London, UK, in May 2017.
- The UK Plant Sciences Federation continues to develop its Roadmap for UK Plant Sciences to identify the opportunities for UK plant science over the next 25 years. This will be launched at a forthcoming event, planned for early 2018.
- With funding from the UK Government's Department for Environment, Food and Rural Affairs (Defra), the UKPSF launched a Plant Health Undergraduate Studentship program to provide paid research placements for four students during summer 2017.

## Annex 1. GPC Member Organization Activity Reports

Note that as it has only been 8 months since the last GPC AGM in October 2016, some Member Organizations had no updates to share at this time.

### American Society of Plant Biologists (ASPB)

GPC Representative – Virginia Walbot, [walbot@stanford.edu](mailto:walbot@stanford.edu)

Current President – Sally Mackenzie

GPC Observer – Crispin Taylor, [ctaylor@aspb.org](mailto:ctaylor@aspb.org)

<http://www.aspb.org>

### Activity Report

ASPB and GPC continue to collaborate on the Plantae digital ecosystem, which underwent a major transition to a new social media platform in June 2017. Plantae has over 6,000 registered participants and saw 34 new groups/networks established during 2016. Meanwhile GPC has contributed content to the Plantae platform, which provides a one-stop online destination for researchers, students, industry professionals and educators. Indeed, Plantae is designed to be the leading global plant science resource hub, as well as an online gathering place for the community, with expanded capabilities for connecting, learning and sharing.

As it has in previous years, ASPB once again offered ASPB member registration rates for the Plant Biology 2017 conference to attendees who are members of other GPC member societies. Preliminary data indicate that as many as 250 Plant Biology 2017 registrants were affiliated with another GPC member society, with particularly strong representation from Japan, Taiwan, China, and Australia.

Beyond our partnership around Plantae, ASPB has been investing heavily in the digital infrastructure necessary to support Plantae and many other aspects of the Society's operation. ASPB has also set up a Meeting & Event Solutions unit that will both generate new ASPB "owned and operated" meetings, as well as providing logistics and technological support for other plant science organizations and ad hoc groups who need the support. In the time frame covered by this report, ASPB provided meetings-related services to more than half a dozen meetings, including the 2017 International Conference on Arabidopsis Research, and we are mid-stream in support of the International Plant Molecular Biology 2018 meeting, which will take place in August 2018 in Montpellier, France. ASPB has also collaborated with the North American Plant Phenotyping Network and the National Plant Science Council to establish an annual series of Phenome meetings in North America. Phenome 2017, the inaugural meeting, was held in February 2017 in Tucson, AZ and was a sound success. ASPB's Board of Directors has committed support for meetings at around the same time and at the same venue for at least the next two years, and planning for the Phenome 2018 meeting is well underway.

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Turning back to Plant Biology meetings, planning is also under way with the Canadian Society of Plant Biologists on Plant Biology 2018, which will be a joint meeting of both

societies. The meeting will convene in July in Montréal, Quebec and will also involve the International Society for Photosynthesis Research.

In other domains during 2016, ASPB has:

- Published the work of over 7,500 authors in 800 papers in *Plant Physiology* and *The Plant Cell*
- Published two special Focus Issues of *Plant Physiology*
- Created two new Teaching Tools in *Plant Biology* and refreshed three others
- Funded 15 Summer Undergraduate Research Fellowship awards
- More than doubled its social media presence on Facebook and Twitter
- Launched a Legacy Society for donations, with over \$350,000 contributed and pledged by more 80 founding members
- Provided training and skills-development workshops through six new *Plantae* Seminars, 15 workshops during *Plant Biology 2016*, and dozens of career resources available via *Plantae*
- Created a new Blog column, “What We’re Reading this Week”, which highlights the week’s most interesting plant science research
- Worked collaboratively with organizations around the world toward the successful effort to have the US Senate ratify the International Treaty on Plant Genetic Resources
- Met repeatedly with elected representatives and federal agency officials in the US government
- Worked to eradicate plant blindness through dozens of high-impact education and outreach programs including the 2016 USA Science and Engineering Festival (9,000 interactions with the public) and the 2016 White House Easter Egg Roll (over 2,000 interactions)

Please consult the websites listed above for additional information on the diverse scientific, educational, mentorship, and other activities of ASPB.

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## **Australian Society of Plant Scientists (ASPS)**

GPC Representative – Barry Pogson

<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. The key objectives of the Society are to facilitate the dissemination of new research, provide a forum for sharing of knowledge and mutual support, recognise and reward excellence in plant science research and teaching, and nurture the next generation of plant scientists.

In 2016, the Society organised an annual meeting conducted as a part of ComBio conference held in Brisbane Convention Centre in October 2016. ComBio are the joint meetings between the Australian Society for Biochemistry and Molecular Biology, the ASPS, and the Australia and New Zealand Society for Cell and Developmental Biology. The conference was attended by 665 researchers; of these, 118 were ASPS members. This included 42 PhD students. Of six concurrent streams, two were dedicated exclusively to plant biology. At this meeting, ASPS presented awards in three categories. The Goldacre award recognises research achievement in the past 3 years by an early-career member of the Society (within 10 years of PhD). This award was given to Sam Periyannan (CSIRO Agriculture) for developing a rapid resistance gene isolation technology called “MutRenSeq”, to bypass positional cloning. The senior RN Robertson Award was given to Prof RT Furbank (Australian National University) for his work on C4 photosynthesis. Finally, Diép Ganguly (Australian National University) won the ASPS-FPB Best Paper Award for an Early-Career Scientist published in *Functional Plant Biology* in 2015. All three recipients of these prestigious awards had a chance to present their work at this meeting.

Two ASPS members have also attended the 16<sup>th</sup> Science Meets Parliament event organised by Science & Technology Australia, informing and updating politicians about plant science in Australia and raising our concerns.

