



# CANADIAN ASSOCIATION FOR PLANT BIOTECHNOLOGY NEWSLETTER

DECEMBER 2020

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## CAPB President's Message:

Dear CAPB members,

This has been quite a memorable year! In 2020, we have had to adapt to working from home, to lockdown, to reduced hours at the lab, to virtual meetings on Zooms, Teams, Webex etc...

We have seen our frontline workers get exhausted, and too many people get sick with COVID-19.

We have witnessed an amazing global effort from the biotech industry to come up with vaccines in a record time, and they delivered. We have now the first mRNA vaccines going into people's arms. What's more, the leading Canadian COVID-19 vaccine candidate, currently in phase 3 clinical trials is made in plants! The company Medicago is poised to be the first plant biotechnology company to commercialize a vaccine, all this in record time. Medicago has signed agreements with the government of Canada to supply 76 million doses of its recombinant plant-derived COVID-19 vaccine once it is approved.

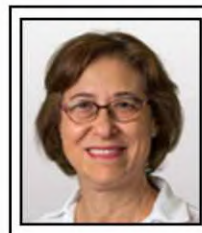
In 2019, CAPB participated in the Plant Canada 2019 conference in Guelph, where we organized one plenary session, two scientific sessions, a genome editing workshop, and had an executive committee meeting and our Annual General Meeting. Several of our students received oral or poster presentation awards, as well as travel awards. We awarded the Pioneering and Distinguished Canadian Plant Biotechnologist award to Dr. Margie Gruber for her large impact in the area of Plant Biotechnology while she worked as a research scientist at Agriculture and Agri-Food Canada in Saskatoon. The Plant Canada conference is held every four years, and groups together 7 Canadian plant science societies. The conference was a big success, and made a large profit which was distributed to Plant Canada and the seven societies pro-rated according to their member participation, and according to a formula previously agreed upon by all the societies.

While CAPB's next conference was planned for 2021, we have decided to postpone it to 2022 to make sure that we will be able to meet in person. This conference will be held in Quebec city, more details will follow when we firm up the dates and the venue.

CAPB is a member of the international association for Plant Biotechnology, which holds an international meeting every four years. The last meeting was in Dublin in 2018, and the next meeting is scheduled to be held in Daejun, South Korea in August 2022, but there are consultations currently about postponing it to 2023, because of COVID-19.

While the world is still struggling with the COVID-19 pandemic, I do hope that 2021 will see the end of this pandemic, and a return to our normal lives. I wish you all a successful 2021, and I hope to meet in person at our next conference in Quebec city.

Best wishes,  
**Rima Menassa**  
CAPB president



Student Recipients of CAPB Awards at Plant Canada Meeting



**Oral presentation awards:** First place: Rebecca Kalinger \$500 (Dr. O Rowland lab, Carleton University); Second place Danielle Williams \$250 (Dr. De Luca's lab, Brock University)



**Poster presentation awards:** First place: Adam Chin-Fatt \$500 (Menassa lab, AAFC London); Second Place: Aaron Simkovitch \$250 (Wang Lab, AAFC London)

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**Travel awards:** Sripad Joshi \$400 (Kushalappa lab, McGill University); Rongrong He \$100 (Wang lab, AAFC London), Adam Chin-Fatt \$100 (Menassa lab, AAFC London), Alexandria Hanly \$100 (Hannoufa lab, AAFC London).

## CAPB Pioneering and Distinguished Canadian Plant Biotechnologist

Recipient of the CAPB Pioneering and Distinguished Canadian Plant Biotechnologist: **Dr. Margaret Y Gruber**

Dr. Gruber is an internationally recognised scientist in areas of plant biotechnology, functional genomics, molecular breeding, and secondary metabolism and development. Over her career she co-authored over 100 papers and book chapters. Dr. Margie Gruber was a scientist with Agriculture and Agri-Food Canada for almost 27 years, and was also affiliated with the University of Saskatchewan, where she supervised numerous students postdocs and technicians. Many of her trainees have gone on to pursue their own successful research careers. Of her many achievements is the development of the so-called “hairy canola” that has increased trichomes on vegetative organs allowing the plant to improve its insect resistance. She also produced alfalfa genotypes with enhanced accumulation of proanthocyanidins, improving the value of alfalfa forage for animal feed.

