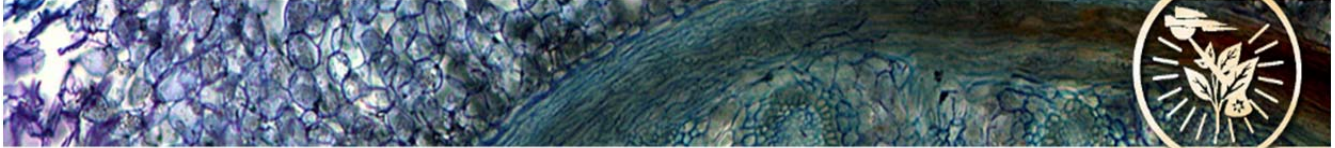


**BULLETIN****BULLETIN**

Société canadienne de biologie végétale.



Canadian Society of Plant Biologists

March 2015

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This issue of the CSPB/SCBV Bulletin reports on the **2013 Eastern Regional Meeting of the CSPB**, which took place December 6-7 at the University of Toronto Mississauga's Instructional Centre Complex and the **2014 Joint ASPB-CSPB Meeting** held in Portland Oregon July 12-16. The report for the 2014 Eastern Regional Meeting, which was held in Guelph in November, will appear in the next issue. In this Bulletin, you will find reports from the President, Treasurer, Education Director, and an update on future meetings from the Vice President. Also appearing is a letter from the student/postdoctoral representative Glen Uhrig on the new CSPB/SCBV professional networking group, along with a report on the Planting Science Education Outreach program by Catrina Adams (Botanical Society of America) and Julia Nowak (Agriculture and Agri-food Canada). Finally, we pay tribute to the lives and works of two society members - Professor Martin Canny and Professor Frank Wightman.

**The Western Regional Meeting of the CSPB will be held together with the UVic Forest Biology Symposium in Victoria on May 1st 2015. Registration details are provided on page 17.**

**The next National Meeting of CSPB/SCBV will be held in Edmonton Alberta as part of Botany 2015. Details of this meeting are provided on page 16 as well as at the conference webpage: <http://2015.botanyconference.org/>**

## Message from the President



**CSPB/SCBV President  
Vincenzo De Luca  
(Brock University)**

The past 18 months have been remarkably active for the CSPB with the extensive preparations to participate in back to back joint meetings in 2014 with our ASPB colleagues in August in Portland, Oregon and in the upcoming July 25-29, 2015 meeting with Plant Canada and The Botanical Society of America in Edmonton. While it is not in the nature of our Society to participate so frequently in such large multi-society gatherings, both meetings have allowed and will allow our membership to participate at a very high international scientific level with plant biologists from many disciplines.

The joint CSPB/ASPB meeting in Portland, Oregon was very well organized and our colleagues from the larger ASPB were extremely accommodating in facilitating Canadian participation in this US-based meeting. I had the privilege of organizing the CSPB President's symposium on Plant Metabolic Engineering where we had the honour of listening to excellent presentations by two Canadians, Drs. Dae Kyun Ro (University of Calgary) and Vince Martin (Concordia University), as well as those of Dr. Barbara Halkier (University of Copenhagen, Denmark) and Dr. Sarah O'Connor (John Innes Institute, UK). The topic and presentations were enthusiastically received by the audience and by members of the ASPB organization. The tradition of holding joint meetings with our Sister Society continues to be very important to both Societies and the next meeting will be held in Vancouver, Canada in the summer of 2018.



**Dae-Kyun Ro (left) and Vince Martin (right) present in the CSPB President's symposium on Plant Metabolic Engineering**

Planning for the 2015 meeting in Edmonton is well underway and we all strongly encourage our members to consider participating in this multidisciplinary plant biology meeting. As you are aware, information for

participation can be found on the CSPB web site (<http://www.cspp-scpv.ca/>). On behalf of CSPB and myself, I would like to thank V-P Anja Geitmann for her excellent preparatory work and significant involvement in organization of our joint ASPB-CSPB meeting and for coordinating the organization of the outgoing executive, incoming executive and AGM in Portland. I would like to also thank her for involvement in the organization of the upcoming meeting in Edmonton. This has certainly represented an enormous amount of work by Anja that needs to be acknowledged by all of us.

I would like to officially thank Michael Stokes for his excellent work as Student/Postdoctoral representative. Michael did a great job representing his colleagues and he also displayed creative initiative by organizing student participation in various activities at the National and Eastern regional meetings of the CSPB that were very well received. Good luck Michael in your new activities and in your future research career. Also I would like to officially welcome our new Student/Postdoctoral representative, Glen Uhrig from the ETH in Zurich to our Executive.

On behalf of the CSPB and myself, I would like to congratulate Darrell Desveaux, Shawn Mansfield and Gregory Downs for receiving their well-deserved CD Nelson, DG Gifford and RK Ibrahim awards, respectively. Congratulations go to Hardy C Hall who received an honourable mention in the RK Ibrahim competition. Congratulations also go to last year's Gold Medal award winner (Beverley Green) and CD Nelson award winner (Uwe Hacke) who presented their seminars at the joint ASPB-CSPB meeting in Portland Oregon.

A very successful 2013 Eastern Regional CSPB Meeting was held on the Mississauga campus of the University of Toronto. Our Society appreciates and acknowledges the excellent efforts of Dr. Ingo Ensminger, Chair of the Organizing Committee composed of Thomas Berleth, George Espie, Herbert Kronzucker, Nick Provart, Rowan Sage, Deep Saini and numerous student volunteers. Thanks go to University of Toronto, Mississauga for their excellent efforts to accommodate us.

The 2014 Eastern Regional CSPB meeting at the University of Guelph in late November was equally successful. We are in great debt to Dr. Gale Bozzo, Chair of the Organizing Committee composed of Tariq Akhtar, Lewis Lukens, Rob Mullen and Barry Shelp. Thanks also go to Mike Stasiak for organizing the Web Site for this meeting and the University of Guelph for their gracious hospitality. The efforts of Ewa Cholewa, our ERM director who coordinated the evaluation of student oral and poster presentations for both 2013 and 2014

meetings, are greatly appreciated. The involvement of student volunteers who helped and welcomed participants to both meetings are also gratefully acknowledged.