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## **Canadian Society of Plant Biologists (CSPB)**

GPC Representative – Owen Rowland, [owen.rowland@carleton.ca](mailto:owen.rowland@carleton.ca)

Current President – Anja Geitmann

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

### **Activity Report**

The Canadian Society of Plant Biologists (CSPB) represents scientists with interests in genomics, molecular and cell biology, bioinformatics, biotechnology, plant development, biochemistry, natural products, metabolism, proteomics, metabolomics, physiology, physiological ecology, and adaptations to biotic and abiotic stress. Members of the CSPB are engaged in basic and applied research, undergraduate and graduate education, management, extension, and the design and manufacture of scientific equipment. The CSPB is the largest plant science organization in Canada, with approximately 400 members.

In 2016/17 the CSPB organized one regional and one general annual meeting. The 2016 Eastern Regional Meeting was held at McMaster University in Hamilton on November 18 and 19, 2016. A total of 117 participants registered for this meeting: 51% were graduate students, 8% were undergraduates, 11% postdoctoral fellows, and 29% were faculty or other full-rate registrants. Almost all were from the Eastern provinces of Canada, mostly from Ontario. The scientific sessions were focused on physiology and biochemistry, biotic interactions, metabolism, and molecular signaling, among others.

The 2017 Annual Meeting of the CSPB will be held at the University of British Columbia, Vancouver. The meeting is entitled 'Plants from Sea to Sky' and is organized jointly with the Canadian Society of Horticultural Sciences (<http://plantsfromseatosky.botany.ubc.ca/>). Professor Geoffrey Wasteneys is the chair of the organizing committee. During the meeting, a symposium in memory of Professor Carl Douglas will be held. Prof. Douglas (UBC) passed away tragically on July 25, 2016, leaving a gap not only within the Executive Board of the Society (he was President in 2009–2011 and had been serving as Science Policy Director since 2013) but also on the GPC's Executive Board. This function has now been taken over by Interim Science Policy Director, Professor Owen Rowland (Carleton University, Ottawa), who has also joined the Global Plant Council as a representative.

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### **Chinese Society for Plant Biology (ChSPB)**

GPC Representative – Yajie Zheng, [yjzheng@sibs.ac.cn](mailto:yjzheng@sibs.ac.cn)

Current President – Xiaoya Chen

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

#### **Activity Report**

The 1<sup>st</sup> Plant Biotechnology International Symposium of China, Japan and Korea and the 5<sup>th</sup> National Plant Biotechnology and Industrialization Conference was held at Guizhou University from August 3–6, 2016. This joint event, sponsored by the Chinese Society for Plant Biology, the Japanese Society for Plant Cell and Molecular Biology, and the Korean Society for Plant Biotechnology, was undertaken by the Biotechnology and Industrialization Branch of the Chinese Society for Plant Biology, Guizhou University, and the Guizhou Society for Plant Biology. A total of 238 experts and scholars from 78 research institutions in China, Japan, and Korea attended the conference.

From August 11–14, 2016, the 2<sup>nd</sup> Molecular Plant International Symposium: From Genes to Networks was held successfully in Tsinghua University in Beijing. A total of 27 internationally renowned experts reported on five special topics: plant hormones, growth and development; epigenetic inheritance; stress and adaptation; biological interaction; and systematic biology and crop improvement. Nearly 300 representatives from over 10 countries including the USA, Germany, the UK, Chile, Austria, Switzerland, Korea, and China attended the conference. The representatives carried out a warm and deep discussion with the experts during multiple networking periods.

The 2016 Cross-Strait Plant Biology Young Scientist Academic Forum, sponsored by the China Association for Science and Technology, was held by the Chinese Society for Plant Biology and the Zhejiang Society for Plant Biology at China Jiliang University, Hangzhou, from September 23–26, 2016. Over 200 representatives from cross-strait research institutions and universities participated in the forum. The topic of the forum was plant biology and modern agriculture, with a focus on discussing research progress in plant biology, the applications and prospects of plant biology in modern agriculture, and the growth of young scientists.

The National Congress on Plant Biology, 2016, was held from October 9 to 12 in Wuhan, Hubei. Over 1600 participants attended the conference. There were 11 plenary lectures and 88 session lectures.

International Fascination of Plants Day was celebrated in China from May 18–27. There were 11 activities during the period. An exhibition of plant nutrition and human health took place at Anhui Normal University. A series of activities were held at Peking University, including a science festival, lectures, and a knowledge competition. A series of campus plant tours took place in the School of Life Science at Central China Normal University. The Jiansu Society of Plant Physiology held a network lecture exhibition and WeChat promotion on genetically modified plants and food safety. Lanzhou University had a school open day for. The Tianjin Society for Plant Biology organized a series of activities on plants and health, including a school open day and panel discussion. The Shanghai Society for Plant Biology held an open day on fragrant plants at the Shanghai Science and Technology Museum.

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## **Federation of European Societies of Plant Biology (FESPB)**

GPC Representative – Christine Foyer, [c.foyer@leeds.ac.uk](mailto:c.foyer@leeds.ac.uk)

Current President – Stefan Jansson

<http://www.fespb.org>

### **Activity Report**

FESPB has teamed up with EPSO to organize the Plant Biology Europe 2018 Congress. The Congress will be held in June 2018 in the Bella Center, Copenhagen, Denmark. Please see [www.europlantbiology.org](http://www.europlantbiology.org) for more information.

A new and improved version of the FESPB website has been prepared and is ready to be made live, at which point all existing users will be able to perform an automated password reset to their recorded email address. The new system allows members to control all of their own contact information going forwards.

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## **Genetics Society of China (GSC)**

GPC Representative – Yongbiao Xue, [ybxue@genetics.ac.cn](mailto:ybxue@genetics.ac.cn)

Current President – Yaping Zhang

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

### **Activity Report**

The 7<sup>th</sup> National Plant Biology Conference 2016 was held in Wuhan, Hubei, on October 9–12, 2016. The conference was co-sponsored by the Genetics Society of China, the Botanical Society of China, the Chinese Society of Plant Biology, the Crop Science Society of China, and the Chinese Society for Cell Biology. The theme of the conference was “Modern Agriculture and Sustainable Development”. Experts and scholars with significant academic influence in

China as well as outstanding young scientists were invited to the conference, with almost 1600 scholars attending. In addition to oral reports, the General Assembly displayed more than 120 posters. The conference fully embodies the outstanding progress of plant biology research in China and is a world-class academic event. The merging of ideas could guide modern agricultural production and development in China.

