



Plants from Sea to Sky


Vancouver
British Columbia
July 4-7, 2017

CSPB X CSHS

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WELCOME



Welcome to Plants from Sea to Sky. Our conference is hosted by the Department of Botany at the University of British Columbia (UBC) Vancouver, and is a joint meeting of two professional societies: The Canadian Society of Plant Biologists (CSPB) and the Canadian Society for Horticultural Science (CSHS).

The theme Plants from Sea to Sky reflects our location as well as the scientific content. The UBC Point Grey campus is on traditional and unceded territory of the Musqueam people, at the edge of the Salish Sea. Directly north, where the Coastal Mountains rise from the ocean, is the Sea-to-Sky corridor, which stretches along Howe Sound towards Squamish, Whistler and beyond. Matching this dramatic geographical transition, our research presentations will focus on organisms ranging from seaweeds to trees, and include diverse model systems, such as microalgae, crop plants, and wild species.

I am delighted to welcome as co-chair Karen Tanino, the President of the Canadian Society for Horticultural Science (CSHS). The fusion of CSPB and CSHS for this occasion enriches our scientific programs and will stimulate opportunities for new friendships and collaborations. Nine CSHS invited speakers (Simone Castellarin, Kate Congreves, Bourlaye Fofana, Valerie Gravel, Lee Kalcsits, Andrew McElrone, Praveen Saxena, Raju Soolanayakanahally and Helen Tai) are keynote speakers in the concurrent sessions. CSHS's workshop on July 4, Linking to BC Horticulture, will be a forum to promote dialogue between industry and scientists, and the post-conference "farm tour", will highlight the importance of Horticulture in lower mainland British Columbia. Both of these events have been coordinated by local organizing committee member Simone Castellarin.

Headlining our conference are nine internationally recognized plant scientists who will be presenting the plenary lectures. They include Elliot Meyerowitz from Caltech, Siobhan Braybrook from the Sainsbury Laboratories, Cambridge UK, Cara Haney from UBC, CD Nelson Award winner Sophia Stone from Dalhousie, Sabeeha Merchant from UCLA, Mathew Bracken from UC Irvine, Yves Desjardins from Laval University, Harry Klee from the University of Florida and Andrew Groover from UC Davis and the USDA. I am very grateful to each of these speakers for accepting the invitation to attend our meeting.

In addition to the plenary lectures, we will feature 120 poster presentations and 100 short seminars. The poster sessions will be held right after the morning plenary talks on Wednesday and Thursday and clustered thematically. The 16 concurrent seminar sessions will be divided into 4 groups on Wednesday and Thursday afternoons. We are offering live streaming of the plenary seminars and video recording of the concurrent sessions. This will enable delegates to view some of the seminars that they were unable to attend in real time. This year's CSPB Education Forum takes on the issue of Cannabis in the Classroom. Dr Mathias Schuetz from Kwantlen Polytechnic University will discuss the challenges of developing education programs aimed at cannabis cultivation for this emerging multi-billion dollar industry.

WELCOME

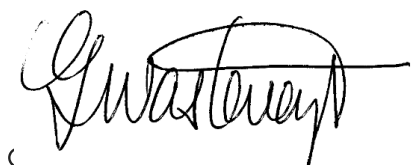
Plants from Sea to Sky honours the career and contributions of Professor Carl Douglas, whose death in a mountain climbing accident one year ago shocked and saddened our research community. Carl was a former president of CSPB, long-standing member of the CSPB executive, and won the 2016 Gifford Award in Tree Physiology. To commemorate his many scientific accomplishments, we are holding a special symposium on the morning of Friday July 7.

Several workshops including CSHS's Linking to BC Horticulture will complement our scientific program. Many thanks to Shrikaar Kambhampathi, the CSPB student/postdoctoral representative for organizing two career workshops, Road to Success in an academic world on Tuesday afternoon and Fork in the road: A guide to your post-PhD career on Wednesday at noon. In addition, the Natural Sciences and Engineering Research Council will be hosting a grant-funding workshop on Thursday at noon.

Organizing the scientific program and coordinating the events of this meeting has been a team effort. I am very grateful to have had the advice of my co-chair Karen Tanino, continual input from members of the scientific planning committee, and support from the CSPB and CSHS executives. I am thankful to the many colleagues who have stepped up to chair sessions or to serve as judges for the student poster and seminar presentation awards. Numerous essential tasks have been carried out by staff members of the UBC Department of Botany, and for this I acknowledge the generous support of the Department Head Sean Graham. I am especially grateful for the expert assistance and hard work of Isabel Ferens (Botany Admin Support), our IT support crew Sean Sheng and John Ng, and our amazing crew of student and post-doctoral volunteers.

I extend huge thanks to our many academic and corporate sponsors. Their financial and in-kind support are essential for supporting our invited speakers, keeping our registrations costs low and, in particular, for funding student and post-doctoral travel bursaries. Our industry sponsors offer services and instruments essential to our research and publishing, so please visit their display booths and web pages.

I thank all of you for attending Plants from Sea to Sky. Your ideas, enthusiasm and energy are essential for the meeting's success. I hope that your days here will be inspiring and enjoyable.



Conference Chair

Committees



Scientific Committee

Geoffrey Wasteneys (Chair), Botany, University of British Columbia (UBC)
Karen Tanino, (co-chair), University of Saskatchewan
Sherryl Bisgrove, Simon Fraser University
Simone Castellarin, Wine Research Centre, UBC
Robert Guy, Forest & Conservation Science, UBC
Cara Haney, Microbiology & Immunology, UBC
Jae-Hyeok Lee, Botany, UBC
Xin Li, Botany, UBC
Yuan yuan Liu, Botany UBC
Abel Rosado, Botany, UBC
Santokh Singh, Botany, UBC

Planning and Programming

Isabel Ferens, Admin Support, Botany UBC
John Ng, IT Support, Botany UBC
Sean Shang, IT Support, Botany UBC
Siobhan Finan, Project Assistant

CSPB Executive Committee

Anja Geitmann, President, McGill University
Vincenzo De Luca, Past President, Brock University
Geoffrey Wasteneys, Vice President, University of British Columbia
Barry Micallef, Secretary, University of Guelph
Sheila Macfie, Treasurer, Western University
Daphne Goring, Eastern Regional Director, University of Toronto
Mark Belmonte, Western Regional Director, University of Manitoba
Ingo Ensminger, Communications Director, University of Toronto
Emily Indriolo, Education Director, New Mexico State University
Owen Rowland, Science Policy Director, Carleton University
Jean-Benoit Charron, Senior Director, McGill University
Shrikaar Kambhampati, Student/PostDoc Rep, Western University

CSHS Executive Committee

Karen Tanino, President, University of Saskatchewan
Samir Debnath, Past-President, Agriculture and Agri-Food Canada (AAFC), St. John's, NFLD.
Valerie Gravel, Vice President, McGill University
Bourlaye Fofana, Secretary, AAFC, Charlottetown, PEI.
Diane Edwards, Treasurer, ABI Environmental Services Ltd.
Simone Castellarin, Western Representative, University of British Columbia
Kate Congreves, Prairie Representative, University of Saskatchewan
Parminder Sandhu, Central Representative, Vineland Research and Innovation Centre
David Wees, Eastern Representative, McGill University
David McKenzie, Atlantic Representative, AAFC, St. John's, NFLD.
Yanqun Xu, Student Representative, AAFC Quebec.

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General Information



REGISTRATION

On Tuesday July 4 from 12 pm to 9 pm, the registration desk will be located at Ponderosa Commons, Cedar House, 6445 University Blvd. From Wednesday July 5 to Friday July 7, registration will be in the lobby of the Forest Sciences Centre, 2424 Main Mall. If you arrive on Tuesday, be sure to pick up your registration package before heading to the evening social mixer.