I would like to express my appreciation to the Executive (Bill Plaxton, Anja Geitmann, Barry Micallef, Harold Weger, Ewa Cholewa, Greg Moorhead, Geoff Wasteneys, Madoka Gray- Mitsumune, Carl Douglas, Jean-Benoit Charron and Glen Uhrig) for facilitating my job as President over the past year through their enthusiasm and their selfless will to help at every turn to solve the problems that have appeared. The past year has been very good for our Society and there have been few serious issues to deal with.

**The Gold Medal Emblems:** One important and ongoing issue relates to the emblems/logos on our Society web site and on the Gold Medal, which honours distinguished researchers who have made seminal contributions to Plant Biology over an entire career. Basically some members of the Executive (including myself) have suggested that the emblems on the Gold Medal reflect past traditional research tools used in metabolism and photosynthesis research and that these traditional emblems are fine representations of our Society. Other members of our Executive have suggested that it may be valuable to consider some new emblems that reflect modern plant biological research and that it may be a good idea to have a competition to design new logos that are representative of the more modern CSPB. Clearly it is now important to obtain feedback from our membership in order to proceed to a decision on the CSPB logos. We would welcome suggestions/insights from our membership on this issue.

**Global Plant Council:** CSPB has been a founding member of the Global Plant Council since 2009 as part of a collective of at least 26 plant societies around the planet. CSPB's participation in the GPC is motivated in part to solving the problems associated with growth of human populations and its consequences. Our society has been keen to be involved in member activities and Past-President Carl Douglas has been doing an excellent job for our Society through his past and continuing participation in GPC meetings, which are usually held at the tail end of different international conferences.

Recently the GPC invited participants to attend a workshop on Biofortification of Crops (July 5-6, 2014) that was held in Xiamen, China at the end of the 3<sup>rd</sup> International Conference on Plant Metabolism. Since I happened to be attending the Plant Metabolism Conference, Plant Canada and CSPB recommended that I participate in this workshop as their representative. The purpose of the workshop was to focus on developing solutions and positions by the GPC that could solve the

major global problem of malnutrition that has important international impacts on human societies around the globe.

While there are several initiatives by government-supported (WHO, FAO) and private organizations (The Bill and Melinda Gates Foundation, HarvestPlus, GoldenRice.org) to improve the nutritional value of staple crops, the GPC sought to use the workshop to expand and further define the scope of the nutritional enhancements that need to be addressed. This initiative was based on the knowledge that, in addition to nutritional problems associated with the developing world, large segments of human population within developed countries are poorly nourished and that very expensive information campaigns intended to "educate" the public on the nutritional value of consuming a varied diet have largely failed.

The workshop consisted of a number of presentations and breakout sessions associated with different initiatives to improve: A) the bioavailable Iron and Zinc content of a range of crops by traditional breeding methods or by genetic engineering of these traits; B) dietary fiber availability from a broader range of crops; C) Vitamin A, B, D, Foliates and others; D) small molecule antioxidants (flavonols, isoflavones, stilbenoids and anthocyanins); E) essential amino acids and proteins.

The workshop also focused on developing mechanisms to promote dialogue and collaboration between plant scientists, food scientists, nutritionists, biomedical scientists and clinicians. The major impediments to promote these collaborations seemed to be on i) the reluctance of scientists to be flexible and to take risks in collaborations that they could not entirely control; ii) the lack of funding mechanisms that could promote this interdisciplinary research. Possible solutions included the development of interdisciplinary research programs that reward cross-discipline collaborations. This could be stimulated by universities and governments that promote interdisciplinary research institutes and links between research entities within research departments.

Some examples were provided of products that could be delivered for improving the nutritional quality of food: **A)** Super broccoli with high sulforaphane levels were produced by traditional breeding and are now available in the EU. Consumption of high sulforaphane-containing vegetables is encouraged by many animal and a few human studies that have shown it to have health benefits through the induction of detoxification pathways and reducing inflammation pathways. More human studies are being organized to illustrate the disease preventing properties of super broccoli. **B)** The Harvest Plus Program developed orange sweet potato containing high levels of Vitamin A for cultivation in 17

African countries. The Program included funding of communication approaches to convince farming communities to cultivate these products, together with educational, social and marketing programs to develop distribution practices that provide high Vitamin A products to over 2 million African households. This program was successful in reducing the incidence of Vitamin A deficiency-related diseases in these households. This example sets the stage for the approaches to introduce a larger range of nutritionally improved products within developing countries.

The outcome of the workshop produced a number of ideas that will be translated into a policy paper and some publications that will provide recommendations for the funding of research approaches that will yield improved nutrition crops combined with evidence based medical studies that support the disease preventive properties of those crops. ***I am hopeful that the position paper and publications will be of use to encourage government organizations in Canada to realize the strategic importance of basic and applied plant research to the well-being of Canadians and to human populations around the planet so that increased sustained funding can be generated for both basic and applied collaborative research programs.***

The Workshop participants included Acting GPC President Wilhelm Gruissem, Executive director Ruth Bastow, Board Member Zhihong Xu, Cathie Martin, Barbara Halkier, Geoff Fincher, Mark Stitt, Barry Pogson, Richard Mithen, Jan Low, KN Rai James Stangoulis and others.

#### Vincenzo De Luca, CSPB President



President De Luca presenting Darrell Desveaux with the CD Nelson Award



Shawn Mansfield accepting the DG Gifford award



Beverley Green is awarded the CSPB Gold Medal



Uwe Hacke speaking as the 2013 CD Nelson Award recipient



Carl Douglas accepting ASPB Corresponding Membership Award from ASPB President Julian Schroeder at the ASPB-CSPB meeting in Portland

## Report on the 2013 CSPB/SCPV Eastern Regional Meeting



**CSPB-SCBV Eastern  
Regional Director,  
Ewa Cholewa  
(Nipissing  
University)**

Last year's (2013) CSPB-SCPV Eastern Regional Meeting was held at the University of Toronto Mississauga. Dr. Ingo Ensminger, Chair of the Organizing Committee, which included Thomas Berleth, George Espie, Herbert Kronzucker, Nick Provart, Rowan Sage, and Deep Saini, welcomed 130 registered members of CSPB. The Organizing Committee's job was made easier by the invaluable work of Carol Solonenko, Antonia Maughn, Jennifer Lee, Jenny Hu, Mikael Koza, Keith Nablo, Carolyn Moon and student and post doc volunteers Maryam Moazami-goudarzi, Omar El-Ansari, Charlotte de Araujo, Emmanuelle Frechette, Laura Junker, Christine Chang, Thomas Braukmann, Ina Anreiter, Sarzana Hasin Zafar, Janola Jeyachandra, and Alex Zubilewich.

