AUSTRALIAN SOCIETY
OF PLANT SCIENTISTS

2017 President's Report

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Background

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. Information on ASPS is available at: http://www.asps.org.au/ .
The 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.
- Recognise and reward excellence in plant science research and teaching.
- Nurture the next generation of plant scientists.

COMBIO conferences

COMBIO 2017. The COMBIO conference is one of the activities by which ASPS has delivered several of the Society's objectives to the membership over the last 20 plus years. COMBIO meetings are organized by ASPS in a partnership with other relevant societies – specifically, with the Australian Society for Biochemistry and Molecular Biology (ASBMB) & Australia and New Zealand Society for Cell and Developmental Biology (ANZSCDB). We are grateful to all COMBIO 2017 committee members (Committee Chair - Michael Michael; Deputy Chair - Rachel Burton; Program Chair - Natasha Harvey; Deputy Program Chair - Matthew Gilliham; Public Relations/Social Committee - Briony Forbes), and also to ASPS members who were involved in coordination of various plant-related streams (Matthew Tucker; Monica Murcha; Alex Johnson), for their efforts in making this meeting a great success. We also thanks Sally Jay and her team for taking care of all logistics.

COMBIO 2018. In 2018 the COMBIO meeting will be held between 23 – 26 September 2018 at the brand new International Convention Centre in Sydney. The conference will be a combination of the ASBMB, ASPS, ANZSCDB, NZSPB and NZSBMB with the International Society of Differentiation (ISD) partnering with the ANZSCDB. Brent Kaiser and Margaret Barbour represents ASPS on the organizing committee.

Meetings in 2019 and beyond. As you will likely be aware, the Sydney 2018 COMBIO will be last annual COMBIO meeting. It will now run as a combined meeting every 2 years instead. ASPS therefore is seeking expressions of interest to hold a 2019 ASPS meeting. This could either be in a city that has traditionally held COMBIO or one that has not. The only criteria is that it is well organised and has costs that are far reduced from COMBIO meetings. We are seeking a venue for approximately 150 people and hoping that costs can be kept to a minimum by using University facilities or similar. We will leave the timing up to those wishing to host the meeting but out of term time would be good to maximise academic involvement. We envisage that it would be a two-day meeting, and we would aim that ASPS and the meeting receipts would subsidize costs for two plenaries from overseas. As we have a broad membership, in terms of subject content, it would be wise to have at least two concurrent streams.

At the moment, we have a confirmed EOI from La Trobe University for 2019, subject to confirming some financial aspects. We are looking for volunteers to host 2021 and 2023 ASPS meetings.

Other conferences. In the last 12 months, ASPS has supported three bids for the major international meetings to be held in Australia:

- A bid for the International Plant Nutrition Colloquium (IPNC) in Brisbane in 2021 (led by Peter Kopittke from UQ), with financial support from the Soil Science Australia.
- A bid to host a joint IUBMB (International Union of Biochemistry & Molecular Biology) / FAOBMB (Federation of Asian and Oceanian Biochemists and Molecular Biologists)/COMBIO meeting in Melbourne in 2024. This initiative was put forward by Leann Tilley from ASBMB, and we have agreed that ASPS representative will serve on the organizing committee in case the bid is successful. The meeting is expected to be attended >2500 registrants, and the deadline for applications is April 6, 2018. Short-listed applicants will be invited to make a presentation to the IUBMB Executive Committee during the (triennial) IUBMB Congress in Seoul, Korea, 4-9 June, 2018.
- A bid for the Conference of the International Society for Seed Science (ISSS) in 2020 in Perth (led by Jose Barrero from CSIRO Agriculture and Food).

No financial commitments were made to any of these bids at this stage (and are not expected in the future).

Congratulations to ASPS award winners

- **Jonathan Plett** (Western Sydney University) is a winner of the **Peter Goldacre Award** for his work on mutualistic mycorrhizal fungi – interactions. This award recognises research achievement in the past 3 years by an early-career member of the Society (within 10 years of PhD). The Award honours the memory and attainments of Peter Goldacre, a young scientist and a foundation member of this Society who was held in great respect by his peers, but passed away from cancer at the early age of 34 (in 1960). The award of a medal plus $2,000 is sponsored by the Functional Plant Biology.