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## **Indian Society for Plant Physiology (ISPP)**

GPC Representative – Madan Pal Singh, [madanpal@yahoo.com](mailto:madanpal@yahoo.com)

Current President – Akhilesh Tyagi

<http://www.ispponline.org>

### **Activity Report**

The following activities were undertaken by the ISPP during the period June 2016–June 2017:

The National Conference of Plant Physiology on “Challenges in Crop Physiology Research: From Molecular to Whole Plant” took place on December 8 to 10, 2016, at the Department of Crop Physiology, University of Agricultural Sciences, GKVK, Bengaluru.

Three Memorial Award lectures were delivered by as follows:

- G.V. Joshi Memorial Lecture Award: Prof. Ram Rajasekharan, Central Food Technological Research Institute (CFTRI), Mysuru-570020, Karnataka
- K.K. Nanda Memorial Lecture Award: Dr. T.G. Prasad, Department of Crop Physiology, University Agricultural Sciences, GKVK, Bengaluru, Karnataka
- S.K. Sinha Memorial Lecture Award: Prof. J.P. Khurana, Department of Plant Molecular Biology, University of Delhi South Campus, New Delhi

Twelve young scientists presented their excellent research during a special session of the National Conference of Plant Physiology, 2016. Among them, Dr. Rohit Joshi, ICGEB, New Delhi, and Dr. R.S. Sajeevan, Department of Crop Physiology, University of Agricultural Sciences, GKVK, Bangalore, Karnataka received the Young Scientist Award 2016.

The following researchers were named as Fellows of the Society for the year 2016:

- Dr. Viswanathan Chinnusamy, IARI, New Delhi
- Dr. Ashok Kumar Dhawan, Central University of Punjab, Bathinda, Punjab
- Dr. Narendra Kumar Gupta, Rajasthan Agricultural Research Institute, Durgapura – Jaipur
- Dr. Arun Kumar Shanker, CRIDA, Hyderabad

The following scientists were selected for the Gold Medal Awards of the Society for the year 2016:

- J.J. Chinoy Gold Medal Award: Prof. Ashwani Pareek, JNU, New Delhi
- J.C. Bose Gold Medal Award: Dr. Kavita Shah, Banaras Hindu University, Varanasi
- R.D. Asana Gold Medal Award: Dr. Mamrutha H.M., IIWBR, Karnal, Haryana

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## Japanese Society of Plant Physiologists (JSPP)

GPC Representative – Yusuke Saijo, [saijo@bs.naist.jp](mailto:saijo@bs.naist.jp)

Current President – Hiroo Fukuda

<http://www2.jspp.org>

### Activity Report

The 58<sup>th</sup> Annual Meeting of the JSPP was held at Kagoshima University, Japan. It was associated with an annual research competition for high school students, as part of our continuous efforts to attract the younger generation to plant sciences.

The JSPP organized Fascination of Plants Day (FoPD) 2017 in Japan on and around 18<sup>th</sup> May. We had 37 events including guided tours, seminars, hands-on activities, and exhibitions at universities, schools, museums, and botanical gardens. FoPD 2017 in Japan was supported by five plant and crop societies including the JSPP. The 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 the JSPP.

We published the official journal of the JSPP, *Plant and Cell Physiology (PCP)*, on a monthly basis with Oxford University Press. *PCP* features in the top 8% of plant science journals (Journal Citation Reports, 2016). This year's published highlights have included special focus issues on trending topics such as light stress (*July 2016, 57:7*) and the annual Database Issue (*Jan 2017, 57:1*). In addition, *PCP* has been engaged in different outreach and promotional activities, including Biology Week, Fascination of Plants Day, a *PCP* author workshop at the JSPP annual conference, and more recently, *PCP*'s Editor-In-Chief, Hitoshi Sakakibara, showcased *PCP* in the Journals Editors' Session at the 27th ICAR meeting in Korea.

Together with *PCP*, the JSPP provided financial support for the Cold Spring Harbor Asia Conference on Plant Biology, entitled Latest Advances in Plant Development and Environmental Response (<https://www.csh-asia.org/2016meetings/plant.html>), which was held in Awaji, Japan, from Nov 29 to Dec 2, 2016.

We are co-organizing a joint meeting, Taiwan–Japan Plant Biology 2017, to be held in Taipei, Taiwan, from Nov 3 to 6, 2017, with the Taiwan Society of Plant Biologists.

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## New Zealand Society of Plant Biologists (NZSPB)

GPC Representative – Marian McKenzie, [marian.mckenzie@plantandfood.co.nz](mailto:marian.mckenzie@plantandfood.co.nz)

Current President – 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 of approximately 100 people 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.

We are progressing quickly towards our annual meeting, Plant Science Central 2017, a joint meeting with the NZ Society of Agricultural and Horticultural Science and the New Zealand branch of the International Association of Plant Biotechnologists, to be held July 4–6 at Massey University, Palmerston North, New Zealand.

During Plant Science Central we will be presenting our two major awards, The Roger Slack Award in Plant Biology and The Michael McManus Award for the Best Student Paper.

The Roger Slack Award in Plant Biology is the major research recognition award of our Society. It is conferred annually to one of our members in recognition of outstanding contribution to the study of Plant Biology. It is named after Dr Roger Slack for his outstanding contribution as a plant biologist in NZ and overseas, including his role in the discovery of C4 photosynthesis (the Hatch–Slack Pathway), as well as his contribution as a founding member of our Society. Sadly, Roger Slack passed away in October 2016, making this year’s award particularly poignant.