In retirement, Dr. Gruber has settled close to her family in Vancouver, and keeps in touch with her former students, postdocs and colleagues, providing them with scientific advice, and help with manuscripts and grant proposals.



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## CAPB Pioneering and Distinguished Canadian Plant Biotechnologists (cont'd)

Dr. Margaret Y Gruber receiving the CAPB Pioneering and Distinguished Canadian Plant Biotechnologist award.



## CAPB's International Mentorship Program

CAPB mentorship program is a platform for outreach, where scientists can share their knowledge and passion for science and mentoring young students and professionals.

This program is designed to create a global networking platform to bring scientists from universities, industries, and government research institutes together to mentor young minds.

This program is open to all interested professionals and university students (undergraduate and graduate) from all over the world. We accept mentors at all levels, from emeritus/retired professionals through senior level PhD candidates. Senior level PhD candidates, postdocs, research associates, research scientists, and university faculties are the mentors. Undergraduate students and any individuals willing to learn, and grow are recognized as mentees. Mentors should be able to communicate in English and be able to understand students and professionals at different levels.

It is expected that each mentor contributes an hour in a week, and it can be done from any part of the world. Mentoring can be in various areas as you can see on the sign-up page. Being able to mentor is a privilege and responsibility, it is expected that mentor respects queries from mentees and responds them with respect and care, maintaining a high degree of professionalism.

Submitted by Dinesh Adhikary

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## Future CAPB and IAPB Conferences:

While the next quadrennial meeting of the International Association for Plant Biotechnology (IAPB) was initially scheduled for summer 2022 in Daejun (South Korea), the COVID 19 pandemic has forced a rethinking of the date. Ideas range from holding a virtual meeting in 2022 to delaying it to summer 2023. As a member of IAPB, CAPB is actively involved in preparations for this meeting, and will inform members as soon as a final decision is made. as part of IAPB.

CAPB plans to have its next biannual meeting either as a virtual meeting in the summer of 2021 or in-person in 2022 in Quebec City. The CAPB Executive Committee will make a decision soon, and will inform members at that time.

## CAPB Seminars via Zoom

CAPB is also planning to have regular virtual seminars by CAPB members and invited speakers in the area of plant biotechnology starting in early 2021. So far, there are two confirmed speakers:

- Dr. Davoud Torkemaneh, a computational crop biologist from University of Guelph will present at the end of February 2021
- Dr. Edel Pérez-Lopez, a molecular pathologist from Laval University will present at the end of January or end of March, 2021.

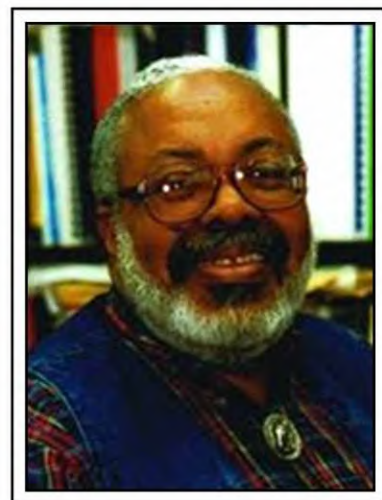
***Additional details, including seminars titles, dates and Zoom links will be provided soon.***

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## In Memoriam: Dr. Trevor A. Thorpe (1936-2020):