ORAL PRESENTERS

Check the program for the location (room number) of your session. Bring your presentation files (powerpoint and keynote are acceptable formats) on a USB memory stick for loading onto the computer no later than 15 minutes prior to the start of your session. IT support will also be available near the registration desk for loading presentations at other times. If you are presenting in the afternoon, this will need to be done in the morning. If you prefer to use your own laptop, please allow plenty of time to make sure that your presentation will run properly. If plenary speakers wish to use their own laptops, they must contact the IT support desk in the atrium so that the software used for live streaming recording can be installed.

Waivers for Video Recording will be available at the registration desk for those who still wish to have their seminar recorded.

POSTER PRESENTERS

Check the program to see which day you will be presenting and note your poster number. Wednesday posters are numbered from 101 to 160. Thursday posters are numbered 201 to 260. Poster boards will be located in the Forest Science Centre atrium and will be numbered from 1 to 60 on both days. Those presenting on Wednesday must remove their posters that evening. Those presenting on Thursday should have their posters up before 9:00 a.m. on Thursday.

Local Discounts

Show your name tag from Plants from Sea to Sky at these on- campus or local locations and get discounts listed below!

- Booster Juice • 10% discount • 2162 Western Parkway
- Mahoney and Sons • 10% discount • 5990 University Blvd
- Browns Social House • \$5 off coupon (in laptop bag) • 3651 W 10th Ave

Plenary Speakers

Elliot Meyerowitz



Elliot Meyerowitz is the George Beadle Professor of Biology, and a Howard Hughes Medical Institute Investigator, at the California Institute of Technology. His laboratory, along with others, pioneered the molecular biology of the plant reference organism *Arabidopsis thaliana* in the 1980s. In the years since they have elucidated aspects of flower development (leading to the widely recognized ABC Model of flower development), hormone perception (they were the first to clone a gene for a plant hormone receptor, that for ethylene), phyllotaxis, and meristem maintenance and function. The recent work of the Meyerowitz laboratory focuses on studies of chemical and mechanical signaling between the cells of the shoot apical meristem.

Siobhan Braybrook



Siobhan obtained her undergraduate honours degree in Plant Biology from the University of Guelph in June 2003. In December 2008, Siobhan obtained her doctorate in Plant Biology at the University of California at Davis. In January 2013, Siobhan started as a Career Development Fellow at the Sainsbury Laboratory at Cambridge University. She has since started The Plant Mechanics Group here, which studies plant growth mechanics.

Cara Haney



Dr. Cara Haney is an assistant professor in the departments of Microbiology and Immunology and Michael Smith Labs at the University of British Columbia. Dr. Haney's research focuses on interactions between beneficial plant-associated microbes (the "microbiome") and plant growth and disease resistance. She received her B.S. in Plant Science from Cornell University and her Ph.D. in Cell and Molecular Biology from Stanford. She worked at Harvard as a postdoc developing a model system to study plant-microbiome interactions prior to

joining the UBC faculty in 2016. Dr. Haney is a Canada Research Chair in plant-microbiome interactions.

Sophia Stone



Sophia Stone is a Professor in the Biology Department at Dalhousie University in Halifax, NS Canada. She received her PhD at York University (2003) and completed a HFSP postdoctoral fellowship at the University of California – Davis (2006). She is the recipient of a number of research awards, most recently the Killam Prize from the Faculty of Science at Dalhousie University. She has a long standing research interest in the role and regulation of the ubiquitin proteasome system (UPS) in plant

development, reproduction and response to environmental stresses. Her current research focuses on the role of the UPS in regulating hormone biosynthesis and signalling, specifically ethylene and abscisic acid (ABA). She is also interested in identity substrate proteins that are targeted for degradation by the UPS in response to biotic and abiotic stress, such as iron deficiency, and determining how the enzymes of the UPS are themselves regulated to facilitate growth under suboptimal conditions.

Sabeeha Merchant



Sabeeha Merchant is Director of the Institute for Genomics and Proteomics and Distinguished Professor of Chemistry and Biochemistry at UCLA. She earned degrees in Molecular Biology and Biochemistry from the University of Wisconsin, Madison, and undertook post-doctoral studies at Harvard University prior to her professorial appointment. Merchant's discoveries have influenced scholarly thought in diverse disciplines, from biogeochemistry and biological oceanography to photosynthesis, plant biochemistry and human

nutrition. Merchant formulated the concepts of elemental sparing and recycling, which operate to sustain life in situations of deficiency by prioritized distribution of the limiting resource. Her concept of “reduce and re-use” has now been demonstrated across the kingdom of life. Merchant is recognized separately in plant biology for discoveries relating to chloroplast biogenesis and contributions to the genomics of algae. Merchant has served on advisory boards in government, academia and industry and is presently Editor of the Annual Reviews of Plant Biology and Editor-in-Chief of The Plant Cell. Her accomplishments are recognized by a Guggenheim fellowship, major awards from the American Society of Plant Biologists, the National Academy of Sciences and the Alexander von Humboldt Foundation, and election to the National Academy of Sciences, the American Academy of Arts and Sciences and the Leopoldina.

Mathew Bracken



Matt Bracken is an Associate Professor of Ecology and Evolutionary Biology at the University of California, Irvine, where he teaches courses in ecology, evolution, and marine biology. His research program employs an interdisciplinary approach to evaluating the linkages between marine communities and ecosystems, with a particular focus on the roles of primary producers in marine systems. Matt has been slowly working his way southward, having grown up in Alaska, done his undergraduate studies in biology at the University of Puget Sound in Washington, completed his Ph.D. at Oregon State University, and worked as a postdoctoral researcher at the

UC Davis Bodega Marine Laboratory. He left the U.S. west coast for 6 years as a faculty member at Northeastern University in Boston before moving back west to UC Irvine in 2014. The R2 value for the relationship between time and latitude over his life history is 0.92.

Yves Desjardins



Yves Desjardins is full Professor and Director of International Relations (INAF) at University of Laval. His laboratory is using functional genomics tools, metabolomics and proteomics to study the adaptive phenomena taking place in in vitro plantlets during the transition from heterotrophy to autotrophy and acclimatization. His recent research focuses on the characterization and extraction of polyphenols and particularly proanthocyanidins found in blueberries and cranberries and their effects on cardiovascular diseases, metabolic syndrome, diabetes and other

chronic diseases. Yves Desjardins was president of the Canadian Horticultural Sciences Society from 2003 to 2005; he has led many networks of excellence at the national level and he is active in many international networks in France, Mexico, Belgium, Brazil and Italy.

Harry Klee



Harry Klee received a PhD in Biochemistry from the University of Massachusetts. Following postdoctoral work at the University of Washington where he worked on the mechanisms of *Agrobacterium tumefaciens* T-DNA transfer, he was a senior scientist at Monsanto. While there, he participated in developing herbicide resistant crops as well as fundamental research in ethylene biology. In 1995 he took an endowed chair in Horticultural Sciences at the University of Florida. There his research has

focused principally on tomato fruit ripening and quality. For the last decade, his lab has used an interdisciplinary approach to understand the chemistry of tomato flavor. The lab has identified the fruit chemicals that drive consumer liking, the metabolic pathways for synthesis of the most important flavor chemicals and the underlying genetic control of flavor chemical composition. Harry is an elected Fellow of the AAAS, a member of the US National Academy of Sciences and current President-elect of the American Society of Plant Biologists.