The recipient of this year’s Roger Slack Award is Dr Kimberly Snowden of The NZ Institute for Plant & Food Research, Ltd. Dr Snowden is a plant developmental biologist who has been working for some years on the control of branching in plants. Her work led to the publication in late 2012 of a landmark paper where she and her group were the first to identify the hormone receptor for strigolactones (SL). Further work by Dr Snowden’s group has clarified the link between environmental signals and plant architecture, including nutrient deficits and light quality changes. Dr Snowden’s work has led to significant advances in the SL field by other groups, including the identification of target proteins that are degraded by the SL receptor-F-box complex, SL receptors from parasitic weeds, and further details on how the SL receptor enzyme activity is linked to conformational changes to the receptor. Her work has also made it possible to identify compounds that can affect the activity of SL receptors. Congratulations to Kim on this outstanding achievement.

The Michael McManus Award for Best Student Paper is made in honor of Professor Michael McManus (Massey University), who sadly passed away in 2015. Michael was an inspirational teacher and supervisor for his students and a mentor for many colleagues. Michael was also an instrumental and highly regarded contributor to our Society, serving as NZSPB president from 2000–2002. Michael was recognized internationally for his outstanding contributions to his field of research, which in recent years had focused on gaining a deep understanding of key metabolic pathways in plants.

In this, the second year in which this award has been given, the recipient is Ben Peters of the University of Otago. His paper, “A Conserved cis-Regulatory Module Determines Germline Fate through Activation of the Transcription Factor DUO1 Promoter”, was published in *Plant Physiology* earlier this year. The paper describes the identification of key promoter sequences required for the germline regulation of the transcription factor DUO1, which is critical for the production of the male germline in pollen. Ben is currently completing the writing of his PhD thesis. Congratulations to Ben on this well-deserved award.

This year NZSPB has also received support from the *Annals of Botany* in the form of the Annals of Botany Lecturer Award. This has been given to Professor Yves Gibon of the University of Boudreaux, who will attend our annual meeting and give a key note address entitled “System-oriented studies of fruit metabolism.” Professor Gibon will also be producing a review for the *Annals of Botany* on the same topic. We are very thankful to the *Annals of Botany* for sponsoring our society in the form of this award.

In addition to the above awards, NZSPB offers several other prizes, including Travel Awards to support our postgraduate students who want to attend International Conferences (three given in 2017) and those attending our annual meeting (seven given in 2017), as well as the Technician’s Career Development Award (one given in 2017).

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## **Plant Canada (PC)**

GPC Representative – Deena Errampalli, [deena.errampalli@agr.gc.ca](mailto:deena.errampalli@agr.gc.ca)

Current President – Deena Errampalli

<http://www.plantcanada.ca>

## **Activity Report**

Plant Canada Federation of Canadian Plant Science Societies (PC) was incorporated on July 31, 2015, under the Canada Not-for-Profit Corporations Act. Plant Canada is an umbrella organization for seven Canadian plant societies: the Canadian Association for Plant Biotechnology (CAPB), 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 the Canadian Weed Science Society (CWSS).

Since the last GPC AGM, the PC Board of Directors met in December 2016 and March 2017. The Board has initiated discussions on registration of Plant Canada as a charity in Canada.

Other Plant Canada activities include:

- Deena Errampalli, as its President, represented Plant Canada and presented an annual report at the 2016 GPC annual meeting on October 3, 2016, in Brisbane, Australia.
- The Plant Canada website is being updated regularly.
- The next Plant Canada meeting will be held in 2019 in Guelph, Ontario, Canada and CSPB, a member society of Plant Canada, will host the meetings.

- In 2016, Plant Canada sponsored a best student presentation award at the CSPB Ontario Regional group meeting.
- Promotion of PC and GPC. Deena Errampalli, presented updates on “Plant Canada and Global Plant Council” at the CPS regional meeting in Vineland, Ontario, on November 4, 2016.
- Plant Canada developed its Equality and Diversity Policy in November 2016 (see: [http://www.plantcanada.ca/bylaws\\_corporations/Equality\\_and\\_Diversity\\_Policy/index.html](http://www.plantcanada.ca/bylaws_corporations/Equality_and_Diversity_Policy/index.html))
- Plant Canada sponsored the best science project at Lethbridge, Alberta Regional Science Fair on March 31, 2017.

The PC member societies held their individual society annual conferences and AGMs. The following are the individual reports from some of the PC member societies:

#### **Canadian Association for Plant Biotechnology (CAPB)**

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

The Executive Committee of the Canadian Association for Plant Biotechnology (CAPB) held its semi-annual meeting on November 24, 2016 to provide an update on CAPB activities. Members discussed ways to promote CAPB and increase membership. The treasurer provided an update on the budget. Plans for the biannual CAPB meeting in 2018 were discussed, and a location was proposed. Other issues discussed included preparations for the 2019 Plant Canada meeting, the CAPB position on transgenic crops, and membership in Plant Canada. The next semi-annual meeting of the CAPB Executive Committee will be held on May 23, 2017.

#### **Canadian Botanical Association (L'Association Botanique du Canada) (CBA-ABC)**

<http://www.cba-abc.ca>

Regional awards from CBA-ABC were presented coast-to-coast to a total of five undergraduate students presenting best botanical talks or posters at Ontario Biology Day, the BC Undergraduate Research Conference, and Science Atlantic events held during March and April, 2016. Details of these award-winning student presentations will be published in the September issue of the *CBA-ABC Bulletin*.