On Friday December 6<sup>th</sup> participants attended the first plenary lecture entitled *Conifer giga-genomics: evolution, diversity and functional adaptations* by Dr. John MacKay from University of Laval. He presented an overview of the strategies and outcomes of the spruce genome sequencing initiatives, the recent findings pertaining to the evolution of conifer genomes and concluded that conifer genomes have become so large because of uncontrolled mass replication of two major classes of retrotransposons, dating back tens of millions of years. Dr. MacKay's lecture was followed by poster viewing and discussion during the evening mixer.

After morning registration on Saturday December 7<sup>th</sup>, Dr. Jennifer Baltzer from Wilfred Laurier University presented the plenary lecture entitled *Boreal forests on permafrost: biotic and abiotic drivers of vegetation composition and function*. She presented evidence that warming in the zone of discontinuous permafrost is leading to permafrost thaw and ground surface subsidence, which decreases forest cover while increasing wetland hydrological connectivity.

The afternoon plenary lecture focused on an agricultural activity that places greater demands on land and water than any other human activity on the planet. Dr. Herbert Kronzucker from the University of Toronto Scarborough

argued that agricultural activity leads to the emission of more greenhouse gases than the entire world's traffic combined and our role as plant biologists is addressing the challenge of feeding a growing human population while focusing on environmental issues of unprecedented stresses, such as drought, salinity, soil degradation, and a changing climate.

The ten concurrent oral presentation sessions were grouped into themes ranging from climate change to cell biology including: biotic and abiotic stresses; technology and plant development; photosynthesis and metabolism. Of the 59 participants presenting their research, 32 were students competing for the Director's Award for the best oral presentation. The award went to Thomas Braukmann, who is supervised by Saša Stefanović at U of T Mississauga, for his presentation entitled *Extensive gene loss and plastome rearrangement in mycoheterotrophic Ericaceae*. Devrim Coskun, who carries out his research with Herbert Kronzucker at University of Toronto Scarborough, received an honourable mention for his work entitled *Rapid ammonia gas fluxes underlie NH<sub>3</sub>/NH<sub>4</sub><sup>+</sup> toxicity in roots of higher plants*.

Lunch and coffee breaks provided participants with time for discussions and poster viewing. From a big display of 45 posters, 24 students competed for the Director's award for the best poster presentation. The first prize poster was entitled *Improvement of Recombinant IL-10 Production by Suppression of Cysteine Protease Gene Expression in Transgenic Tobacco Plants* by Kishor Duwadi from the University of Western Ontario who is working with Ling Chen, Angelo Kaldis, Rima Menassa, Sangeeta Dhaubhadel from Agriculture and Agri-Food Canada, in London, ON. Jennifer Doucet from U of T's Department of Cell and Systems Biology received an honourable mention for her work with Daphne Goring entitled *Investigating the role of a protein kinase during Arabidopsis pollen-pistil interactions*.

The members of the CSPB were grateful to the organizers for providing an outstanding venue for participants to present and discuss their research results. The 2013 Eastern Regional Meeting was in part financially supported by sponsors: The University of Toronto Mississauga, BioChambers, Qubit Systems, GeneQ Scientific Instruments, Hoskins Scientific, Norgen Biotek. The productive discussions and excellence of research presented at this conference made it a very successful event.

**Ewa Cholewa**

## Report from the 2014 Annual Conference in Portland Oregon

The 2014 CSPB-SCBV Annual Conference was held jointly with the American Society of Plant Biologists (ASPB) from July 12th to 16th in Portland Oregon. This green city, with its spectacular scenery, excellent transit system and vibrant urban attractions, was the perfect spot for an outstanding assembly of plant scientists from 42 countries. Some 120 CSPB members attended.

The meeting opened on Saturday with presentations by award speakers including the 2013 CSPB Gold Medalist Beverley Green (UBC) and the 2013 CD Nelson Awardee Uwe Hacke (U. Alberta). Beverley spoke about her career-spanning contributions to understanding light harvesting mechanisms across a wide swath of the phylogenetic tree, while Uwe presented fascinating work on how xylem anatomy and aquaporins contribute to hydraulic traits and wood anatomy in the *Populus* genus.

At the awards ceremony, former CSPB President Carl Douglas (Botany, UBC) was honoured with the ASPB Corresponding Membership Award, which provides life membership and society publications to distinguished plant biologists from outside the United States. In the same event, Shawn Mansfield from UBC Forestry was

presented with the David J Gifford Award in Tree Biology from the CSPB.

On Sunday morning, the CSPB President's Symposium on Synthetic Biology of Specialized Metabolism featured Sarah O'Connor (John Innes Institute, Norwich), Barbara Halkier (Copenhagen University), Vincent Martin (Concordia University) and Dae Kyun Ro (University of Calgary). Other symposium themes included Plant Responses to Abiotic Stress, 21<sup>st</sup> Century Challenges (in 2 Parts: feeding and nourishing 9 billion people), Plant Signalling, and finally, the ASPB President's Symposium: Firsts in Plant Science. These themes highlighted the importance of plants to human endeavours and provided an excellent framework for lobbying our governments for more financial support.

Canadian research was well represented throughout the Portland meeting. Mark Belmonte (University of Manitoba), Daphne Goring (University of Toronto) and Janice Cooke (University of Alberta) are acknowledged for chairing the Emerging Models, Fertilization and Tree Biology Minisymposia respectively.

The **CSPB Business Meeting** was held on Tuesday at noon with 48 members in attendance. President Vincenzo De Luca presented Darrell Desveaux (Cell & Systems Biology, University of Toronto) with the 2014 C.D. Nelson Award. Gregory Downs (Lukens Lab, University of Guelph) was announced as the winner of the Ragai Ibrahim Award for the best student publication in 2013 along with Hardy Hall (Ellis Lab, UBC), who received an honourable mention. Past President Carl Douglas gave out the two Presidents' Awards for best posters. The junior award (MSc and first year PhD) went to Ainsley Chan (Belmonte Lab, University of Manitoba). Teagen Quilichini (Douglas Lab, UBC) received the senior award (PhD students past first year). Dr. Glen Uhrig was welcomed as the new student/Postdoctoral Representative and outgoing

representative Michael Stokes was thanked for his service.