Andrew Groover



Andrew Groover is a Research Geneticist with the US Forest Service, and Adjunct Professor in the Department of Plant Biology at the University of California Davis. Dr Groover's lab uses imaging, molecular genetic and genomic approaches to understand the developmental biology of forest trees, with an emphasis on wood formation. Integrating different complex data types and extracting biological meaning from them is a

significant challenge, and thus Dr Groover's lab has increasingly relied on computational approaches to understand the development and evolution of wood formation.

Conference Program

TUESDAY JULY 4TH

12:00pm– 9:00pm	Registration Desk available • <i>Ponderosa Commons, Cedar House, Lobby, 6445 University Blvd</i>	1:30pm– 5:30pm	CSHS Workshop: Linking to BC Horticulture • <i>Orchard Commons, Room 3074, 6363 Agronomy Road</i>
		2:30pm– 3:30pm	CSPB Student/Post-Doctoral Careers Workshop 1: Road to Success in an Academic World • <i>Michael Smith Laboratories, Room 101, East Mall and University Boulevard</i>
		3:30pm– 5:30pm	CSPB Outgoing Executive Meeting • <i>Biological Sciences Building, Room 2203, University Boulevard and Main Mall</i>
		6:00pm– 10:00pm	Informal Social Mixer at Mercante Pizza • <i>6488 University Blvd</i>

WEDNESDAY JULY 5TH

8:00am	Registration opens • <i>Forest Sciences Centre, 2424 Main Mall</i>		
8:00– 8:45am	Continental Breakfast • <i>Forest Sciences Centre, 2424 Main Mall</i>		
8:45– 9:00am	Opening Remarks • <i>Forest Sciences Centre, 2424 Main Mall</i>		
9:00am– 11:20am	Plenary Session 1 • Chair: Geoffrey Wasteneys <i>Forest Sciences Centre, Room 1005, 2424 Main Mall</i>	9:00am– 9:40am	Elliot Meyerowitz • Caltech <i>Mechanical and Chemical Signals in the Control of Arabidopsis Stem Cells</i>
		9:40am– 10:20am	Siobhan Braybrook • Sainsbury Institute, UK <i>Why gels matter: roles for pectin and alginate in development of walled organisms</i>
		10:20– 10:40am	Coffee and Snack Break
		10:40– 11:20am	Cara Haney • UBC Vancouver <i>The plant microbiome at the intersection of metabolism and defense</i>
11:20am– 1:30pm	Poster Session 1 11:30-12:30 <i>Forest Sciences Centre, Atrium, 2424 Main Mall</i>	12:30– 1:30pm	Lunch and Posters • <i>Forest Sciences Centre, 2424 Main Mall</i>
		12:30– 1:30pm	CSPB Student and Post-Doctoral Careers Workshop 2 • Fork in the road: A guide to your post-PhD career. <i>Forest Sciences Centre, Room 1220, 2424 Main Mall</i>

		12:30– 1:30pm	CSHS Annual General Meeting • <i>Forest Sciences Centre, Room 1222, 2424 Main Mall</i>
1:30 – 3:00pm	Concurrent Oral Presentations (I, II, III, IV) • 15 minute talks • <i>Forest Sciences Centre, 2424 Main Mall</i>		
I – Cell Biology 1 • Chair: Sherryl Bisgrove • Forest Sciences Centre, Room 1003			
Yen Le	<i>Endoplasmic Microtubule and CLASP Interaction in Arabidopsis Roots •</i> University of Saskatchewan		
Hae Ryoung Kim	<i>How does the microtubule associated protein EB1b modulate root responses to mechanical cues and gravity? •</i> Simon Fraser University		
Michal Pyc	<i>Identification and characterization of a novel lipid droplet protein in Arabidopsis •</i> University of Guelph		
Miranda Meents	<i>Mapping Polysaccharide Synthesis in a Changeable Golgi Apparatus •</i> UBC - Vancouver		
Jiaqi Sun	<i>Lunapark proteins suppress the membrane fusion activity of RHD3 for the formation of tubular ER network •</i> McGill University		
Abel Rosado	<i>The emerging role of plant ER-PM contact sites as stress signaling platforms •</i> UBC -Vancouver		
II – Seeds to Sky • Chair: Santokh Singh • Forest Sciences Centre, Room 1001			
Jaya Joshi	<i>BSAS4;1- Key Candidate in Developing Common Bean as an Excellent Source of Protein •</i> University of Western Ontario		
Deirdre Khan	<i>Making a better canola seed: Transcriptional and epigenetic profiling of Brassica napus seed development •</i> University of Manitoba		
Trinh Nguyen	<i>Investigation of a novel seed-size regulating gene in Canola (Brassica napus) •</i> University of Manitoba		
Kristina Kshatriya	<i>Histology and biochemistry of resin vesicles in conifer seeds •</i> UBC -Vancouver		
Yang Xu	<i>Plant DGAT1 variants with enhanced performance generated by directed evolution •</i> University of Alberta		
Kresimir Sola	<i>RUBY PARTICLES IN MUCILAGE (RUBY) is a putative glyoxal oxidase required for mucilage integrity and cell-cell adhesion in the seed coat epidermis of Arabidopsis thaliana •</i> UBC -Vancouver		
III – Abiotic Stress I • Chair: Annette Nassuth • Forest Sciences Centre, Room 1005			
Putri Pratiwi	<i>Jasmonic acid and jasmonoyl-isoleucine are induced in response to mechanical wounding in the model lycophyte Selaginella moellendorffii •</i> Hokkaido University, Sapporo, Japan		
Annette Nassuth	<i>Nuclear localization and transactivation by Vitis CBF transcription factors are regulated by combinations of conserved amino acid domains •</i> University of Guelph		
Tawhidur Rahman	<i>Identifying the physiological and ultrastructural phenotypes responsible for chilling stress tolerance in corn •</i> University of Saskatchewan		
Nicolas Dimopoulos	<i>Changes of the Grape Berry (Vitis vinifera L.) Cuticle during Fruit Development in Response to Water Deficit Stress •</i> UBC - Vancouver		
Gerry	<i>Can condensed tannins act as in vivo antioxidants and protect poplar against</i>		

Gourlay	<i>oxidative stress?</i> • University of Victoria
Awatif Abdulmajeed	<i>Effects of temperature, UVB radiation and watering regime on aerobic methane emissions during vegetative stages of pea plants</i> • Dalhousie University
IV – Nutrients and Metabolism • Chair: Lee Kalcsits • Forest Sciences Centre, Room 1221	
Kate Congreves	<i>Advances and challenges for better managing nutrients in vegetable cropping systems</i> • University of Saskatchewan
Perrin Beatty	<i>On the path towards developing plants that express a functional nitrogenase</i> • University of Alberta
Noabur Rahman	<i>Yield response of wheat, pea and canola to micronutrient fertilization in contrasting prairie soils</i> • University of Saskatchewan
Mina Ghahremani	<i>A curculin-like lectin interacts with a high mannose glycoform of the purple acid phosphatase AtPAP26 in cell walls of phosphate-starved Arabidopsis thaliana</i> • Queens University
Barbara Hawkins	<i>Mosses get the munchies</i> • University of Victoria
Mina Momayyezi	<i>Carbonic anhydrase activity is related to mesophyll conductance in black cottonwood genotypes</i> • UBC - Vancouver