- **Tim Colmer** (University WA) is our 2017 **JG Wood lecture** award winner and presenter, with the topic "Photosynthesis and internal aeration of submerged rice". Tim has gain his international reputation as a leading authority in studying mechanisms of plant adaptive responses to flooding and salinity. JG (Joseph Garnett) Wood was a Professor of Botany and the Foundation President of ASPP. His contributions are recognised in a series of biennial JG Wood memorial lectures by eminent plant scientists. Our congratulations to Tim for being chosen for such a prestigious award.

- **Lu Wang** (University of Tasmania) is a winner of the **ASPS-FPB Best Paper Award** for an Early- Career Scientist published in Functional Plant Biology in 2016. The prize includes a personal one-year print + online subscription to FPB, a $250 book voucher from CSIRO PUBLISHING, and a certificate. The award goes for the paper "*Shoot–root carbon allocation, sugar signalling and their coupling with nitrogen uptake and assimilation*" conducted by Lu during her work in Yong-Ling Ruan's laboratory at University of Newcastle and published in Functional Plant Biology 43 (2). The published paper summarizes the current understanding of sugar allocation and signalling, integrated with nutrition and other growth signals.

- **R.N. Robertson Travelling Fellowship - Jesse Beasley** (University of Melbourne)

The RN Robertson Travelling Fellowship is designed to support an early career researcher to undertake a research visit outside their host institution. The 2017 award goes to Jesse Beasley, a PhD candidate in Alex Johnson's lab at University of Melbourne. The award will allow him to visit the Glahn Lab at Cornell University to work on a project related to assessing iron bioavailability in biofortified bread wheat. Biofortification is the process of enhancing micronutrient density in staple crops and is essential for improving human nutrition in developing countries.

I am certain that all of you will join me congratulating the recipients with these fantastic achievements and wishing them all the best in the future endeavours.

- Unfortunately, similar to past years there was no **ASPS Teaching Award** in 2016. The award recognises excellence, innovation and/or contributions to teaching of plant science at University level. The award has not been given since 2013, and all members are encouraged to consider nominations for this important award for 2018.

Support to Australian plant science

- 10 students have received 2017 ASPS COMBIO Student Travel Awards totaling $5851;

- ASPS supported five $400 travel bursaries for PhD students attending the CSIRO initiated 'Developing Crops of the Future Workshop' in Kiama, NSW;
- ASPS also provided $3,000 in seed funds to the C4 photosynthesis conference held in Canberra;
- On a request from CSIRO, ASPS has sponsored the screening of the first documentary about food security, organic food and GMOs at the Coombs Theater at the ANU, followed by the panel discussion. The film is well balanced and is of a high educational value, with a key message being that the decisions making should be based on facts (science) but not myths (fear).

Prestigious recognitions

- Susanne von Caemmerer was elected a Fellow of the Royal Society of London;
- John Evans was elected a Corresponding Member of the American Society of Plant Biologists;
- Graham Farquhar won a Kyoto Prize for his work on photosynthesis and water use efficiency.
- The most recent news is that John Patrick (a Life Member of ASPS) was elected as a Fellow of the Australian Academy of Science. The summary of his research leading to this prestigious award is as follows:

John Patrick is internationally renowned for his theoretical and experimental advances in the regulation of nutrient transport and partitioning in plants. He has developed a novel theoretical framework that identifies control points for the regulation of nutrient transport through, and unloading from, the plant vascular network to fuel organ development. Patrick's innovative experimental approaches have shown how metabolic demand for nutrients is coordinated with vascular transport by phytohormones, cell turgor and nutrient pool sizes. These discoveries have laid a conceptual framework to further elucidate nutrient transport and partitioning mechanisms and to identify novel targets for improving crop yields to share.

- Our congratulations also go to Anna Koltunow who was also elected as a Fellow of the Australian Academy of Science in 2016 and was formally inducted this year.

ASPS Communication

- ASPS publishes a society newsletter, Phytogen, in order to reach our own members plus general readers with an interest in developments in Australian plant science. Phytogen is thus a vehicle for communicating new ideas, recent professional experiences, and forthcoming events. Routine items include: invitations to submit applications for Society awards that identify outstanding researchers, nominations for election of Corresponding members overseas, nominations for RN Robertson and JG Wood lectures, advance notice of plant science meetings and of course, reminders to renew subscriptions!
- Phytogen is now published in an electronic format as a blog, and is also summarized 2-3 times per year in a PDF and email newsletter format. For content submissions contact the Editor; Dr Chris ` (c.cazzonelli@uws.edu.au) or Co Editor; Conjoint Professor Tina Offler (tina.offler@newcastle.edu.au)