**President Vincenzo De Luca and Vice President Anja Geitmann chair the CSPB AGM.**

In his report, President De Luca discussed the recent Global Plant Council (GPC) workshop in China that he attended, which focussed on biofortification of crop-based foods. His conclusion, and the consensus of the CSPB executive, is that it is very much in our best interest to maintain our connection with, and financial commitment to, the GPC. Vice President Anja Geitmann reported on preparations for future meetings including the next annual conference, which will be the 2015 Plant



### CSPB Executive at ASPB-CSPB Meeting in Portland Oregon

From Left: Vincenzo De Luca, Greg Moorhead, Harold Weger, Jean-Benoit Charron, Carl Douglas, Madoka Gray-Mitsumune, Geoffrey Wasteneys, Anja Geitmann. Absent: Barry Micallef, Ewa Cholewa, Glen Uhrig, Bill Plaxton

Canada Conference in Edmonton in conjunction with the Botanical Society of America, the 2016 annual conference to be held at Queen's University (Kingston ON) and the next joint meeting of ASPB-CSPB in 2018, which will be held in Montreal.

Education Director Madoka Gray-Mitsumune announced the ASPB master educator program and called for ideas for workshops and outreach as well as contributions to the education section of the CSPB website. Santokh Singh (UBC) raised the suggestion that CSPB become formally involved in sponsoring a plant biology-related prize at high school science fairs. Greg Moorhead, the Western Regional Director, announced that planning was underway to hold a Western Regional Meeting in 2015, which has been confirmed (see page 16). Treasurer Harold Weger reported that the Society is in good financial shape but asked members to encourage other plant scientists to join the society. With a membership of approximately 400, we are currently the largest constituent society within Plant Canada.

In addition to the reports of officers, Janice Cooke (University of Alberta) gave a special presentation on analysis of the 2014 NSERC Discovery Grants competition. Of particular concern is the lack of representation by plant biologists – in number and in breadth - in the Biological Systems and Function Evaluation Group. As many will know, this study was

followed up with further analysis that revealed that plant science NSERC Discovery Grant holders are tending to be awarded lower amounts upon renewal in contrast to non-plant grant holders, who are more likely to receive increases. Janice also reported to us on a meeting hosted by ASPB on July 12<sup>th</sup> of the Pacific Rim/International Committee. This meeting addressed the state of programs established to foster research collaborations among Pacific Rim nations. One objective is to approach the US Government to obtain funding that in turn can be leveraged to additional funding from Asian countries. In Business Arising, our Treasurer Harold Weger outlined the discussions currently underway among the executive about the CSPB logo. More about this can be found in a report by Harold in this issue of the Bulletin (page 9).

Our Vice President Anja Geitmann is to be congratulated for organizing the successful CSPB Mixer on Monday evening at the Brasserie Montmartre in Downtown Portland. This social gathering of CSPB members and guests was an excellent chance to concentrate in one location the Canadian attendees, who at this point in the meeting were feeling greatly diluted by Americans. Most of us also attended – and enjoyed - the final social event of the meeting, a well-orchestrated party on Tuesday evening at the World Forestry Centre.

### Geoffrey Wasteneys Communications Director



Ainsley Chan accepting the CSPB Best Junior Student Poster award at the ASPB-CSPB meeting in Portland



Teagen Quilichini accepting the CSPB Best Senior Student Poster award at the ASPB-CSPB meeting in Portland





## The CSPB/SCBV Logo: its history and its future

In the last two years there has been a lot of discussion about the CSPB logo. Society members have expressed various opinions about the logo, but the opinions can be summarized as falling into three camps: 1) the logo has historical significance and is fine as is, 2) the logo has historical significance but needs some fine-tuning, and 3) the logo is antiquated and should be replaced.

The issue of the logo is also related to the issue of the Society (Gold) Medal, which is the highest award given out by the CSPB. The Medal is gold-plated solid silver, and displays the CSPB logo on one side. The Medal is produced by stamping with two dies currently stored by the Mississauga Mint (<http://www.mississaugamint.com/>). The CSPB has handed out its last Society Medal (to Dr. Beverley Green at Plant Biology 2014). Thus the time has come to order more Medals, which adds impetus to the discussion about the logo.

The logo was formally discussed by the Society Executive in 2014, and at the Annual Business Meeting (ABM) at Plant Biology 2014 (Portland, OR, USA). At the ABM it was decided to ask the membership at large for their opinions about the logo, and to initiate the discussion by writing a short article for the Bulletin.

### History of the CSPB/SCBV and its Logo

The origins of the CSPB/SCBV are described in Gorham & Bidwell (1983) "The First Twenty Five Years – A History of the Canadian Society of Plant Physiologists/La Société canadienne de physiologie végétale; this publication is available on the Society website at <http://www.cspb-scbv.ca/archives.shtml>. The history of the logo is also briefly described in that publication, and further information is found in Nozzolillo (2008) "The Second Twenty Five Years", also available on the Society website.

The Society was founded in 1958 as the Canadian Society of Plant Physiologists/ La Société canadienne de physiologie végétale (CSPP/SCPV), although it existed informally for almost a decade prior. In 2012, the name of the Society was slightly changed to the current Canadian Society of Plant Biologists/ La Société canadienne de biologie végétale (CSPB/SCBV).

The CSPB logo first appeared in 1969 on the Society (Gold) Medal (Fig. 1), and was adopted in 1970 as the

official CSPB logo to be used on CSPB letterhead and publications (Gorham & Bidwell 1983). The original meaning of the symbols on the logo have been lost in the mists of time but I have spoken with Dr. Connie Nozzolillo about the logo. Connie is a founding member of the Society, and the long-time Society Archivist. The logo features a sun partly hidden behind clouds, a sun ray, a plant, and an Erlenmeyer flask labelled with the standard "radioactivity" symbol. Our interpretation is that the logo represents photosynthesis research as carried out in the 1960s, when  $^{14}\text{C}$  was an essential part of such research.

The other side of the Society Medal features a twinflower (*Linnaea borealis* L.), and space for the engraving of the name of the Medal award winner (Fig. 1). The twinflower is a circumboreal species, and was said to be Linnaeus' favourite flower (Gorham & Bidwell 1983).

In 1990, President Peter Jolliffe urged the creation of a revised logo because the quality of the logo on the Society letterhead was poor as the original dies for the logo had been lost; the revised logo was adopted in 1991 (Nozzolillo 2008).