3:00– 3:20pm	Coffee and Snack Break
3:20 – 4:50pm	Concurrent Oral Presentations (V, VI, VII, VIII) • 15 minute talks
V – Sexual Reproduction • Chair: Hong Wang • Forest Sciences Centre, Room 1003	
Ling Cao (Presented by Hong Wang)	<i>Arabidopsis ICK/KRP cyclin-dependent kinase inhibitors are critical for ensuring the development of one megaspore mother cell and one functional megaspore per ovule</i> • University of Saskatchewan
Hyun Kyung Lee	<i>The BRASSIKIN (BKN) pseudokinases modulate receptor complex and family-specific mate acceptance</i> • University of Toronto
Sabine Scandola	<i>Understanding role of Phospholipase D1 during pollen-pistil interactions in canola</i> • University of Calgary
Thamali Kariyawasam	<i>Discovery of the regulatory hierarchy of the unicellular zygosporangium development using the Chlamydomonas model system</i> • UBC
Katharina Braeutigam	<i>From profiles to phenotype: epigenome analysis reveals gender-specific methylation of a gene in the sex-determining region of Populus balsamifera</i> • University of Toronto Mississauga
Dylan Ziegler	<i>Furtive Flowers: Phenology, shoot development, and organization of pistillate Arceuthobium americanum</i> • Thompson Rivers University
VI – Specialized Metabolism I (Anatomy and Defence) • Chair: Peter Constabel • Forest Sciences Centre, Room 1221	
Peter Constabel	<i>Localization and Ecological Functions of Condensed Tannins in Poplar Roots</i> • University of Victoria
Jose Celedon	<i>Transcriptome reprogramming during resin duct biogenesis in white spruce (Picea glauca) cambium cells</i> • UBC - Vancouver
Sifat Tasnim	<i>Identification of genes and enzymes in the biosynthesis of specialized metabolites that provide heartwood rot resistance in Western redcedar trees</i> • SFU

Ayelign Adal	<i>Lavandula x intermedia</i> 3-carene synthase catalyzes pernyl diphosphate isomers (GPP and NPP) to produce distinct levels of monoterpenes in vitro • UBC Okanagan
Connor Hodgins	Natural rubber and sesquiterpene lactones co-accumulate in laticifer but their promoters show differential expression patterns in lettuce. • University of Calgary
Judith Booth	Terpene synthases from <i>Cannabis sativa</i> • UBC Vancouver
VII – Abiotic Stress II • Chair: Simone Castellarin • Forest Sciences Centre, Room 1005	
Simone Castellarin	Revealing the response of fruit metabolism to drought in grapevine (<i>Vitis vinifera</i> L.); omics applications in applied physiology • Wine Research Centre, UBC Vancouver
Shucai Wang	AITRs function as feed-forward regulators of ABA signaling and are involved in the regulation of abiotic stress tolerance in <i>Arabidopsis</i> • Northeast Normal University, China
Joon Soon Lee	Unraveling transcriptomic responses of an allopolyploid to abiotic stresses: homoeologous expression and alternative splicing patterns • UBC Vancouver
Biruk A Feyissa	microRNA156 regulates drought tolerance strategies in <i>Medicago Sativa</i> at the transcriptomic, metabolomic and physiological levels • University of Western Ontario
Sridhar Ravichandran	MicroRNA guided post-transcriptional gene regulation in response to heat stress in wheat plants • Agriculture and Agri-Food Canada, Ottawa
Hirbod Bahrani	Association mapping of genes conferring high winter survival in autumn-seeded rye (<i>Secale cereale</i> L.) • University of Saskatchewan
Andre Duarte	Nitrogen source and availability alter the effect of low CO ₂ on plant growth and N dynamics
VIII – Biotic Stress • Chair: Xin Li • Forest Sciences Centre, Room 1001	
Helen Tai	<i>Verticillium dahliae</i> disease resistance and the regulatory pathway for tuberization in potato • Agriculture and Agri-Food Canada, Fredericton
Rowan van Wersch	Negative Regulation of Plant Immunity by the ANP2/ANP3-MKK6- MPK4 kinases cascade • UBC Vancouver
Sonhita Chakraborty	A novel finding links the Ca ²⁺ channel activity of CYCLIC NUCLEOIDE GATED CHANNEL 2 to auxin signaling • University of Toronto
Kevin Ao	Elucidating the immune functions of plant TRAF domain proteins using CRISPR UBC Vancouver
Musharaf Hossain	Identification and functional characterization of putative effectors of <i>Plasmodiophora brassicae</i> and their role in regulating cell death during infection • University of Saskatchewan
Tongjun Sun	<i>Arabidopsis</i> Transcription factors TGA1 and TGA4 regulate salicylic acid and piperolic acid biosynthesis by modulating the expression of SARD1 and CBP60g • UBC Vancouver
4:50pm – 5:30pm	Interlude
5:30pm – 6:15pm	CD Nelson Lecture • Sophia Stone, Dalhousie • Ubiquitin proteasome system and plant response to environmental stress. Forest Sciences Centre, Room 1005 Chair: Anja Geitmann

THURSDAY JULY 6TH

8:00am	Registration opens • <i>Forest Sciences Centre, 2424 Main Mall</i>		
8:00–9:00am	Continental Breakfast • <i>Forest Sciences Centre, Atrium, 2424 Main Mall</i>		
9:00am–11:20am	Plenary Session 2 • <i>Forest Sciences Centre, Room 1005, 2424 Main Mall</i> Chairs: Jae-Hyeok Lee, Patrick Martone	9:00 – 9:40am	Sabeeha Merchant • UCLA <i>Between a rock and a hard place: tales of trace metal homeostasis in Chlamydomonas</i>
		9:40 – 10:20am	Matthew Bracken • UC Irvine <i>Top-down modification of bottom-up processes: nutrient recycling by consumers enhances algal growth in marine ecosystems</i>
		10:20 – 10:40am	Coffee and Snack Break
	Chair: Karen Tanino	10:40 – 11:20am	Yves Desjardins • Laval University <i>Horticulture Crop Nutrients and Polyphenols</i>
11:20am – 12:30pm	Poster Session 2 • 11:20 – 12:30 <i>Forest Sciences Centre, Atrium, 2424 Main Mall</i>	12:30–1:30pm	Lunch and Posters • <i>Forest Sciences Centre, Atrium</i>
		12:30–1:30pm	NSERC Workshop on Grant Funding • <i>Forest Sciences Centre, Room 1222, 2424 Main Mall</i>
1:30 – 3:00pm	Concurrent Oral Presentations (IX, X, XI, XII) • 15 minute talks • <i>Forest Sciences Centre, 2424 Main Mall</i>		
IX – Cell Biology II (Cell Walls) • Chair: Miki Fujita • Forest Sciences Centre, Room 1005			
Patrick Martone	<i>The biomechanical role of cellulose-enriched secondary cell walls in a wave-swept seaweed • UBC Vancouver</i>		
Robert McGee	<i>Developing a System to Engineer Arabidopsis thaliana Seed Coat Mucilage Composition • UBC Vancouver</i>		
David Bird	<i>There's Something About Pectin: Glandular Secretory Trichome Ultrastructure in Artemisia annua • Mount Royal University, Calgary</i>		
Fatima Awwad	<i>Cellulose biosynthesis inhibitors affect more than cellulose! • Université de Sherbrooke</i>		
Yoichiro Watanabe	<i>CELLULOSE SYNTHASES in Primary to Secondary Cell Wall Transition During Tracheary Xylem Development • UBC Vancouver</i>		
Anja Geitmann	<i>Mechanics of complex shape formation in plant cells • McGill University</i>		
X – Ecophysiology • Chair: Prakash Venglat • Forest Sciences Centre, Room 1001			
Christopher Buschhaus	<i>Quantitative assessments of wax-only water barriers on Arabidopsis thaliana stems and Pinus banksiana needles • Crandall University</i>		
Hefeng Hu	<i>A family of Arabidopsis MYB transcription factors that control the regulation of suberin deposition • Carleton University</i>		