“Botany on the Edge” was a fitting theme for this year’s annual meeting of CBA-ABC that took place May 15–18, 2016, at the University of Victoria on Vancouver Island. Over 100 delegates attended the 50 talks and 25 posters, including one keynote symposium (“An Exploration of Biological Creativity and New Possibilities”), a symposium on Tree Biology, plus four standard Section symposia (Plant Development, Ecology, Mycology, and Teaching). The Weresub Memorial Lecture on Mycology was delivered by Prof. Emeritus Bryce Kendrick (University of Waterloo). The Lawson Medal was presented to Dr. Luc Brouillet of Montreal Botanic Gardens (IBRV), and the Magister Teaching Award to Dr. Arunika Gunawardena (Dalhousie University, Halifax). Student presenters from the University of Saskatchewan and Université Laval won the Lionel Cinq-Mars Award and Iain & Sylvia Taylor Poster Award. Various student awards for refereed scientific publications (2015–16), plus several travel awards (Macoun Travel Bursary; Winterhalder Fund) to assist student attendance at this meeting, were presented at the banquet held at the beautiful Horticulture Centre of the Pacific. Various field trips (Garry Oak

Ecosystem; Saltspring Island) provided opportunities to explore local botany. Another highly enjoyable and financially successful live auction (plus an accompanying silent auction) of botanically-related memorabilia helped secure funds toward student travel to future national meetings.

CBA-ABC members have been engaged to provide their opinions to the federal Minister of Science, who in June, 2016, called for a science-policy review of Canadian universities. Many issues about research funding and scope that affect both established researchers, younger scientists, and future scientists working in botany, have been invited to be brought to the attention of the minister's review panelists; submissions were due before the end of September, 2016.

The *CBA-ABC Bulletin* was published twice (December 2016, March 2017) in the past half-year by Dr. Tyler Smith of Ottawa. The *Bulletin* is filled with items of both national and regional interest contributed by CBA-ABC members, plus some association business. It also contains the annual call for CBA-ABC award nominations plus details of the forthcoming annual meeting. Having started publication in January 1968 under the editorship of Janet Stein of Vancouver, the most recent issue of the *Bulletin* was noteworthy in marking the first issue of Volume 50. Over these past 50 years, 11 dedicated editors (and some assistant editors) have made this significant achievement possible, and we look forward to the next 50 years of the *Bulletin*.

On or around May 18, 2017, CBA-ABC members were encouraged to engage the general public in creative ways during "Fascination of Plants Day". Various institutions across the nation produced displays or presentations highlighting the great importance of plants in our world.

From July 4–8, 2017, the 53<sup>rd</sup> Annual CBA-ABC Meeting will be held on the campus of Wilfrid Laurier University in Waterloo, Ontario. The theme of this year's meeting is "The Hidden World of Plants", and a number of research symposia, contributed talks and posters, an educational workshop on botanical artistry, and adventurous field trips, round out the exciting program ahead. At the meeting's banquet, presentations will be made to recipients of several CBA-ABC major awards, including the inaugural Special Project Fund award. The link to the meeting website is <http://conferences.wlu.ca/conferences/cba-abc-2017/>

From July 21–25, 2018, the CBA-ABC also looks forward to meeting jointly with the Botanical Society of America (BSA) and its affiliated societies, at Rochester, Minnesota, U.S.A.

### **Canadian Weed Science Society (CWSS)**

<http://weedsociety.ca/>

The CWSS-SCM is a non-profit professional society for scientists, agronomists, economists, and students interested in weed sciences. The society is widely recognized in Canada and beyond for its national leadership in bringing together research and information on science and management related to plants potentially impacting the environment, economy and society. The four major goals of the 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.

The CWSS held its 70<sup>th</sup> annual meeting in Moncton, NB, in November 2016. The plenary session focused on “Forensic Weed Science”, with a range of national and international speakers covering edaphic, environmental, application, and pesticide interaction factors that can impact herbicide efficacy and selectivity. For more details see the meeting archive at <http://weedsience.ca/wp-content/uploads/2017/02/2016-CWSS-SCM-abstracts-Moncton-Conference.pdf>. The graduate student presentations were another meeting highlight, and this year we had 15 such speakers covering topics from herbicide efficacy to weed biology.

The CWSS proudly awarded Eric Johnson a Fellow Award at their 2016 annual meeting. Eric had a long and distinguished career as a research and extension scientist with AAFC before taking a Research Assistant position with the University of Saskatchewan. Eric has been an active member of the CWSS for many years and served as president from 2014–2015. Eric’s research and extension efforts have greatly benefitted the Weed Science discipline and positively impacted the livelihood of farmers in Saskatchewan and across Western Canada.

#### **Canadian Society of Plant Biologists (Société Canadienne de Biologie Végétale)**

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

As well as being a member of Plant Canada, the CSPB is also a member of the Global Plant Council in its own right. Please see the CSPB’s report above.

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#### **Scandinavian Plant Physiology Society (SPPS)**

GPC Representative – Rodomiro Ortiz, [rodomiro.ortiz@slu.se](mailto:rodomiro.ortiz@slu.se)

Current President – Stefan Jansson

<http://www.spps.fi>

#### **Activity Report**

The Societas Physiologiae Plantarum Scandinavica (SPPS), or Scandinavian Plant Physiology Society in English, is a scientific society that promotes all aspects of experimental plant biology, from molecular cell biology and biochemistry to ecophysiology.

The main activities of the society are to arrange the SPPS congresses and to publish the journal *Physiologia Plantarum*. The society also publishes a newsletter (<http://www.spps.fi/newsletter/>) and supports other congresses and initiatives within the field of plant science. In addition, the Society gives out travel grants for junior members to participate in the SPPS congresses and travel support for members to visit and undertake research in another Nordic laboratory. SPPS awards are given out to persons with merit in the field of plant science. The society also promotes the teaching of plant biology and has established an Education Committee for that purpose.

The SPPS Early Career PI (ECPI) meeting was held in Tromsø, Norway, in November 2016. The SPPS ECPI network was established in 2014 with the aim of bringing together the “next generation” of scientists working in Scandinavia, to increase collaboration and improve the competitiveness of Nordic plant scientists for gaining Scandinavian and European research funding in the future. The ECPI meeting in Tromsø was a two-day workshop focusing on suitable funding sources for different plant science projects, and discussions on the role of plant science in answering global and local challenges.