In preparation for the 1998 Eastern Regional Meeting, lead organizer George Espie arranged for the logo to be scanned from the Society Medal (at high resolution); this scanned image was used for the Proceedings of the meeting. George subsequently arranged for a graphic artist to create a black and white version using software that allowed one to modify each pixel as required. The raised portions of the Medal became black, and the lower levels of the Medal became white in the black and white logo. An inverse white on black version of the logo was also created. The black on white version of the logo has been used on CSPB letterhead ever since, and the logo is also used on the Society website.

As part of the preparations for the 2013 Eastern Regional Meeting, George Espie and Ingo Ensminger noted that the electronic version of the logo was slightly asymmetrical, possibly due to an imperfection in the original scan. They engaged a graphic artist to clean up the lines of the logo, leading to a slightly modified version (Fig. 2) that was used in the Proceedings of the meeting. However, it is the 1998 version that is currently used as the official logo of the Society.



Figure 1: CSPB logo as depicted on the Society (Gold) Medal (left), and twinflower on the other side of the Medal (right).

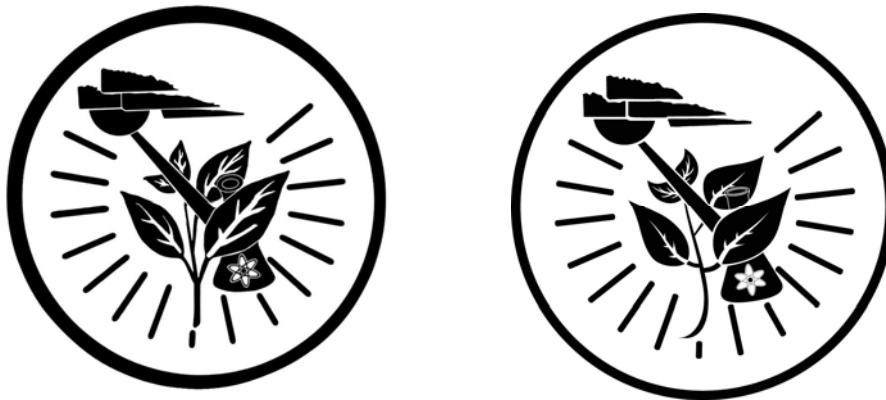


Figure 2: CSPB logo as currently used for most CSPB publications (left), and CSPB logo as updated for the 2013 Eastern Regional Meeting (right).

#### Questions about the Logo and the Society (Gold) Medal

As described above, there are three major opinions about the logo:

- It's fine as it is
- It needs tweaking/simplifying (e.g. get rid of the radioactive Erlenmeyer?)
- It needs replacing

In terms of the Society Medal, any change in the logo will also necessitate a change in the Medal. The cost of a new die is on the order of \$1000. However, there is also discussion about the other side of the Medal, which currently depicts a twinflower plant and has space for engraving the name of the award winner. Clearly, the space must remain, but discussion has centered around whether the twinflower should remain or be replaced by something else (e.g. maple leaves?).

However, the twinflower side of the Medal requires a new die regardless of whether or not the twinflower is replaced, as that side of the Medal indicates the former name of the Society rather than the present name

("physiologists") needs to be replaced by "biologists", and "physiologie" needs to be replaced by "biologie"). In other words, the Society needs to spend \$1000 on a new die regardless of the fate of the twinflower.

Thus, the question about that side of the Society Medal is whether to:

- Keep the twinflower and update the name of the Society
- Replace the twinflower and update the name of the Society

For obvious reasons, both decisions should be made before new Medals are produced.

#### Discussion about the Logo

CSPB webmaster Michael Stasiak has created a LinkedIn discussion group (accessible via the website homepage at <http://www.cspb-scbv.ca/index.shtm>). Please join the discussion group and let everyone know your opinions about the logo (and the twinflower)!

Harold Weger

## Treasurer's News



CSPB Treasurer  
Harold Weger

### **George H. Duff Travel Bursaries and Society Finances**

The CSPB allocated a record amount to the George H. Duff Travel Bursaries for student and post-doc participants at Plant Biology 2014 (Portland, Oregon) in July. Approximately \$15,750 was allocated, which included a generous donation of \$2000 from Canadian Science Publishing (<http://www.cdnsiencepub.com/>), who operate as NRC Research Press (which publishes Botany, an affiliated journal of both the CSPB and the Canadian Botanical Association - <http://www.cba-abc.ca/cbahome.htm>). In general, funding for the Duff Bursaries comes from a combination of donations from CSPB members and from Society general revenues. The travel bursary program is a very important element of the CSPB's strategy to make the annual conferences affordable for students and post-docs.

In terms of the big picture of the Society's finances, the CSPB is in solid financial shape; we have been generally breaking even financially, or posting a small profit, over the past several years. This financial success has allowed us to steadily increase the funds allocated to the Duff Travel Bursaries. The Bursary budget was \$3000 for the 2003 annual conference, and has steadily climbed since that time.

### **Membership Numbers**

Membership seems to be holding steady at approximately 400 members. Two years ago the Society changed its name to the Canadian Society of Plant **Biologists**/La Société canadienne de **biologie** végétale,

from "Physiologists/physiologie", in an attempt to emphasize the "big tent" nature of the Society. We welcome memberships from many different types of plant biologists, including physiologists, biochemists, molecular biologists, anatomists, agronomists, applied plant biologists, tree biologists etc. We really do wish to represent, and include, a wide spectrum of Canadian plant biology. Thus, I encourage CSPB members to promote the Society to their colleagues who may not be members of the CSPB. While we are the largest plant biology scientific organization in Canada, there are still quite a few plant biologists who are not members of the Society; and we really do try to be inclusive!

### **Evolving Membership Renewal System**

The membership renewal has been continually evolving. When I started out as treasurer in 2002, all membership renewal notices were mailed out and most members renewed via mailing a cheque or faxing a credit card number. Receipts for membership renewals were also mailed out. A few years later we switched to e-mailing the renewal notices and the receipts. Then, as most CSPB members are aware, a few years ago the CSPB adopted an on-line system for membership renewals (based on PayPal), and approximately 90% of membership renewals are now done on-line. In an effort to further streamline the membership renewal process, we have contracted with Vital Volunteers Inc (<http://www.vital-volunteers.com/>) to automate the membership and donation process. We are working to eliminate the need to manually update the membership database when someone renews their membership, or has a change in their contact information, and also to eliminate the manual generation of receipts and renewal notices. This is an ongoing project, and CSPB members will gradually see some changes in how memberships (and donations) are processed. Many people have already received a new type of receipt for their membership renewals and donations.