Karuna Kapoor	<i>Abscisic acid and ethylene are integrated in the phytochrome (Pgb) regulation of maize somatic embryogenesis</i> • University of Manitoba
Raed Elferjani	<i>Canola yields under hot and dry climates</i> • Agriculture and Agri-Food Canada, Saskatoon
Danyu Yao	<i>Arabidopsis sucrose synthases localize to phloem, not xylem, suggesting a role in phloem loading and unloading</i> • UBC Vancouver
Prakash Venglat	<i>Plant meristems function as sites of integration of developmental and environmental stressors</i> • University of Saskatchewan
XI Technological Innovations • Chair: Ingo Ensminger • <i>Forest Sciences Centre, Room 1221</i>	
Ingo Ensminger	<i>Photosynthetic phenology reflected by leaf optical properties, chlorophyll fluorescence and dynamics of the photoprotective xanthophyll cycle</i> • University of Toronto Mississauga
Andrew McElrone	<i>Exploring the innerSPACE of plants: Insights into plant water uptake and transport from synchrotron-based X-ray microCT</i> • University of California – Davis
Jarvis Stobbs	<i>Synchrotron based imaging: Emerging technologies for agricultural research and innovation</i> • Canadian Light Source, Saskatoon
David Hawley	<i>The influence of light spectral quality on basil, strawberry, and cannabis secondary metabolism</i> • University of Guelph
Madiha Khan	<i>Proximity-dependent biotin identification (BioID): a novel tool for plant proteomics</i> • University of Toronto
Lee Kalcsits	<i>The challenge of measuring calcium uptake and distribution and its relationship with bitter pit in apple (Malus domestica Borkh)</i> • Washington State University
XII – Specialized Metabolism II (Plant Products) • Chair: Raju Soolanayakanahally • <i>Forest Sciences Centre, Room 1003</i>	
Mehran Dastmalchi	<i>Characterization of codeinone reductase variants in Papaver somniferum</i> • University of Calgary
Dinesh Adhikary	<i>Virus induced gene silencing (VIGS) system for functional genomics in betalainic species, Amaranthus tricolor</i> • UBC Okanagan
Jenny (Seohyun) Jo	<i>Biosynthesis of Montbretin A: A Novel Anti-Diabetic Compound from Crocosmia</i> UBC Vancouver
Shyamal Nandi	<i>In vitro production of secondary metabolites from selected Himalayan medicinal plants</i> • G.B. Pant National Institute of Himalayan Environment and Sustainable Development, Uttarakhand, India
Adam Lakusta	<i>The Molecular and Biochemical Characterization of cis-Prenyltransferase Binding Protein and cis-Prenyltransferases in Parthenium argentatum with an Emphasis on Natural Rubber</i> • University of Calgary
Raju Soolanayakanahally	<i>Seabuckthorn: insights into the new superberry</i> • Agriculture and Agri-Food Canada, Saskatoon
3:00–3:20pm	Coffee and Snack Break

3:20 – 4:50pm	Concurrent Oral Presentations (XIII, XIV, XV, XVI) • 15 minute talks •
XIII – Development • Chair: Jae-Kyeok Lee • Forest Sciences Centre, Room 1221	
Jae-Hyeok Lee	<i>Complexity of the regulatory networks for the homeobox-dependent zygospore program during the sexual development of Chlamydomonas reinhardtii • UBC Vancouver</i>
Meng Li	<i>Cellular distribution and developmental patterns of the Crucifer ‘glucosinolate-myrosinase’ defense system • UBC Vancouver</i>
Justin Whitehill	<i>Stone cells and the conifer defense syndrome against insects • UBC Vancouver</i>
Jim Mattson	<i>Controlled alteration of pattern and extent of veins in monocot species • Simon Fraser University</i>
Junjie Hu-Skrzenta	<i>Redox regulation of after-ripening induced wheat seed dormancy release revealed through tissue-specific proteomics and antioxidant capacity profiling Agriculture and Agri-Food Canada, Morden, MB</i>
Logan Skori	<i>Translating frost tolerant seed degreening from Arabidopsis to Canola • University of Calgary</i>
XIV – Biochemistry • Chair: Greg Moorhead • Forest Sciences Centre, Room 1001	
Greg Moorhead	<i>Activation of mitochondrial protein phosphatase SLP2 by MIA40 regulates seed germination • University of Calgary</i>
Abir Igamberdiev	<i>Expression and properties of the mitochondrial and cytosolic forms of fumarase in germinating seeds of sunflower and maize • Memorial University of Newfoundland</i>
Eliana Gonzales-Vigil	<i>Peeling off the secrets of poplar cuticles • UBC Vancouver</i>
Kristian Mark Caldo	<i>Allosteric regulation of Brassica napus diacylglycerol acyltransferase 1 • University of Alberta</i>
Guillaume Beaudoin	<i>A pathway for disposal of 5'-deoxyadenosine, a toxic byproduct of radical SAM enzymes • University of Florida</i>
Reinhard Jetter	<i>Cell-type- specific metabolism: Biosynthesis and composition of cuticular waxes covering Arabidopsis trichomes • UBC Vancouver</i>
XV – Applied Plant Biology • Chair: Diane Edwards and Samir Debnath • Forest Sciences Centre, Room 1005. Note: this session has 7 x 15 minute talks.	
Praveen Saxena	<i>Conservation of Plant Biodiversity: The role of in vitro technologies • University of Guelph</i>
Susan Murch	<i>Morphogenesis and Regeneration of Breadfruit (Artocarpus altilis): A Staple Crop for Food Security • UBC – Okanagan</i>
M.P.M. Nair	<i>36 years of breeding-- -novel low-light tolerant (LLT Plants TM) ‘First Canadian’ lemon, ‘First Canadian Golden’ lime, and other home windowsill vegetables for northern regions • University of Saskatchewan</i>
Bourlaye Fofana	<i>Potato greening: Towards developing potato clones tolerant to greening • Agriculture and Agri-Food Canada, Prince Edward Island</i>
Reena Pinhero	<i>Effect of varieties and cooking methods on starch digestibility and glycemic impact of early potatoes • University of Guelph</i>

Rishi Burlakoti	<i>Biotic constraints for leafy vegetable production in Southeast Asia: Disease survey, pathogen characterization, and screening for disease resistance</i> • Agassiz Research and Development Center, BC
Marie Thérèse Charles	<i>Preharvest treatment application: A new era for UV-C hormesis</i> Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC
XVI – Biotic Interactions (Microbiome) • Chair: Cara Haney • Forest Sciences Centre, Room 1003	
Valerie Gravel	<i>Manipulating the crosstalk plant response to biotic and abiotic stimuli in horticultural plants</i> • McGill
Mark Belmonte	<i>RNA interference two ways: molecular fungicides and durable plants to control <i>Sclerotinia sclerotiorum</i></i> • University of Manitoba
Melanie Jones	<i>Can pine germinants supply nitrogen to their ectomycorrhizal fungal partners?</i> • UBC – Okanagan
Philip Carella	<i>Molecular and Microscopic Dissection of Plant-Microbe Interactions in Early Land Plants</i> • University of Cambridge
Ryan Melnyk	<i>A scalable comparative genomics platform for identifying plant-associated genes in <i>Pseudomonas spp.</i></i> • UBC Vancouver
Melissa Chen	<i>Horizontal transfer of microbes between seaweed neighbours</i> • UBC Vancouver
4:50pm – 6:00pm	CSPB Annual Business Meeting • Forest Sciences Centre, Room 1003, 2424 Main Mall
6:30pm– 9:30pm	Banquet and Awards • Robert H. Lee Alumni Center, 6163 University Blvd

