



Canadian Association for Plant Biotechnology Newsletter

Issue 2017

December 23, 2017

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CAPB President's message:

Dear CAPB Members,
I trust all is well with you. As we are approaching the end of 2017, I wish you all a joyous and happy holiday, and a very best 2018!

Even though this is an "off-year" for CAPB conference, The Organizing Committee of the 11th Canadian Plant Biotechnology Conference (CAPB 2018) has been working hard on setting up our next conference. As you can see from the Conference News in this newsletter, the theme of this meeting will be "*From our roots in vitro to the future of plant biotechnology*", and it will be held at University of Saskatchewan between May 15-17, 2018. We are particularly grateful to Drs. Patricia Polowick and Alison Ferrie (NRC Saskatchewan) for taking up the leading role of organizing this conference. Looking back, we had our inaugural conference in Saskatoon in 1984, and in the past ten conferences, four were held there (the last one was in 2008). Since 2008, we had our last three conferences in central Canada (Guelph, Montreal and Kingston, respectively). So it is fitting that the 2018 conference is making its return to Saskatoon. Personally, I really like the theme of this meeting, as it is aiming to cover all some key areas of plant biotechnology, including new advancements in tissue culture techniques, genetic regulation, synthetic biology, genomics and genome editing, gene discovery and trait development. By attending this conference, we hope to get be able to get forefront knowledge in plant biotechnology develop-

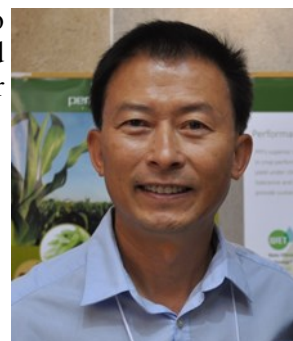
ment and hope to see some can eventually make significant impacts in the field. For these reasons, I recommend you to attend and present your latest exciting results to everyone. To continue our tradition, in this conference we will announce the prestigious **Pioneering & Distinguished Canadian Plant Biotechnologist Award**. In addition, we will provide cash awards to attending students in three different categories: the **CAPB Student Travel Awards**, **Best Student Oral Presentation Awards**, and **Best Student Poster Presentation Award**. Please check out association website for the most up-to-date information <http://www.canadianplantbiotech.ca/>, and registration will be open after the new year--hope to see you in Saskatoon!

2018 is also the year for the quadrennial IAPB Conference in Dublin, Ireland on August 19-24, 2018. As a member of CAPB, you will receive discount on registration so please make sure you renew your CAPB membership on our website, and then register for the IAPB conference.

Finally, I hope you will take some time off to enjoy the holidays with friends and families, to recharge, ready to get back to another creative and productive new year of research.

Best wishes,

Yafan Huang
President of CAPB



CAPB Conference 2018

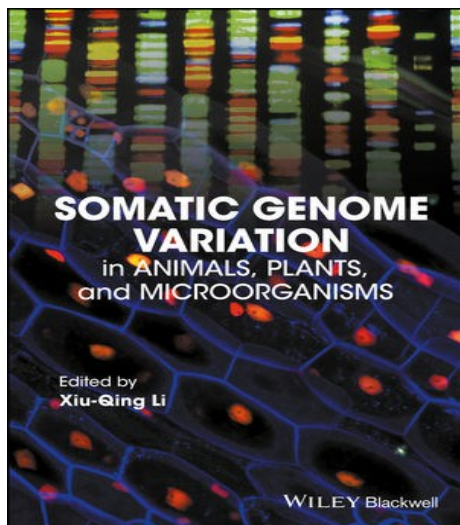
Saskatoon, Canada May 15-17, 2018.
From our roots in vitro to the future of plant biotechnology.
<http://www.canadianplantbiotech.ca>

IAPB Conference 2018

Dublin, Ireland; August 19-24, 2018
<http://iapb2018.com/>
Abstract Submission Deadline: Wed 28 February 2018

Book:
Somatic Genome Variation

Xiu-Qing Li
(Editor)
Wiley Blackwell
ISBN: 978-1-118-
64706-6
Jun-
2017;448 pages



Description
Written by an international team of experts, Somatic Genome Variation presents a timely summary of the latest understanding of somatic

genome development and variation in plants, animals, and microorganisms. Wide-ranging in coverage, the authors provide an updated view of somatic genomes and genetic theories while also offering interpretations of somatic genome variation. The text provides geneticists, bioinformaticians, biologist, plant scientists, crop scientists, and microbiologists with a valuable overview of this fascinating field of research.