**Harold Weger**  
CSPB-SCBV Treasurer

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## Message from the CSPB/SCBV Education Director



**CSPB-SCBV Education  
Director, Madoka Gray-  
Mitsumune**

### Highlights from Plant Biology 2014

The last annual meeting Plant Biology 2014 was packed with education-related events. ASPB hosted a two-hour interactive workshop on 'Flipped' classrooms, a hot topic in science education. In a traditional classroom, the instructor lectures course contents to students during class time and students complete assignments at home. In a flipped classroom, students learn course contents before class. Then, in class, the instructor facilitates active learning sessions, which include in-class assignments.

I confess I was quite skeptical of 'flipping'. I was not too keen on video lectures, which are tedious to make and boring to watch. The problem was that I had a narrow definition of flipped classroom in my mind. The workshop started off by dispelling the misconceptions of a flipped classroom. Content learning can take many forms. Watching video lectures is just one option. Do you give your students reading assignments and ask questions about it in class? Then you are already flipping your classroom. Another misconception is that flipping requires a complete overhaul of the existing course structure. In reality, it can start small, by converting one or two lectures per term. The purpose of the flipped classroom is to dedicate more class time to active learning without compromising course contents. The active learning techniques have been proven to improve learning outcomes. The workshop itself took on the active learning format, which included a few rounds of group discussions. The workshop was a great success filled with animated thought-provoking discussions.

CSPB members were extremely well represented in the education mini-symposium. Three out of five papers selected for the mini-symposium were from the University of British Columbia. This is quite remarkable, considering that the selection process was purely based on the quality of abstracts. Dr. Santokh Singh, CSPB education committee member, presented a project-based lab course in plant physiology. Dr. Martha Mullally, postdoctoral fellow at the Carl Wieman Science Education Initiative, presented her collaborative work with Dr. Lisa McDonnell on the differences in problem-solving processes between novice and expert, using genetic problem solving as an example. Dr. Mullally also presented an overview and assessment of the university-wide Flexible Learning Initiative, UBC version of the flipped classroom. The audience was truly amazed by UBC's initiative on evidence-based pedagogy development.

The Education-Outreach poster session was also filled with CSPB participants. Out of twenty-three posters, eight were given by CSPB members. Thank you very much for your participation!

### Upcoming Education Events

**Western Conference on Science education, July 7 – 10, 2015, London ON.** Would you like to get fresh ideas on science education? Then this conference is for you. Held at Western University (formerly known as University of Western Ontario), this conference is held every two years and covers a wide range of topics related to science education, such as teaching methods, teaching technology, learning evaluation, and science curriculum. <http://ir.lib.uwo.ca/wcse/?cc=b93kTxsB&login=1802987>

**Botany 2015, July 25 - 29, 2015, Edmonton AB.** Another great opportunity for Plant Biology educators is approaching. The education symposium at Botany 2015 will feature blended learning and educational technology, with invited speakers from Canada and the US. We expect a number of education-related presentations.

**Madoka Gray-Mitsumune**  
CSPB-SCBV Education Director

## Education Outreach



### PlantingScience in Canada

Catrina Adams<sup>1</sup> and Julia Nowak<sup>2</sup>

<sup>1</sup>Director of Education, Botanical Society of America, St. Louis, Missouri, USA

<sup>2</sup>Postdoctoral Research Fellow at Southern Crop Protection and Research Centre, Agriculture and Agri-Food Canada, London, Ontario, Canada

PlantingScience is an online plant science outreach program, which has had a tremendous impact on how students are learning about science and plants. It offers a communication platform between students and scientist mentors, such as you. This program originated from a challenge to societies to help make students more science literate and to connect them to scientists in the classroom. PlantingScience was established a decade ago. To date, over 16,000 students have been mentored on student-led plant science projects. In order to mentor such a large number of students, almost 900 scientists have been involved, from 14 partnering scientific societies.

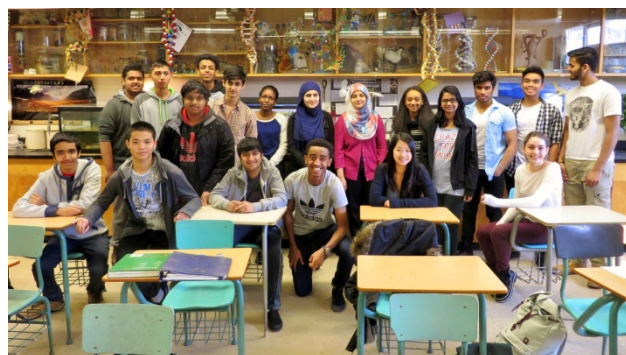
The program consists of three groups: students, teachers, and mentors. The students are the most important part of PlantingScience. Without them, there would be no program. Teachers are also key to orchestrating inquiry investigations in their classrooms. There are many middle and secondary schools (grades 6-12) that have participated in PlantingScience. The majority of them are in the US, but there have been participating classes in schools from the Netherlands, South Korea, and Nigeria. Mr. Kim's Grade 11 Biology classes, from David & Mary Thomson Collegiate Institute in Toronto, are the first Canadian students to experience PlantingScience. The students are working on their Arabidopsis genetics-themed investigations now. Mr. Kim has expressed his appreciation of the interaction between students and scientists who have a true passion for teaching and sharing their knowledge. We would love to get more Canadian schools involved in the program as it has great benefits for the students and everyone involved. If you know any science or biology teachers that may be interested in participating with their classes, please direct them to the website ([www.plantingscience.org](http://www.plantingscience.org)) or contact Julia directly ([nowakj3@gmail.com](mailto:nowakj3@gmail.com)).

Scientist mentors are the link for the students to 'real scientists.' A scientist mentor can be a graduate student, a scientist, a technician, a professor or anyone else who loves to share their passion for plant science with students. You can be a scientist mentor too.

If you are interested, please visit [www.plantingscience.org/newmentor](http://www.plantingscience.org/newmentor) to learn more and register. The next session is due to start in September 2015, so please register by August 30.

Please also join Catrina and many other PlantingScience mentors in Edmonton this summer during the Botany 2015 joint conference. A reception and a discussion section about the program are planned (check the schedule for times).