FRIDAY JULY 6TH

8:00 – 8:45am	Continental Breakfast • <i>Forest Sciences Centre, 2424 Main Mall</i>		
8:45 – 9:30am	Education Forum: Cannabis in the Classroom – Education for a ‘Growing’ Industry • Mathias Schuetz • Kwantlen Polytechnic University, Vancouver • Chair: Emily Indriolo • <i>Forest Sciences Centre, Room 1005, 2424 Main Mall</i>		
9:30 – 10:10am	Plenary Session • Harry Klee • University of Florida, Gainesville • <i>A chemical genetic roadmap to improved tomato flavor</i> Chair: Geoffrey Wasteneys		
10:10 – 10:40am	Coffee and Snack Break <i>Forest Sciences Centre, 2424 Main Mall</i>		
10:40am – 12:15pm	Carl Douglas Symposium • Chair: Rob Guy <i>Forest Sciences Centre, Room 1005, 2424 Main Mall</i>	10:40 – 10:50am	Tributes
		10:50 – 11:30am	Andrew Groover • <i>USFS & UC Davis</i> <i>Embracing the complexity of nature – computational and genomic approaches for understanding the development and evolution of forest trees.</i>
		11:30 – 11:45pm	Juergen Ehling • <i>University of Victoria</i> <i>Evolution of phenolic 3-hydroxylases in land plants: On the way to lignin biosynthesis.</i>
		11:45 – 12:00	Dae-Kyun Ro • <i>University of Calgary</i> <i>Protein Complex in Natural Rubber Biosynthesis in Lettuce (Lactuca sativa)</i>
		12:00 – 12:15pm	Teagen Quilichini • <i>NRC Labs, Saskatoon, SK</i> <i>Cracking a tough case: advances in our understanding of sporopollenin and the Arabidopsis pollen wall</i>
12:15 – 12:30pm	Closing Remarks		
12:30 – 1:30pm	CSPB Incoming Executive Meeting • <i>Biological Science Building, Room 2203, University Boulevard and Main Mall</i>		

POSTER Presentations

Posters are numbered 101-160 for Day 1 (July 5), 201-260 for Day 2 (July 6)

Abbreviations: **[Day 1]** AB-Abiotic Stress, BS-Biotic Stress, CB-Cell Biology, NM-Nutrients and Metabolism, SR-Sexual Reproduction; **[Day 2]** AP-Applied Biology/Global Food Security, BC-Biochemistry, BT-Biotechnology/Tech Innovations, BI-Biotic Interactions, CW-Cell Wall Biology, DV-Development, ED-Education, SM-Specialized Metabolism

Number	Name • Affiliation	Abstract Title
101-AB	Azizah ALHARTHY • University of Manitoba	Role of RAE1 in <i>Arabidopsis thaliana</i> heat tolerance
102-AB	Braeden SCHILTROTH • Simon Fraser University	Restoring Kelp Forest Habitat in the Salish Sea: Best Practices
103-AB	Changzheng SONG • UBC Vancouver	Effect of exogenous ABA and ABA mimic 1 (AM1) on the uptake and accumulation of zinc in grapevine exposed to excess zinc
104-AB	Craig MATTHEWS • University of Western Ontario	Investigating the role of the miR156-SPL network in heat stress response in <i>Medicago sativa</i>
105-AB	Kayla DIAS • University of Toronto	Physiological and epigenomic responses during and post abiotic stress in <i>Populus balsamifera</i>
106-AB	Letitia DA ROS • UBC Vancouver	Constitutive expression of an exogenous PHT1 family member in hybrid poplar
107-AB	Mary CLINTON • Simon Fraser University	Effects of Heat Stress on Early Developmental Processes in Furoid Algae
108-AB	Matija STANIC • University of Calgary	Translating frost-tolerant seed degreening from <i>Arabidopsis</i> to Canola
109-AB	Natasha FICZYCZ • Simon Fraser University	Adaptations of Eelgrass to Living in Anoxic Environments
110-AB	Swati MEGHA • University of Alberta	Heterologous expression of <i>Brassica napus</i> miR395f gene in <i>Arabidopsis thaliana</i> affects cold tolerance
111-AB	Xinyi HUANG • UBC Vancouver	Untangling salt stress on growth and photosynthetic performance of <i>Salix</i> spp.
112-AB	Yang SHAO • McGill University	A domesticated transposable element is essential for salinity defense in <i>Arabidopsis thaliana</i>
113-AB	Abir U. IGAMBERDIEV • Memorial University of Newfoundland	Expression of phytoalbumin affects nitric oxide metabolism and energy state of barley plants exposed to anoxia
114-AB	Aman CHERA • UBC Vancouver	Physiological basis of seasonal changes in net photosynthesis rates, transpiration rates, and leaf senescence in <i>Catalpa speciosa</i>

115-AB	Amneet DHILLON • UBC Vancouver	The effects of soil compaction on photosynthesis, transpiration and leaf senescence in Japanese Katsura (<i>Cercidiphyllum japonicum</i>)
116-AB	Elena BENIC • University of Saskatchewan	Betalains confer photoprotection in <i>Amaranthus</i> plants grown at high and low irradiance
117-AB	Ian WILLICK • University of Saskatchewan	Extraorgan freezing in cold acclimated winter wheat and rye: Role of the leaf sheath in crown freezing survival
118-AB	Jocelyn A. OZGA • University of Alberta	Heat stress affects seed development by modulating gibberellin biosynthesis and metabolism pathways in pea (<i>Pisum sativum</i> L.)
119-AB	Kaila HAMILTON • University of Saskatchewan	Investigation of physical and biochemical changes in the adaxial epicuticular layer of mature leaf following chilling pre-treatment in <i>Zea mays</i>
120-AB	Marie Thérèse CHARLES • Agriculture and Agri-Food Canada, Saint-Jean- sur-Richelieu	Preharvest treatment application: A new era for UV-C hormesis
121-BS	Igor ALBUQUERQUE • University of Saskatchewan	Potential role of narigenin chalcone in plant disease resistance
122-BS	Elizabeth MAHON • UBC Vancouver	Microarray analysis of lodgepole and jack pine seedlings responding to inoculation by mountain pine beetle fungal associate <i>Grosmannia clavigera</i> under well watered and water deficit conditions
123-BS	Natalie HOFFMANN • University of Toronto	Natural variation of disease resistance to the <i>Pseudomonas syringae</i> effector HopX1 in <i>Arabidopsis thaliana</i>
124-BS	Purva KARIA • University of Toronto	The mitochondrial tail-anchored proteins, AtTTM1 and 2, are involved in senescence and immunity-related programmed cell death
125-BS	Scott HUGHES • Agriculture and Agri- Food Canada, London	Plant volatiles in insect pest control: A promising new tool for IPM
126-BS	Weijie HUANG • UBC Vancouver	Structure-function analysis of plant immune regulators SNC2 and BDA1
127-BS	Yujun PENG • UBC Vancouver	Perception of salicylic acid in the non-vascular plant <i>Physcomitrella patens</i>
128-BS	Yuli DING • UBC Vancouver	Characterization of a piperolic acid biosynthesis pathway required for systemic acquired resistance
129-BS	Athanas GUZHA • Georg-August- University, Goettingen, Germany	Understanding how pectin modifying proteins BGAL4 and BXL4 contribute to defence against <i>Pseudomonas syringae</i> and <i>Hyaloperonospora arabidopsidis</i> in <i>Arabidopsis</i>