Plant Biology in Canada will miss one of the most respected and liked members of the community with the passing of Dr. Trevor Alleyne Thorpe on May 18, 2020 at the age of 83. Trevor started his career as an Assistant Professor at the University of Calgary in 1969 after travelling from the Barbados to India where he graduated with his undergraduate degree from the Allahabad Agricultural institute. He enjoyed telling stories of his activity in the student union in India when he was part of student marches to the University President's home to complain about student food and other important issues. After receiving a Fulbright Scholarship, Trevor did a Master's and Doctorate at the University of California at Riverside. His Ph.D. supervisor at Riverside was Professor Toshio Murashige. Trevor was proud of his science heritage having worked with Dr. Murashige, whose Ph.D. supervisor was Dr. Folke Skoog, and he tried to instil an appreciation of the historical side of science with all of his own students. I was part of a small group at a ASPP conference in Wisconsin when he took the group on a quick "pilgrimage" to Dr. Skoog's old lab where we touched the bench (reverent pause) where the famous Murashige and Skoog growth medium was developed. I am able to consider him a friend and colleague.



During Trevor's 30 years of service at the University of Calgary, he established an international reputation for his work in developmental plant biology especially for the use of in vitro technologies. With over 200 published scientific papers and books Trevor's lab attracted students and scholars from around the World. His earliest work was on in vitro morphogenesis which was continued through collaborations and student researchers and was important because it linked biochemical and physiological events during the differentiation process with anatomical and histological events in the tissues. His work in this area moved from using the tobacco model system, on which he did his own Ph.D. thesis, to conifers with study of the *Pinus radiata* and the subsequent development of many conifer micropropagation systems. Importantly, the basic science studies on organogenesis and embryogenesis done in his laboratory have been built on to develop commercially used production systems now in use.

Trevor's work in the area of developmental plant physiology began with his own Ph.D. thesis where he documented the build up of starch in excised tobacco tissue prior to the initiation of organogenesis and shoot bud formation in tissue culture. He expanded his activities through collaborations, and students to look at a wide range of metabolic changes that occurred during shoot organogenesis and embryogenesis to give us a better understanding of the physiological biochemical and histological events that accompany these processes and the pathways that may be targeted to manipulate them.

Trevor Thorpe was not only a well respected, scientifically productive scientist and well liked teacher and mentor, he was also a very warm and sociable individual. He talked lovingly of his wife Yvonne (since 1963) and his two children Anthony and Jennifer and their families whom he left behind. His infectious laugh put everyone who knew him at ease. All of us who were fortunate enough to spend time in his laboratory at the University of Calgary were very proud to be a part of his "Team Thorpe" and honoured to be able to consider him a friend and colleague.

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- Henry P, Khatodia S, Kapoor K, Gonzales B, Middleton A, Hong K, Hilyard A, Johnson S, Allen D, Chester Z, Jin D, Jule JCR, Wilson I, Gangola M, Broome J, Caplan D, Adhikary D, Deyholos MK, Morgan M, Hall OW, Guppy B, Orser C (2020) A Single Nucleotide Polymorphism assay sheds light on the extent and distribution of genetic diversity, population structure and functional basis of key traits in cultivated North American Cannabis. J Cannabis Res 2, 26 <https://doi.org/10.1186/s42238-020-00036-y>
- Iqbal I, Tripathi, RK, Wilkins O, Singh J. (2020). Thaumatin-like Protein (TLP) gene family in barley: Genome-wide exploration and expression analysis during germination. Genes 11 (9), 1080.

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## Recent Publications by CAPB Members (2020)

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- Lei Y, Hannoufa A, Christensen D, Yu P (2020) Synchrotron-radiation sourced SR-IMS molecular spectroscopy to explore impact of silencing TT8 and HB12 genes in alfalfa leaves on the molecular structure and chemical mapping. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* <https://doi.org/10.1016/j.saa.2020.118676>
- Marques LE, Silva BB, Dutra RAF, Pereira Florean EO, Menassa R and Florindo Guedes MI. (2020) Transient expression of dengue virus NS1 antigen in *Nicotiana benthamiana* for use as a diagnostic antigen. *Front. Plant Sci.* 10:1674. doi: 10.3389/fpls.2019.01674



### Recent Publications by CAPB Members (2020)

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