Science Meets Parliament

Every year about 200 scientists representing a broad spectrum of Australian science (from plant biologists to chemists, physicists and mathematicians) come to Canberra for two days to learn about how politics, policymaking and the media work and raise our concerns with politicians. In 2017 the event was held on March 21-22. Two our members – Florian Busch and Jay Bose – have attended this meeting on behalf of ASPS. The issues raised were about building connections and collaborations and useful tips on how to turn science into news and use it to shape public policy. According to comments from our attendees, they felt optimistic about their future as plant scientists after this meeting. Fingers crossed! On a personal note, I liked Jay Bose's comment in Phytogen that one of important aspects he learnt was on how to convince parliamentarians without using the word money/funding. I believe we all should learn this and make these skills central to our work!

Science Meets Business

Julien Bonneau and Laura Moreno have attended. A report will be published on Phytogen soon. We are also requiring two representatives to send this year.

Functional Plant Biology

ASPS has a special relationship with FPB. We thank FPB/CSIRO Publishing for continuing to sponsor the Goldacre Award and ASPS-FPB Early Career Scientist Best Paper Award. We also thank CSIRO Publishing Managing Editor, Dr Alice Hall, for her support for the Society. In addition, several members of ASPS are Associate Editors for FPB or members of the Editorial Advisory Board and many other people act as reviewers – thank you all for your contributions to the peer review process for FPB.

ASPS Membership Survey

On behalf of ASPS, Sebastian Pfautsch (USyd) and Ulrike Mathesius (ANU) have conducted an online survey in April 2017. The members were asked 4 questions regarding their age, gender, what their highest degree was and in which country they earned it. Lastly, they were asked to put up to 5 keywords that best describe their work.

In total, we received 155 completed surveys, representing a response rate of approximately 25%. The key findings were as follows:

1. The distribution of gender, age and degrees of participating ASPS members captures the 'catching-up' dynamics that female academics in natural science disciplines. Generally younger than their male counterparts, female ASPS members have a much greater potential to become future leaders in plant science due to the greater number of individuals that hold the relevant qualifications (Honors, Masters) for progressing towards PhD degrees.

2. Age Distribution. So far there is no trend towards over-aging of the ASPS, although young members (i.e. less than 30 years of age) are not well represented.

3. The majority of ASPS members have received their degrees from an Australian university. Yet, it becomes clear that there is a considerable cohort of members that join the society with degrees that were granted in many other countries.

4. The most popular key words in survey were "Plant Stress" (Abiotic Stress cited 18 times, Stress Physiology cited 14 times) and "Molecular Biology". Also, members of ASPS seem to have a strong connection to industry, given that the related categories are cited about 50-times (i.e. Crops, Breeding, Agriculture, Agronomy). These findings should be kept in mind to motivate members to host specific sessions within the ComBio conference framework, or to propose specialised workshops and meetings hosted by the ASPS (e.g. Plant Stress Meeting, Progress in Plant Genetics Workshop, etc.).

Review of the Gene Technology Regulatory Scheme

In my role of the ASPS President, I was asked to join a small working group composed by STA (Science & Technology Australia), to provide a feedback for the 3rd review of the Gene Technology Regulatory Scheme commissioned by the Australian Government. Ten key recommendations were given to the Government. The main message was that any changes to the Act should not compromise the capacity of Australian researchers to utilise the emerging technologies (such as CRISPR/Cas9 or Gene Drives), and that the regulation and legislation must be flexible enough to provide guidance to researchers working with rapidly changing technology. The committee also called for the education for decision-makers and the general public will support evidence-based (rather than fear-based) decision-making and emphasized that OGTR must continue to address mistrust and misinformation in the community about genetic modification in science and technology and its regulation.

Executive Committee & Administration

I would like to thank our Honorary Secretary, Matt Gilliham and Honorary Treasurer, Rosemary White, for all their help and tireless work they have done this year. I am also very grateful to Janet

Wheeler and Chris Cazzonelli for maintaining high ASPS profile and all discipline representatives for their contribution to all ASPS activities. I would also like to use this opportunity to thank the former ASPS Exec team (John Evans, Martha Ludwig, and Brent Kaiser) for the fantastic job they have done over the past two years taking Australian plant science community through the harsh realities of a modern-day academic and political life.

ASPS also offers many thanks to Tina Offler who has decided to step down after many years of serving on the Web & Communications Sub-committee and as Co-editor of Phytogen. We all appreciate the fantastic job Tina has been doing for many years in these roles, and which her the very best in new endeavors.

Sergey Shabala, ASPS President
October 2017