Science Societies

Plant Sciences Symposia Series Student Advisory Council hosts virtual plant-breeding symposium

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FIgure 1, Plant Sciences Symposia Series Student Advisory Council members who helped organize the first-ever virtual plant sciences symposium. Top (l to r): Margaret Krause, Ammani Kyanam, and Matt Breitzman. Bottom (l to r): Austin Dobbels, Samantha McConaughy, and Gustavo Pucci.

Since 2008, Corteva Agriscience has sponsored more than 150 Plant Sciences Symposia Series (PSSS) events at more than 60 universities and research centers in 16 countries around the world. Through this program, graduate students are given the means by which to plan, organize, and host scientific conferences of interest to them. These events provide educational opportunities that build agricultural scientific literacy, foster networking opportunities between students and top scientists from both the public and private sectors, and expose students to a diversity of potential careers in plant science (see **https://bit.ly/2MHnitu**). Equally as valuable as the event itself is the unique opportunity provided to students who participate in the organizing committees to enhance their skills in organization, leadership, and teamwork.

Several innovations have been implemented through the years to further the impact of the Plant Sciences Symposia Series and encourage additional collaboration and networking among students at different universities. Examples include the live-streaming of PSSS events to make them available across the world, and funding of student travel grants to encourage cross-institutional participation. A recent innovation has been the PSSS Student Advisory Council (Figure1), which was initiated in 2019 and comprises six graduate student representatives of different universities in the PSSS network. Each student brings to the council demonstrated leadership and experience organizing symposia at their own institutions. Council members contribute to the global program by helping with the decision-making processes that support its long-term improvement and sustainability. This may include management of social media and communication for the series, support for inter-institutional sharing of symposium knowledge and opportunities, recommendations for best practices on organizing these events, and facilitation of interactions and networking among graduate students at partner institutions.

Responding to the COVID-19 Disruption

Recently, the PSS Student Advisory Council was tasked with responding to disruptions in the Plant Sciences Symposia Series schedule caused by the COVID-19 pandemic. Like many scientific conferences around the world this year, PSSS events have been impacted by the need to social distance and isolate at home. Student organizing committees were suddenly forced to make difficult decisions about whether to cancel, postpone, or convert their events to virtual webinars.

The Council decided to meet these challenges by creating a new, completely virtual symposium. On 24 Apr. 2020, the Student Advisory Council hosted "Plant Breeding: Perspectives from Industry and Academia," the first symposium to be hosted completely via Zoom webinar and sponsored by the PSSS itself rather than a specific university. The goal was to create a unique event that would provide a big-picture overview from both public- and private-sector (specifically Corteva) breeding programs as well as how strategies and technology implementation in genomic selection and phenomics have been applied to improve these programs. The scale of the research being conducted as well as the grand challenges and future opportunities were a general theme throughout the event.

In addition to the challenge of planning a virtual symposium in just a short four-week time frame, including inviting speakers and building a website and registration portal, one of the biggest challenges was to design a format that could benefit a target audience that was largely unknown in advance. The assumption was that this symposium would mostly reach out to plant-breeding students and faculty at universities within time zones in North and South America and that a half-day (four-hour) format would attract the most participants. Six keynote speakers were chosen—three from academia (Susan McCouch, Cornell University; Candice Hirsch,

University of Minnesota; and Jeff Endelman, University of Wisconsin) and three from Corteva (Geoff Graham, Amy Jacobson, and Brian De Vries)—to give 30-minute talks in three sessions. Six graduate students were also selected to give short "lightning talks" on their research and future directions within their area of expertise. The final hour was a panel discussion including the keynote speakers.

Great Participation, Feedback with Opportunities for Improving

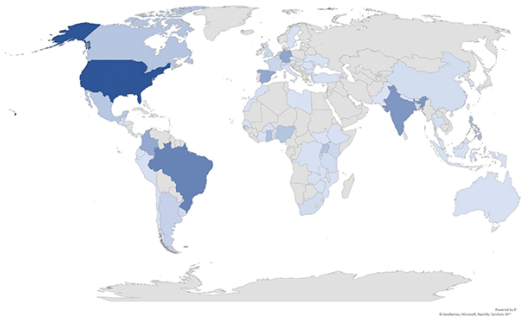


Figure 2, *Map of countries from which attendees participated in the first-ever virtual symposium hosted by the Plant Sciences Symposia Series. Blue shading indicates areas of participation with darker shades of blue indicating relatively higher numbers of attendees participating from that country. The event was attended by 1,081 people from 65 different countries.*

After only one week of advertising the event through the PSSS global network of student organizers and social networks like LinkedIn, the virtual symposium was attended by 1,081 participants with more than 800 connected at any given moment. Most surprising was the geographic and institutional diversity of the participation. While North and South America (29% each), especially the U.S. and Brazil, represented the majority, participation was notably global. Attendees connected from more than 60 different countries (Figure 2)—37 from Africa alone (17%). Even locations in Asia-Pacific, like the Philippines, where time zone differences required extraordinary efforts to connect in the middle of the night, showed strong participation (17%). The institutional affiliation was quite diverse as well with attendees identifying with 113 universities, 62 international and national research institutes, and employees of 36 different private companies.

Both the participation numbers and results of a post-event survey suggested strong support for this type of virtual event in the global plant-breeding community. The participants seemed to appreciate the four-hour format and structure of the symposium. However, the feedback did point to some options for improvements in future virtual symposia, including more question-and-answer time after each talk, more breaks throughout the day, availability of recordings of the presentations after the symposium, broader organizational representation, and the inclusion of speakers on more diverse crops. Another major concern for the event was time zones. With an international audience, a convenient mid-day symposium in one part of the world inevitably means staying up until midnight in another.

Ultimately, the greatest challenge with hosting a virtual symposium is the lack of face-to-face and networking opportunities that a typical in-person symposium would naturally allow for. With the large number of attendees, more than 1,000 from around the world, finding ways to connect participants to speakers and to each other is difficult, especially with many of the security concerns that the use of video conferencing technologies may present. With continued advances in video conferencing, breakout rooms, discussion channels, etc., there will be even better options for facilitating additional networking capabilities during future virtual events.

The COVID-19 pandemic has forced all of us within the scientific community to adapt to a world of physical distancing, working from home, taking extra safety precautions, and thinking of innovative ways to remain connected. While physical distancing has been strongly encouraged, it is of great value to remain socially connected, and this is true of the scientific community as well. While it's hard to say when the way we do scientific conferences will go back to normal, we will certainly take what we have learned from this virtual symposium and continue to provide innovative solutions to emerging challenges.

Learn More about the Plant Sciences Symposia Series

To learn more about the PSSS, check out these resources:

Virtual Plant Science Symposium: https://sites.google.com/view/psss-virtual-symposium/home

Plantae page: https://community.plantae.org/organization/plant-sciences-symposia-series/dashboard

Corteva website: https://www.corteva.com/our-impact/innovation/symposiaseries.html

Previous *CSA News* article: https://acsess.onlinelibrary.wiley.com/doi/abs/10.2134/csa2014-59-10-19

Facebook: https://www.facebook.com/PlantSciSym

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Jason T. Rauscher, Tabare Abadie, The Plant Sciences Symposia Series, Plant Breeding Reviews, 10.1002/9781119828235.ch6, (255-272), (2021).

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