130-BS	Bourlaye FOFANA • Agriculture and Agri-Food Canada, Charlottetown	Foliar selenium application reduces late blight severity and incidence and induces the phenolic pools in potato leaves and tubers
131-BS	Daniel LUEDKE • Georg-August-University, Goettingen, Germany	A truncated NLR protein is a MOS6/IMPORTIN- α 3 interaction partner and required for plant immunity
132-BS	Di WU • UBC Vancouver	Comprehensive phenotypic analysis of sobir7-1 mutant reveals an important regulatory role of the Carboxyl-terminus (CT) extension of BRI1-ASSOCIATED RECEPTOR KINASE 1 (BAK1)
133-BS	Jacqueline MONAGHAN • Queen's University	Monaghan Lab: Plant immunology and immune homeostasis
134-BS	Jamuna PAUDEL • Agriculture and Agri-Food Canada, New Brunswick	Linking genetic information to Colorado potato beetle resistance related metabolites in potato
135-BS	Peter MOFFETT • Université de Sherbrooke	Requirement for translationally regulated candidate genes during plant NB-LRR- mediated defense responses
136-BS	Shea MILLER • Agriculture & Agri-Food Canada, Ottawa	Changes in wheat rachis composition after Fusarium infection in a resistant and a susceptible variety
137-BS	Sina BARGHAHN • Georg-August University Göttingen, Germany	Pathogen-induced cell wall remodeling and production of Danger Associated Molecular Patterns (DAMPs)
138-BS	Solmaz IRANI • University of Saskatchewan	Global insights into clubroot disease regulated genes in <i>Arabidopsis</i> root and shoot by RNA-Seq
139-BS	Surinder KAUR • University of Delhi, Delhi, India	The Distribution of Laboulbeniomyces - Obligate ectoparasitic ascomycetes in India
140-BS	Faride UNDA • UBC Vancouver	Overexpression of AtGolS3 and CsRFS in poplar enhances ROS tolerance and systemically represses defense response to Leaf Rust Disease
141-BS	Zerihun DEMISSIE • National Research Council of Canada, Ottawa	<i>Clonostachys rosea</i> 'omics profiling indicates roles for secondary metabolites in its antifungal activity against <i>Fusarium graminearum</i>
142-CB	Francisco BENITEZ-FUENTE • UBC Vancouver	SMP domain as indicator of membrane contact site tethers in <i>Arabidopsis thaliana</i>
143-CB	Jorge HOLGUÍN CRUZ • UBC Vancouver	The ARK2 kinesin prevents cell file rotation and root skewing in a microtubule dependent process

144-CB	Karlson PANG • UBC Vancouver	Where's COBRA? An affinity-tagging approach to understand COBRA's function in cellulose synthesis
145-CB	Laryssa HALAT • UBC Vancouver	Everything in moderation: The microtubule-associated CLASP balances division and differentiation in the plant root meristem
146-CB	Marcus WOODLEY • UBC Vancouver	Is COBRA the target of the cellulose biosynthesis inhibitor Thaxtomin A?
147-CB	Ron BLUTRICH • UBC Vancouver	MOR1 on the move: Using FRAP analysis to describe MOR1 protein dynamics on moving microtubule ends
148-CB	Yi-Chen LEE • UBC Vancouver	Mechanisms influencing the polar distribution of pectin and cell wall proteins in seed coat epidermal cells of <i>Arabidopsis</i>
149-CB	EunKyoung LEE • UBC Vancouver	Cytoskeleton independent endoplasmic reticulum-plasma membrane contact site dynamics upon ionic stress in <i>Arabidopsis</i>
150-CB	Miki FUJITA • UBC Vancouver	COBRA, a protein essential for plant directional cell growth, is predominantly associated with microtubules and Golgi Bodies in elongating cells of <i>Arabidopsis thaliana</i>
151-CB	Sandra KEERTHISINGHE • UBC Vancouver	Regulation of bilateral symmetry in stomata by the leucine-rich repeat receptor-like kinase mustaches
152-NM	Jacob MUNZ • UBC Vancouver	<i>Chlamydomonas reinhardtii</i> as a platform to study nitrogen sensation and transcriptional responses in the green lineage
153-NM	Shrikaar KAMBHAMPATI • Western University	Combined transcriptomic and metabolomic approaches provide new insights into C/N partitioning in roots of <i>Arabidopsis thaliana</i>
154-NM	Beverley GREEN • UBC Vancouver	Effects of copper limitation on the photosynthetic proteome of the open ocean Diatom <i>Thalassiosira oceanica</i>
155-SR	Abhinandan KUMAR • University of Calgary	The temporal regulation of flavanoid and reactive oxygen species in the stigma regulate self-pollen rejection responses in Kale
156-SR	Hayley NELLES • University of Toronto	Investigating the role of autophagy in <i>Arabidopsis</i> self-incompatibility
157-SR	Kumarakurubaran SELVARAJ • University of Saskatchewan	Interaction of ribosome biogenesis factors HRR25-LTV1
158-SR	Matthew MCISAAC • Thompson Rivers University	Bumps in the Road: Presence and distribution of papillae may demonstrate the dual nature of pollination in <i>Arceuthobium americanum</i>
159-SR	Emily INDRIOLO • New Mexico State University	Pollen acceptance or rejection in the mustard family

160-SR	Muhammad JAMSHED • University of Calgary	A functionally redundant MAPK cascade mediates stigma receptivity in <i>Arabidopsis</i>
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Number	Name • Affiliation	Abstract Title
199-AP	Leni YAP-DEJETO	Morphological and Molecular Identification of <i>Sargassum</i> (Fucales, Phaeophyceae) Species in Eastern Samar, Philippines for Natural Product Screening
200-AP	Rayane BARCELOS BISI • Federal University of Lavras, Brazil	Foliar boron increased fruit set and pollen grain germination for peach in a subtropical climate
201-AP	Amneet DHILLON • UBC Vancouver	The effects of seasonal changes on photosynthesis rates, transpiration rates and protein levels in the leaves of red maple (<i>Acer rubrum</i>), red oak (<i>Quercus rubra</i>) and western red cedar (<i>Thuja plicata</i>)
202-AP	Isabelle CLERMONT • Université Laval	Precision irrigation in nursery using wireless tensiometers
203-AP	Julie LAJEUNESSE • Agriculture and Agri-Food Canada, Normandin Research Farm	Does haskap (<i>Lonicera caerulea</i> L.) benefit from nitrogen fertilization?
204-AP	Rodrigo Gutierrez • UBC Vancouver	Genome-wide analysis of cis-regulatory element structure and discovery of motif-driven gene co-expression networks in grapevine (<i>Vitis vinifera</i> L.)
205-AP	Michael BILEK • UBC Vancouver	An examination of poplar and willow for phytoremediation potential of salinization at industrial sites
206-AP	Reena PINHERO • University of Guelph	Phytochemical contents and antioxidant properties of early potatoes as affected by genotypes and cooking methods.
207-AP	Robert BORS • University of Saskatchewan	Breeding the boreal series of haskap (<i>Lonicera caerulea</i>)
208-AP	Samir DEBNATH • Agriculture and Agri-Food Canada, St.John's	Small fruit improvement program using biotechnology combined with conventional methods
209-AP	Shin-Woo LEE • Gyeongnam National University of Science & Technology, JinJu, Republic of Korea	SNP molecular markers for the differentiation of specific ecotypes of the medicinal plant, <i>Cudrania tricuspidata</i> Bureau using ARMS-PCR and HRM curve pattern analyses
210-AP	Yevgen KOVALENKO • UBC Vancouver	Deficit irrigation strategies for improving the aromatic contents and ripening in Gewürztraminer grapes
211-BC	Christopher WONG • University of Toronto Mississauga	Monitoring photosynthetic phenology using optically derived vegetation indices at the leaf-scale in temperate evergreen and deciduous forests.
212-BC	Heather MACKAY •	Designer lignin: Identification of p-hydroxybenzoyl- CoA