Winners of the following SPPS Awards were announced:

- SPPS Award: Prof. Michael Broberg Palmgren, Department of Plant and Environmental Sciences, University of Copenhagen, Denmark
- Physiologia Plantarum Award: Dr Chuanxin Sun, Department of Plant Biology, Swedish University of Agricultural Sciences, Uppsala, Sweden
- SPPS Popularisation Prize: Prof. Kurt Fagerstedt, Department of Biosciences, University of Helsinki, Finland
- SPPS Early Career Award: Dr Olivier Keech, Department of Plant Physiology, Umeå University, Sweden

The winners will receive the honor, a monetary reward, and a certificate during the SPPS Congress in Naantali, Finland, in 2017. The recipients will also give a talk at the Congress, presenting their work.

SPPS President Stefan Jansson, plant scientist at the Umeå Plant Science Centre (UPSC) and Professor at Umeå University, was awarded the 2017 ÅForsk “Kunskapspris” for his commitment to transferring scientific knowledge to the public.

Registration for the Nordic Plant Biology days 2017 – the 27th SPPS Congress to be held August 16–18, 2017, in Naantali, Finland, is now open at <http://plantworld.fi/SPPS2017/>. The meeting focuses on internationally top-ranking Nordic research on photoautotrophic organisms, including prokaryotes, algae, and plants. Join us to meet the students, post-docs, and senior scientists who will present their hot research topics and key institutions. Together we will strengthen collaborations and promote scientific excellence in Scandinavia!

The agenda for the SPPS General Assembly in Naantali, Finland (August 17, 2017) will include:

- A report about the Society’s preceding activities from the Council
- News about *Physiologia Plantarum* from the Journal Responsible
- A financial report from the Auditors
- Discharge and election of the seven Council members, including those with special responsibilities as the President, Vice President, Secretary General, Treasurer, and Journal Responsible

The following staff changes have occurred at the SPPS/*Physiologia Plantarum* offices:

- Leif Nord retired from *Physiologia Plantarum*
- Anke Carius is the new SPPS secretary
- Dr Karin Fredrikson has taken over as managing editor for *Physiologia Plantarum*
- Jan Eklöf is now the journal’s production editor.

SPPS also supported Fascination of Plants Day on May 18, 2017.

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## **Spanish Society of Plant Physiology (SEFV)**

GPC Representative – Aurelio Gómez-Cadenas, [aurelio.gomez@uji.es](mailto:aurelio.gomez@uji.es)

Current President – Aurelio Gómez-Cadenas

<http://www.sefv.net>

### **Activity Report**

The SEFV distributes a weekly newsletter among its members, which includes information on courses and conference announcements around the world, jobs, student scholarship opportunities, and some other timely information. In July 2016 and January 2017, the SEFV issued two bulletins comprising a scientific review, interviews with leading figures in plant physiology, information on different research groups, abstracts of doctoral theses presented in the last six-month period, as well as news on science policy.

During this period, the SEFV has economically supported the following symposium and meetings: Meeting of the Spanish Society of Plant Physiology (Barcelona, June 2017), Spanish–Luso Symposium on Mineral Nutrition (Murcia, September 2016), and the Molecular Biology of Plants meeting (Salamanca, 2016).

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## **Society for Experimental Biology (SEB)**

GPC Representative – Katherine Denby, [Katherine.denby@york.ac.uk](mailto:Katherine.denby@york.ac.uk)

Current President – Patrick Hussey

GPC Observer – Paul Hutchinson, [p.hutchinson@sebiology.org](mailto:p.hutchinson@sebiology.org)

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

### **Activity Report**

The SEB supports science and people; during the last year it has funded many of its members via travel grants, supported scientific meetings and rewarded excellent science with medals and prizes. We would like to remind members of the varied opportunities in SEB for funding of conferences and workshops, and encourage members to think about and submit proposals for scientific sessions for the SEB Annual Main Meeting. Session proposals for the meeting in Seville in 2019 will be due in by March 2018 and can be discussed with the Plant Section Chair at any time.

In July 2016, the SEB Annual Main Meeting was held in Brighton, UK. This was attended by nearly 700 scientists. The plenary plant “Woolhouse Lecture” was given by Professor Jane Langdale from University of Oxford (UK) who spoke about her excellent work unravelling the development of Kranz anatomy in maize and the application of this to engineering C4 rice. The Plant President’s medallist was Matt Johnson from the University of Sheffield (UK) for

his innovative and multidisciplinary work on photoprotection and the organisation of the chloroplast thylakoid membrane. Jordan Brown, also from the University of Sheffield, won the Young Scientist Award with runners up Hayoto Hiraki (Iwate University, Japan) and Aakriti Wanchoo-Kohli (Rothamsted Research, UK). The Irene Manton prize for the best poster was won by Amy Jacobsen from Durham University, UK. The meeting covered a wide range of scientific topics with several cross disciplinary sessions run jointly with the animal and cell biologists. Exciting discussions and presentations were given on topics including synthetic biology, hormone receptors, conservation physiology, vascular development, seed biology, resource partitioning and the endoplasmic reticulum. As usual the feedback from the meeting was extremely positive and we look forward to seeing familiar and new faces at the meeting in Gothenburg this summer.

In December 2016, SEB funded a symposium on Creativity in Science Teaching held at Charles Darwin House in London. The symposium, which you can read more about here <https://www.sebiology.org/publications/magazine/article/spring-2017/creativity-in-science-teaching> presented a range of innovative ideas for bringing creativity into teaching and inspired all attendees.

SEB has contributed to seven other meetings during the last year:

- Plastid Preview, Edinburgh
- Sheffield Plant Physiology Group Early Career Researcher Symposium
- EMBO workshop on Intercellular Communication in Development and Disease
- CyVerseUK Workshop, York
- Auxin 2016
- International Photosynthesis Congress Satellite Meeting, Cambridge
- Gordon Research Conference on CO<sub>2</sub> assimilation in Plants 2017

In supporting its members, SEB has given out more than £14,000 of travel funding to 39 plant scientists. These awards enable scientists to attend conferences/workshops, or spend time in a collaborating research group. SEB also contributed to the funding of the Global Plant Council Media fellow to promote plant science stories from around the world and highlight the important work of the GPC in bringing plant scientists around the world together.