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Recent publications:

- Ma J, Xiang H, Donnelly DJ, Meng F, Xu H, Durnford D, Li X-Q. (2017) Genome editing in potato plants by Agrobacterium-mediated transient expression of transcription activator-like effector nucleases *Plant Biotechnology Reports* 11:249-258.
- Xie X, Li X-Q, Zebarth BJ, Niu S, Tang R, Tai H, Bizimungu B, Wu W, Haroon M. (2017) Rapid screening of potato cultivars tolerant to nitrogen deficiency using a hydroponic system. *American Journal of Potato Research* Accepted for Publication (Nov 6, 2017).
- Xing T, Li XQ, Laroche A, Tian L, Tubei K, Wang X. (2017) Protoplasts in the analysis of early plant-pathogen interactions: current applications and perspectives. *European Journal of Plant Pathology*, 1-10.
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- Li X-Q, Xing T, Du D. (2016) Identification of top-ranked proteins within a directional protein interaction network using the PageRank algorithm: Applications in humans and plants. *Current Issues in Molecular Biology* 20, 13-28.
- Cai Y, Shao L, Li X-Q, Liu G, *Chen S. (2016) Gibberellin stimulates regrowth after defoliation of sheepgrass (*Leymus chinensis*) by regulating expression of fructan-related genes. *Journal of Plant Research* 129, 935-944.
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- Li X-Q. (2017) Hypotheses for interpreting somatic genome variation. In: Li X-Q, ed. *Somatic Genome Variation in Animals, Plants and Microorganisms*. Hoboken, NJ: Wiley-Blackwell, 351-362.
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- Li X-Q. (2017) Molecular mechanisms of somatic genome variation. In: Li X-Q, ed. *Somatic Genome Variation in Animals, Plants and Microorganisms*. Hoboken, NJ: Wiley-Blackwell, 337-350.
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- Li X-Q, ed. (2017) *Somatic Genome Variation in Animals, Plants, and Microorganisms*. New York: Wiley Blackwell.
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- Li X-Q, Bizimungu B, Zhang G, Si H. 2017. Ploidy variation of the nuclear, chloroplast, and mitochondrial genomes in somatic cells. In: Li X-Q, ed. *Somatic Genome Variation in Animals, Plants and Microorganisms*. Hoboken, NJ: Wiley-Blackwell, 309-336.
- Li X-Q, Du D. 2017. RNA polyadenylation site regions: Highly similar in base composition pattern but diverse in sequence—A combination ensuring similar function but avoiding repetitive-regions-related genomic instability. In: Li X-Q, ed. *Somatic Genome Variation in Animals, Plants and Microorganisms*. Hoboken, NJ: Wiley-Blackwell, 267-290.
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Topp E, Irwin R, McAllister T, Lessard M, Joensuu JJ, Kolotilin I, Conrad U, Stöger E, Mor T, Warzecha H, Hall JC, McLean MD, Cox E, Devriendt B, Potter A, Depicker A, Viridi V, Holbrook L, Doshi K, Dussault M, Friendship R, Yarosh O, Yoo HS, MacDonald J, Menassa R. 2016. The case for plant-made veterinary immunotherapeutics. *Biotechnol Adv.* pii: S0734-9750(16)30014-3.

Miletic SP, Simpson DJ, Szymanski CM, Deyholos MK, Menassa R. 2016. A plant-produced bacteriophage tailspike protein for the control of *Salmonella*. *Front Plant Sci.* 6:1221.

Plant Biotechnology Course:

A plant biotechnology course at the graduate level was offered by Dr. Lining Tian and Dr. Abdelali Hannoufa in the Department of Biology at the University of Western Ontario in the fall of 2017. The course covers recent advances in plant biotechnology, including plant tissue culture, epigenetics, genetic engineering, transgene technology, small RNAs and genome editing. The course includes formal lectures by the course instructors and invited speakers, as well as presentations and discussions by students about recent trends, challenges and opportunities of plant biotechnology. The offerings of this course by Dr. Tian and Dr. Hannoufa were well received by graduate students.

https://www.uwo.ca/biology/pdf/graduate/2017-2018%20Course%20Outlines/Biology_9240A_Hannoufa_and_Tian.pdf

New Member Research Profile:

Dr. Keshav Dahal recently joined Fredericton Research and Development Centre, Agriculture and Agri-Food Canada, as a Research Scientist-Plant Stress Physiologist. He received his BSc in Plant Breeding from Tribhuvan University Nepal and MSc in Plant Physiology from the University of Bonn, Germany. After completing PhD in Plant Stress Physiology at Western University Canada, he joined the Department of Biology, University of Toronto for his Postdoctoral research. He is currently investigating the impact of abiotic and biotic stresses on plant growth, development and yield. His research has helped improve our understanding of how photosynthetic organisms sense the changes in their environment with respect to CO₂, temperature, water stress, and consequently respond to these changes at the physiological, biochemical and molecular levels. His studies have revealed that targeting the CBF (C-repeat transcription factor] and/or AOX (mitochondrial alternative oxidase) pathways in major crops will be a novel approach to improve crop yield and productivity under sub-optimal growth conditions associated with global warming and climate change. His research has been published in over 20 peer-reviewed premier plant journals. Prior to his PhD, he served as an Agriculture Officer for the Ministry of Agriculture and Cooperatives, Nepal for 10 years. His expertise includes but not limited to photosynthesis, respiration, chlorophyll a fluorescence, quantitative real-time polymerase chain reaction (qRT-PCR), immunoblot/oxyblot, enzyme activity, sustainable agriculture, program planning and agriculture extension. He can be contacted at Keshav.Dahal@Canada.Ca or by phone at (506) 460-4558.

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