	UBC Vancouver	monolignol transferase in poplar
213-BC	Yulin SUN • UBC Vancouver	Plant cuticle formation: TaFAR1 contributes to wax biosynthesis in bread wheat
214-BC	Jonathan TREMBLAY • Université Laval	Functional diversity among protease inhibitory cystatins in the plant kingdom
215-BT	Anne-Marie MALTAIS • Université Laval	Recombinant protein accumulation patterns in the model expression host <i>Nicotiana benthamiana</i>
216-BT	Chen ZHOU • Simon Fraser University	Micropropagation and characterization of bigleaf maples (<i>Acer macrophyllum</i>) with valuable figured wood
217-BT	Emily MURPHY • UBC Vancouver	Genetic improvement of Canadian <i>Salix</i> for biomass production
218-BT	Danielle COLLYER • Simon Fraser University	Tissue culture of <i>Cannabis sativa</i> – Evaluating the effects of genotype and growth regulator combinations on shoot growth and plantlet production
219-BI	Christina WIESMANN • UBC Vancouver	Caterpillar herbivory as a readout for systemic defenses induced by rhizosphere microbes
220-BI	Joshua FRANK • Western University	Characterizing root-associated fungal exudate profiles and their impacts on plant growth
221-BI	Kishore VISHWANATHAN • Georg-August-Universität, Göttingen, Germany	Functional characterization of mycorrhiza responsive genes
222-BI	Sarzana HOSSAIN • UBC Vancouver	Use of <i>Pseudomonas fluorescens</i> FW300-N2C3 in competition assay to screen for plant growth-promoting bacteria
223-BI	Jordan LIN • UBC Vancouver	Cultivable bacteria associated with the giant kelp <i>Macrocystis pyrifera</i> can degrade and metabolise alginate
224-BI	Pervaiz ABBASI • Agriculture and Agri-Food Canada, Kenville	Buckwheat as a pre-plant soil amendment provides control of seedling damping-off and root rot of radish and cucumber
225-BI	Zhexian LIU • UBC Vancouver	Characterization of <i>Pseudomonas fluorescens</i> mutants impaired for <i>Arabidopsis thaliana</i> rhizosphere colonization
226-BI	Jonathan ROVEREDO • Mount Royal University	High Resolution Melt Analysis as an SNP Genotyping Tool
227-BI	Thérèse OUELLET • Agriculture and AgriFood Canada, Ottawa	Developing targeted gene editing in a wheat mesophyll protoplast system using CRISPR/Cas9
228-CW	Fazle RABBI • University of Regina	Involvement of reactive oxygen species in spore wall development in the moss, <i>Physcomitrella patens</i>
229-CW	Shumin WANG • UBC Vancouver	The Class II KNOX genes KNAT3 and KNAT7 work cooperatively to activate syringyl lignin biosynthesis and regulate secondary cell wall deposition in <i>Arabidopsis</i>
230-CW	Lan TRAN • UBC Vancouver	Using functional genomics to discover novel secondary cell wall genes involved in lignin content variation in poplar

231-CW	Xuan YANG • University of Western Ontario	Using <i>Brachypodium distachyon</i> as model species to study the secondary cell wall synthesis in monocots
232-CW	Yaseen MOTTIAR • UBC Vancouver	Expression of bacterial chorismate pyruvate lyase in poplar leads to an increase in <i>p</i> -hydroxybenzoylated lignin
233-CW	Gillian DEAN • UBC Vancouver	Identification of a seed coat-specific promoter fragment from the <i>Arabidopsis</i> MUCILAGE-MODIFIED4 gene
234-CW	Lynn CHEN • UBC Vancouver	Fasciclin-like arabinogalactan proteins (AtFLA11; AtFLA12) are integral to early Secondary Cell Wall synthesis
235-CW	Nicholas MCGREGOR • UBC Vancouver	A novel XTH-related endo-glucanase from <i>Vitis vinifera</i> degrades (1,3/1,4) mixed-linkage glucans with unique specificity
236-DV	Anh TRAN • University of Ottawa	Defining insulator function in plants
237-DV	Carmen MARQUEZ- MELLIDEZ • University of Saskatchewan	Using green algae as models for the evolution of multicellularity
238-DV	Dilini ADIHETTY • University of Alberta	Evidence of seed-derived auxins coordinating fruit development in pea (<i>Pisum sativum</i>)
239-DV	Rajiv TRIPATHI • McGill University	SQUAMOSA promoter binding protein-like (SPL) genes in barley and their role in plant development
240-DV	Tran Nguyen NGUYEN • University of Manitoba	Insights into the role of jasmonate signaling in the regulation of wheat seed dormancy
241-DV	Annette NASSUTH • University of Guelph	Analysis of interactions by the putative core stomatal proteins SPCH, MUTE and FAMA from <i>Vitis</i>
242-DV	Menghan SUN • University of Manitoba	Dormancy maintenance in wheat seeds is associated with repression of starch catabolism
243-DV	Dennis REINECKE • University of Alberta	TIR1 and AFB2 auxin co-receptors in developing pea fruit
244-DV	Guilherme LOCATELLI • Federal University of Lavras, Brazil	Stability and adaptability of peach cultivars in a subtropical climate
245-DV	Jocelyn OZGA • University of Alberta	Two naturally auxins differentially modulate ethylene biosynthesis and response in the pea fruit
246-DV	Natalia BYKOVA • Agriculture and Agri- Food Canada, Morden	Proteogenomics analysis of seed dormancy identifies genotype- and phenotype-associated proteomic signatures of pre-harvest sprouting resistance in dormant and non-dormant hybrid genotypes of wheat
247-DV	Nora FOROUD • Agriculture and Agri- Food Canada, Lethbridge	Plant hormone and MAPK signaling pathways in wheat
248-DV	Tawhidur RAHMAN • University of Saskatchewan	DEMETER as a possible link between DNA methylation status and homologous recombination in <i>Arabidopsis</i>
249-ED	Miranda MEENTS •	Example answers support problem solving in second- and

	UBC Vancouver	third-year biology courses
250-ED	Santokh SINGH • UBC Vancouver	Enrichment of plant physiology lab education by course-based undergraduate research experiences (CURE)
251-SM	Alberto RUIZ ORDUNA • UBC Vancouver	The waxes covering sword fern (<i>Polystichum munitum</i>) fronds: a complex mixture of alkyl esters and estolides reminiscent of gymnosperms and angiosperms
252-SM	Anne-Marie LABANDERA • University of Calgary	The <i>Arabidopsis thaliana</i> Rhizobiale-like phosphatase 2 is a novel D-group MAPK tyrosine-specific PPP-family protein phosphatase.
253-SM	Christine CHIU • UBC Vancouver	Detoxification of pine terpenoids by the mountain pine beetle
254-SM	Joseph UTOMO • University of Calgary	Creating a synthetic microbial platform for diterpenoids production
255-SM	Lukman SARKER • UBC Okanagan	Identification of transcription factors that regulate terpene biosynthesis in lavenders
256-SM	Samuel LIVINGSTON • UBC Vancouver	Probing <i>Cannabis sativa</i> glandular trichome cellular ultrastructure during resin production
257-SM	Charles GOULET • Université Laval	Identification of loci for volatiles accumulation in tomato using an introgression line population derived from <i>Solanum lycopersicoides</i>
258-SM	Dinesh NAGEGOWDA • CSIR-Central Institute of Medicinal and Aromatic Plants Research Centre, Bengaluru, India	A WRKY transcription factor from <i>Withania somnifera</i> regulates triterpenoid withanolides accumulation and biotic stress tolerance through modulation of phytosterol and defense pathways
259-SM	Shuang LIU • UBC Vancouver	Identification and characterization of an E3 ubiquitin ligase that negatively regulates cuticular wax biosynthesis in <i>Arabidopsis</i>
260-SM	Tegan HASLAM • UBC Vancouver	<i>Arabidopsis</i> ECERIFERUM2-LIKEs are mediators of condensing enzyme activity