Finally, SEB has published newsletters and a regular magazine throughout the last year highlighting funding opportunities, and scientific meeting reports as well as articles on the exciting work of members and new committee members.

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## **UK Plant Sciences Federation (UKPSF)**

GPC Representative in – Bill Davies, [w.davies@lancaster.ac.uk](mailto:w.davies@lancaster.ac.uk)

Current President – Rick Mumford (Chair)

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

## **Activity Report**

The UKPSF is a special interest group of the Royal Society of Biology, the UK's leading professional association for the life sciences, representing a single unified voice for biology. As part of this remit, the UKPSF brings together the plant science community in the UK to create a coordinated approach to research, industry, funding, education, and outreach in this vital sector of the biosciences.

The UKPSF continues to work on preparation of the forthcoming Roadmap for UK Plant Sciences. With input from a wide range of professionals involved in plant science, the Roadmap seeks to identify the opportunities for UK plant science over the next 25 years, and to advise on the steps needed to realize them, often with the goal of addressing major global challenges. The Roadmap is currently in draft review. Its publication will be marked with a one-day launch event, planned for early 2018, to which plant scientists and policymakers will be invited to discuss its main findings and themes.

In February 2017, the UKPSF also launched a scheme to address skills shortages in plant health research and provide training opportunities for undergraduates. With funding from the UK Department for the Environment, Food and Rural Affairs (Defra), the Plant Health Undergraduate Studentships program will provide paid research projects for four students over the summer of 2017. Project themes aim to address major plant health challenges identified by Defra. The UKPSF hopes to maintain and expand the program in subsequent years.

## **Annex 2. Looking Forward**

### **Global Challenges require Global Solutions**

Humanity faces significant challenges in the coming decades, and several of these relate to food, nutrition, water, and energy security, alongside the sustainable use of ecosystems. The Millennium Development Goals (MDGs), and the more recent Sustainable Development Goals (SDGs), aspire to achieve the eradication of poverty and hunger, as well as affordable, clean energy, clean water, sustainable communities, and climate action. Achieving these goals will require sustained and coordinated action from the plant, crop and agricultural science communities, and many others.

As stated in the SDGs, the developed and developing worlds face common challenges. There are common environmental challenges (e.g. rain-fed crops in northern Australia, sub-Saharan Africa and central-western India all frequently experience drought), crops of common interest (e.g. maize, wheat, rice, sorghum, barley, tubers, and legumes), and we inhabit a common planet (combating climate change is a universal issue). Plant science research focused on individual crops still achieves economically significant genetic gains, but given the transnational nature of many agricultural problems, it is generally accepted that to maintain global food security, crop research will benefit from a more internationally coordinated approach to achieve better leverage of both fundamental and applied plant science, and technology and expertise relevant to the delivery and adoption of new technologies. Delivery along this pipeline from research to outcome almost certainly requires an international perspective and international cooperation.

There are many noteworthy examples of international programs and collaborative research projects that bring together groups from across the globe, and forward-thinking funding bodies and foundations that support them. However, the majority of scientific research is still funded and regulated by national or regional agencies. This geography-based distribution of funds and their associated policy frameworks can result in fractured research communities and duplication of effort, which subsequently act as a barrier to collaboration, and limits the ability to collate and share data, resources, expertise, and knowledge across national boundaries. The end point of this is the loss of added value that can be gained from linking parallel national research efforts and concentrating research in priority areas of global significance.

If we are to exploit global research efforts to address a range of global challenges, we can benefit from viewing our research as part of a pipeline from fundamental research through applied research to delivery and outcome. GPC believes that we can achieve more if we foster an environment where constraints of a transnational nature are routinely investigated from a global perspective; where research across geographies, crops and agro-ecosystems is linked together, and sharing of knowledge, data and other resources is promoted and valued.

As a global organization with members across six continents, the GPC is well placed to help in the delivery of innovation from novel plant science. We can achieve this by identifying areas of clear global need within the plant and agricultural communities, which requires international coordination, and where generated outcomes would benefit a wide range of

stakeholders. For example, benefits can accrue from linking plant science to one or more of the following areas:

1. Education and Training
2. Data and Knowledge Sharing
3. Consensus Building and Advocacy
4. Outreach and Engagement

By working together, GPC partners have the expertise, contacts and capacity to add value to high quality plant science, and to provide a response to global challenges. The key contribution of the GPC is the ability to facilitate links between the excellent science being undertaken by its partners, and translation of this to a change in practice or policy in key areas of need at the local and global levels. The DivSeek Initiative is a clear example of how the GPC can act as nucleating force to bring together disparate groups around the world, to develop innovative solutions and policies and contribute to problems currently facing humanity.

Looking forward the GPC will continue to work with its members, international organizations and other stakeholders to achieve its mission. This will include advancing the GapX and DivSeek Initiatives; continuation of its very successful and productive communication and outreach endeavors; and development of strategies to expand and diversify its funding base.