Each of the three parts of the PlantingScience equation plays an important role in making this a Spore Science Prize award-winning program. The interaction between students/teachers and their scientist mentors significantly impacts the way that these students approach science and therefore the way they think and look at the world around them.



Mr. Kim's Grade 11 Biology classes

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## Letter from the Student/Postdoctoral Representative

### Get Involved in the Discussion!



**CSPB/SCBV Student  
and Postdoctoral  
Representative,  
R. Glen Uhrig**

Dear Student and Postdoctoral CSPB/SCBV Members,

My name is Dr. R. Glen Uhrig and I am the newly elected CSPB/SCBV student and postdoctoral representative. I would like to first thank each student and postdoctoral member of the CSPB/SCBV who took the time to partake in the recent student and postdoctoral representative election. Having an engaged constituency is part of what makes our society great! If you did not manage to vote this time around, I encourage you to stay tuned for the next election or find a way to get involved in the meantime.

As a Canadian, I obtained my graduate degrees from Queen's University (M.Sc.) and the University of Calgary (Ph.D.), which was followed by my current position as a Marie-Curie funded Post-Doctoral Fellow at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. It was these experiences that inspired one major aspect of my CSPB/SCBV student and postdoctoral representative election platform: to better connect student and postdoctoral CSPB/SCBV members to funding and networking opportunities in both Canada and abroad. In an era of limited financial resources, it is imperative as graduate students and postdoctoral fellows that we know where funding opportunities exist. In my experience, knowing the opportunities available outside of Canada presented the greatest challenge. Therefore, it is my goal to provide information resources

to current CSPB/SCBV members regarding cutting-edge science opportunities around the world, and in doing so, attract new students and postdoctoral fellows from within Canada and abroad to the CSPB/SCBV. To learn more, I encourage each of you to either visit the CSPB/SCBV website or join the CSPB/SCBV group on the professional networking website LinkedIn.

In addition to the student and post-doctoral resources soon to be available on the CSPB/SCBV website and LinkedIn group, a number of other initiatives were previously started by the outgoing CSPB/SCBV student and postdoctoral representative Michael Stokes (University of Toronto), specifically, "From lab bench to boardroom: Developing a viable business from your graduate research." This was developed in conjunction with Guillaume Th  roux Rancourt (Laval University) and saw representatives from Laval Innovations and a Quebec City patent office give presentations, which was then followed by selected CSPB/SCBV student members having the opportunity to discuss their work with the panel of representatives. Given the success of this initiative, we will look to continue this at the annual CSPB/SCBV meeting in 2015.

As the elected CSPB/SCBV student and post-doctoral representative, it is my goal to serve our student and post-doctoral community diligently, and to do so, I welcome input from each of you. I also urge each of you to converse with your fellow graduate student and postdoctoral colleagues from around your respective departments and encourage them to become CSPB/SCBV members. Membership is only \$15 a year for students and \$25 a year postdoctoral fellows! Not only will new members help to continue to grow our society, but each new member will offer to further enrich the Canadian plant science community.

**R. Glen Uhrig (Ph.D., M.Sc.)  
CSPB/SCBV Student and Postdoctoral  
Representative**

## Obituaries



### Professor Martin Canny

Professor Martin J.P. Canny, President of the Canadian Society of Plant Physiologists in 1992-1993, died after a short illness in Canberra, Australia on October 29<sup>th</sup>, 2013. Martin was born on May 14<sup>th</sup>, 1931 in Sydney Australia and obtained his PhD at Cambridge University in 1956. He then became a Senior Research Chemist at the Central Research Laboratories of ICI Ltd in Melbourne, working on the movement and metabolism of weed-killers and carbohydrates in plants. He returned to Cambridge in 1959 to work as a Senior Research Assistant and then as Lecturer in Botany. In 1964, he returned once more to Australia to take up his appointment as Foundation Professor of Botany at Monash University, Melbourne.

Martin, who considered himself to be a whole-plant physiologist, was well known for his thought-provoking and sometimes controversial hypotheses on carbohydrate, water and solute movement in plants. He published 135 research articles spanning an astonishing 64 years. His first publication, with his high school chemistry teacher in the *Journal and Proceedings of the Royal Society of New South Wales*, came at the age of 19. His second, in 1955, was on high-resolution autoradiography of water-soluble substances. He published this article as a sole author – in *Nature*. His most recent and possibly not last contribution, on metaxylem in maize roots, was fittingly published in *Annals of Botany*, a journal for which he served as North American Editor between 1989 and 1998. He published one book, *Phloem Translocation*, in 1973. He began the first chapter with the compelling statement: “Consider a pumpkin”.

He will be remembered for establishing innovative ways to investigate water transport, and for the new ideas that emerged from data and observations that often challenged conventional models. Many of his more controversial ideas

have gradually gained acceptance or have been rediscovered.

Numerous prestigious fellowships enabled Professor Canny to work and carry out sabbatical visits to Makerere College Uganda (1964), University College London (1969), and the Universities of Hawaii (1972), Bristol (1975), and Edinburgh (1982). As a Tansley Lecturer for 1989, he toured the Universities of Edinburgh, Lancaster, Bangor, Cambridge and Oxford. In 1999, he was appointed Profesor Invitado at Universidad de La Habana, Cuba.

His move to Canada began with two NSERC International Awards, which funded 3 month visits in 1982 and 1983 to the laboratory of Professor Margaret McCully at Carleton University. He returned in 1985 for 12 months on a Canadian Commonwealth Fellowship and in 1986, he left Monash to become Honorary Research Professor at Carleton. According to Margaret, who was working on xylem development when Martin first arrived, Martin said that, unlike phloem, he did not think that there was much to be learned about xylem. That opinion clearly did not persist, and his research interests quickly switched to xylem. His professional and personal partnership with Margaret also became permanent.

By all accounts, Martin greatly enjoyed his years at Carleton and the many interactions and friendships he had with Canadian scientists. He quickly became fully involved in the Canadian research community, serving on the executive of the Canadian Society of Plant Physiologists between 1990 and 1995, including his role as President in 1992-93.

Martin Canny was both an inspirational researcher and a generous mentor, who had the patience to explain things at an accessible level. As those of us who knew Martin reflect, many good stories emerge. My own career took a significant turn in my final year at Carleton in 1983 as I naively began to consider options for graduate school. Margaret insisted that I meet Martin who, after asking about my background and interests, drew a map of Australia, on which he provided a who's who of plant research along with some strong recommendations. Within months I was planning a move from Ottawa to Canberra that lasted nearly two decades.