## **Annex 3. GPC Member Societies and Affiliates**

### **African Crop Science Society (ACSS)**

GPC Representative – Kasem Zaki Ahmed, [ahmed\\_kz@yahoo.com](mailto:ahmed_kz@yahoo.com)

Current President – Luisa Santos

<http://www.acss.ws>

### **American Society of Plant Biologists (ASPB)**

GPC Representative – Virginia Walbot, [walbot@stanford.edu](mailto:walbot@stanford.edu)

Current President – Sally Mackenzie

GPC Observer – Crispin Taylor, [ctaylor@aspb.org](mailto:ctaylor@aspb.org)

<http://www.aspb.org>

### **ARC Centre of Excellence in Plant Energy Biology, Australia (PEB)**

GPC Representative – Harvey Millar

<http://www.plantenergy.uwa.edu.au>

### **Argentine Society of Plant Physiology (SAFV)**

GPC Representative – Pedro Sansberro, [sansber@agr.unne.edu.ar](mailto:sansber@agr.unne.edu.ar)

Current President – Fabricio Cassan

<http://www.fisiologiavegetal.org>

### **Australian Society of Plant Scientists (ASPS)**

GPC Representative – Barry Pogson, [barry.pogson@anu.edu.au](mailto:barry.pogson@anu.edu.au)

Current President – Sergey Shabala

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

### **Botanical Society of China (BSC)**

GPC Representative – Song Ge, [gesong@ibcas.ac.cn](mailto:gesong@ibcas.ac.cn)

Current President – Wei-Hua Wu

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

### **Canadian Society of Plant Biologists (CSPB)**

GPC Representative – Owen Rowland, [owen.rowland@carleton.ca](mailto:owen.rowland@carleton.ca)

Current President – Anja Geitmann

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

### **Center for Plant Aging Research, Institute of Basic Science, Korea (CPAR)**

GPC Representative – Hong Nam Gil

<http://aging.ibs.re.kr>

### **Chilean Society of Plant Biologists (ChilSPB)**

GPC Representative – Ariel Orellana, [aorellana@unab.cl](mailto:aorellana@unab.cl)

Current President – Rodrigo Gutierrez

<http://www.biologiavegetal.cl>

**Chinese Society of Plant Biology (ChSPB)**

GPC Representative – Yajie Zheng, [yjzheng@sibs.ac.cn](mailto:yjzheng@sibs.ac.cn)

Current President – Xiaoya Chen

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

**Crop Science Society of China (CSSC)**

GPC Representative – Jianmin Wan, [wanjm@caas.net.cn](mailto:wanjm@caas.net.cn)

Current President – Jianmin Wan

<http://www.chinacrops.com>

**European Plant Science Organisation (EPSO)**

GPC Representative – Rainer Fischer, [rainer.fischer@ime.fraunhofer.de](mailto:rainer.fischer@ime.fraunhofer.de)

Current President – Jose Pio Beltran

GPC Observer – Karin Metzloff, [Karin.metzloff@epsomail.org](mailto:Karin.metzloff@epsomail.org)

<http://www.epsoweb.org>

**Federation of European Societies of Plant Biology (FESPB)**

GPC Representative – Christine Foyer, [c.foyer@leeds.ac.uk](mailto:c.foyer@leeds.ac.uk)

Current President – Stefan Jansson

<http://www.fespb.org>

**Genetics Society of China (GSC)**

GPC Representative – Yongbiao Xue, [ybxue@genetics.ac.cn](mailto:ybxue@genetics.ac.cn)

Current President – Yaping Zhang

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

**Indian Society for Plant Physiology (ISPP)**

GPC Representative – Madan Pal Singh, [madanpal@yahoo.com](mailto:madanpal@yahoo.com)

Current President – Akhilesh Tyagi

<http://www.ispponline.org>

**International Crop Science Society (ICSS)**

GPC Representative – Jianmin Wan, [wanjm@caas.net.cn](mailto:wanjm@caas.net.cn)

Current President – Antonio Costa de Oliveira

<http://www.intlcss.org>

**Japanese Society of Plant Physiologists (JSPP)**

GPC Representative – Yusuke Saijo, [saijo@bs.naist.jp](mailto:saijo@bs.naist.jp)

Current President – Hiroo Fukuda

<http://www2.jspp.org>

**Max Planck Institute of Molecular Plant Physiology**

GPC Representative – Mark Stitt

<http://www.mpimp-golm.mpg.de>

**New Zealand Society of Plant Biologists (NZSPB)**

GPC Representative – Marian McKenzie, [marian.mckenzie@plantandfood.co.nz](mailto:marian.mckenzie@plantandfood.co.nz)

Current President – Marian McKenzie

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

**Plant Canada (PC)**

GPC Representative – Deena Errampalli, [deena.errampalli@agr.gc.ca](mailto:deena.errampalli@agr.gc.ca)

Current President – Deena Errampalli

<http://www.plantcanada.ca>

**Portuguese Society of Plant Physiology (SPFV)**

GPC Representative – Margarida Oliveira, [mmolive@itqb.unl.pt](mailto:mmolive@itqb.unl.pt)

GPC Observer – Nelson Saibo

Current President – Jorge Marques da Silva

<http://www.spfv.pt>

**Scandinavian Plant Physiology Society (SPPS)**

GPC Representative – Rodomiro Ortiz, [rodomiro.ortiz@slu.se](mailto:rodomiro.ortiz@slu.se)

Current President – Stefan Jansson

<http://www.spps.fi>

**Spanish Society of Plant Physiology (SEFV)**

GPC Representative – Aurelio Gómez-Cadenas, [aurelio.gomez@uji.es](mailto:aurelio.gomez@uji.es)

Current President – Aurelio Gómez-Cadenas

<http://www.sefv.net>

**Society for Experimental Biology (SEB)**

GPC Representative – Katherine Denby, [Katherine.denby@york.ac.uk](mailto:Katherine.denby@york.ac.uk)

Current President – Patrick Hussey

GPC Observer – Paul Hutchinson, [p.hutchinson@sebiology.org](mailto:p.hutchinson@sebiology.org)

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

**Taiwan Society of Plant Biologists (TSPB)**

GPC Representative – Chang-Hsien Yang, [chyang@dragon.nchu.edu.tw](mailto:chyang@dragon.nchu.edu.tw)

Current President – Chang-Hsien Yang

[http://tspb.org.tw/TSPB\\_en/](http://tspb.org.tw/TSPB_en/)

**UK Plant Sciences Federation (UKPSF)**

GPC Representative in – Bill Davies, [w.davies@lancaster.ac.uk](mailto:w.davies@lancaster.ac.uk)

Current President – Rick Mumford (Chair)

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