In the late 1990s, Martin and Margaret gradually made their own move from Ottawa to Canberra, where Martin was appointed Visiting Fellow at the Australian National University's Research School of Biology and Margaret set up shop at CSIRO Plant Industry. There, they continued to pursue their active research programs and became interwoven in the vibrant Canberra plant research fabric.

**Geoffrey Wasteneys, Vancouver**

## Obituaries

### Professor Frank Wightman

The CSPB has only recently learned of the passing of Prof. Frank Wightman (on Oct. 10 2013). A long-time member of the CSPB, Prof. Wightman moved to Canada from the UK in 1958. He initially conducted research at the NRC Prairie Regional Laboratory in Saskatoon, SK, and moved to the Biology Department at Carleton University in 1960. He would continue to work at Carleton University until his retirement in 1991.

Prof. Wightman's research focused mainly on phytochemistry of plant hormones and plant growth

regulators; he also worked on topics such as amino acid metabolism and photoperiodic control of flowering in *Xanthium*. He published more than 50 journals over his career, the last in 1993 (in the Australian Journal of Plant Physiology). His other publications included Schneide EA & Wightman F (1974) Metabolism of auxin in higher plants (Annual Review of Plant Physiology 25:487-513), and he also co-edited a large volume about plant hormones with George Setterfield: Biochemistry and physiology of plant growth substances: Proceedings of the 6th International Conference on Plant Growth Substances held at Carleton University, Ottawa, July 24-29, 1967.

## Message from the Vice President

This year's annual meeting of our society will be organized within the framework of **Plant Canada** and simultaneously as joint meeting with the **Botanical Society of America**. **Botany 2015** will be held on July 25-29 in Edmonton (<http://www.botanyconference.org/>).

As has become tradition during joint meetings, the CSPB will hold a social event for its members. Scientific highlights of the meeting include the CD Nelson Award Presentation by the 2014 Awardee Darrell Desveaux (Toronto). Several symposia are sponsored by or in collaboration with the CSPB. Awards for best student presentations will be given to CSPB student members.

The venue of the meeting is the **Shaw Conference Centre**. Several hotels are in walking distance and for students, the organizers have arranged a block of rooms at the MacEwan University dorms.

This joint international meeting will likely attract more than 2000 scientists and we are looking forward to the interdisciplinary and international opportunity to highlight Canadian plant science.

I am looking forward to seeing you in Edmonton this summer!



Anja Geitmann, *Vice President*



July 25 - 29, 2015 [The Shaw Conference Centre](#) Edmonton, Alberta - Canada



**University of Victoria  
Forest Biology Symposium  
and  
Canadian Society of Plant Biologists  
Western Regional Meeting**

**Friday, May 1<sup>st</sup>, 2015  
9:00 am to 5:00 pm  
David Strong Building C103**

**Symposium Speaker:**

**Dr. Janice Cooke, University of Alberta, Edmonton**

*"Living on the edge: Responses of an evolutionarily co-evolved and a naïve pine host in the face of mountain pine beetle range expansion"*

**Contributed Presentations:** Oral presenters will be selected from submitted abstracts. There will also be a poster session.

**To register:** Contact Diane Gray at the UVic Centre for Forest Biology ([dgray2@uvic.ca](mailto:dgray2@uvic.ca)). There will be no registration fee.

**To submit an abstract for a talk or poster:** Please submit a title, abstract (200 words max) and affiliation by e-mail to Diane Gray ([dgray2@uvic.ca](mailto:dgray2@uvic.ca)) by March 30<sup>th</sup>, 2015, and indicate your preference for a talk or poster.

Selection for oral presentations will be made by the Organizing Committee and presenters informed by April 10<sup>st</sup> 2015.

For more information see <http://web.uvic.ca/forbiol/>



Contact: Diane Gray, UVic Centre for Forest Biology, phone: 250-721-7119,  
fax: 250-721-6611, email: [dgray2@uvic.ca](mailto:dgray2@uvic.ca), <http://web.uvic.ca/forbiol/>



## CSPB/SCBV EXECUTIVE AND COMMITTEE MEMBERS FOR 2014-2015

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*Secretary:*

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Ewa Cholewa (Nipissing U)

*Senior Director:*

Jean-Benoit Charron (McGill)

*Science Policy Director:*

Carl Douglas (UBC)

*Education Director:*

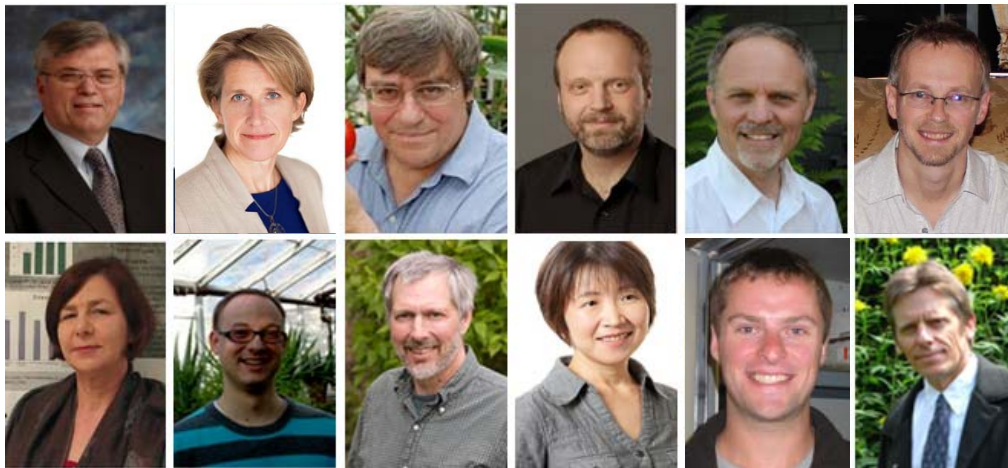
Madoka Gray-Mitsumune (Concordia)

*Student/PDF Representative:*

Glen Uhrig (ETH in Zurich)

*Past President:*

Bill Plaxton (Queen's)



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Madoka Gray-Mitsumune .....CSPP/SCPV Education Director

Glen Uhrig.....CSPB/SCBV Student/Postdoctoral Representative

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