Science Societies

Trusting science for a changing planet

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If you are fortunate enough to have colleagues who enjoy communicating science to the public, then be sure to include them in your proposals and acknowledge their efforts. Photo by NASA/Joel Kowsky.

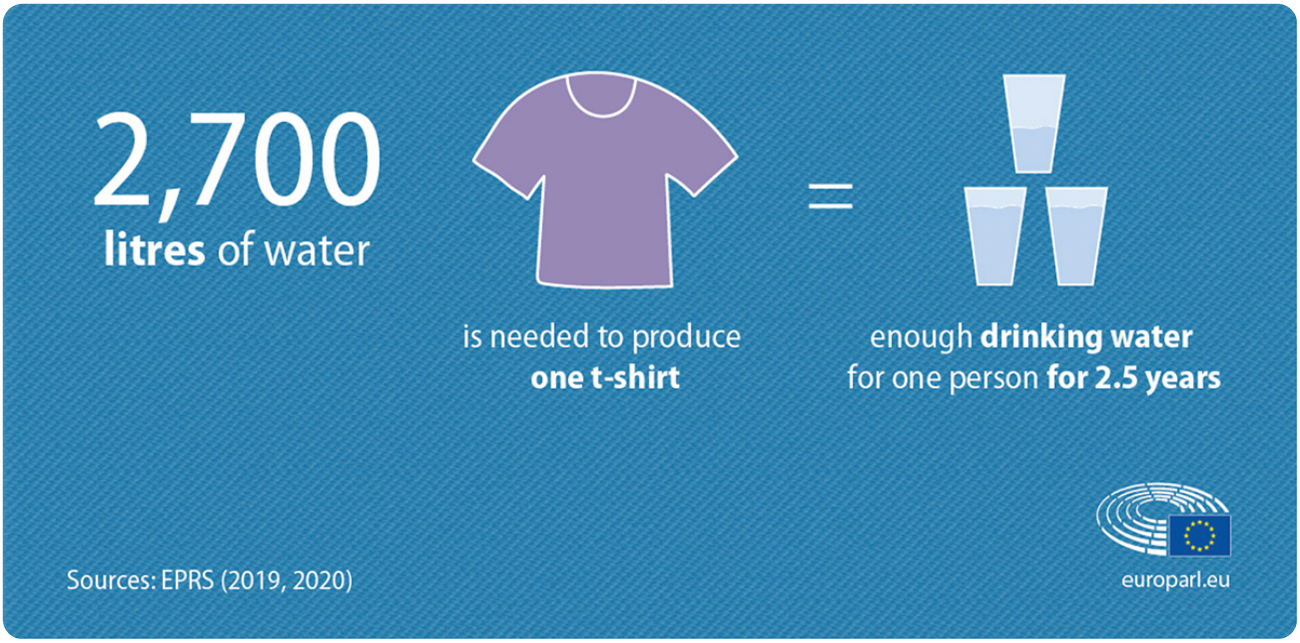
The presidents and several leaders from SSSA, CSSA, and ASA attended the 2021 Spring Leadership Workshop hosted by the Council of Scientific Society Presidents (CSSP). The theme was “Trusting Science for a Changing Planet” and included speakers from federal agencies, national labs, universities, congressional committees, and private companies. Attendees exchanged ideas and information with national decision-makers who facilitated discussions during the sessions. Using the breakout room feature of Zoom, participants interacted with the speakers in small groups and were able to brainstorm about communicating science more effectively, using science and technology to improve products and manufacturing processes for environmental sustainability, and offering ways that our professional societies could help encourage scientific innovation and implementation.

The Council of Scientific Society Presidents has served as a center for national science leadership development, a strong voice in support of science, and a forum for national science policy development by hosting open, substantive exchanges on current issues encompassing the full spectrum of science, engineering, and mathematics. Through its extensive networks, CSSP has served as an advocate for a strong national science enterprise. As one CSSP member stated, “Our nation is best served when we all understand the issues and problems our nation’s universities and corporations face. Together, with our affiliates, CSSP is working toward a shared understanding of those issues and problems, along with putting forth recommendations for improvements.” Our three Societies have a strong presence in CSSP as Mike Grusak (CSSA) and I are both currently on the board and past chairs include David Baltensperger (CSSA) and Paul Bertsch (SSSA).

High Cost of Fashion

Topics discussed and contacts made at the spring 2021 workshop will help us address the Grand Challenge of our three Societies of finding science-based solutions for a healthy planet in a changing climate. For example, have you ever thought about the high cost of fashion to the environment? It was jaw-dropping to learn how much water, land, and energy are needed to create our clothing; how briefly we wear things; and how much is thrown away or burned, contributing in a major way to climate change. I was kind of proud of us soil scientists and the fact that most of us are *definitely not fashionistas*, but clothing, even if out of style like mine, still takes a high toll on the environment and should be recycled (and not just by waiting for the same style to come back in 30 years). Hydrothermal processing of used clothing to recycle cellulosic fibers is one method that was described, but intentional design, i.e., making fabrics and materials easier to recycle in the first place, is also part of the systems-level approach and circular strategy that could reduce the impact of fashion on the environment.

There are a lot of bright people coming up with some amazing innovations, but they need support and a new generation of STEM-skilled employees to help scale up and implement the technology.



Clothing takes a high toll on the environment and should be recycled. This infographic shows how much water is involved in the making of one shirt, according to the European Parliamentary Research Service (EPRS). © European Union 2020.

While private investors and companies support a lot of the technological innovation, Congress is also looking to increase science research and education funding over the next few years. Two different acts are under consideration including the "National Science Foundation for the Future Act" in the House and SALSTA (Securing American Leadership in Science and Technology Act) in the Senate. Both acts will increase competitive grant funding for basic and applied research, but the goal is to also markedly increase scientific innovation, translational research, and improve STEM (Science, Technology, Engineering, and Math) education and training to prepare the next generation of scientists and skilled labor. I hope that this will be good news for our SSSA members in academia as well as those in industry and consulting.

Meeting with senior staff from "the Hill" and discussing the intersection of policy and science with legal experts, we learned that as a professional science society, our responses to "calls for comments" by regulatory agencies carry a lot of weight because those agencies need informed comments based on scientific data. It is also

helpful when we can suggest names of members to serve on science advisory boards. So thank you to all of our members who serve in these kind of advisory roles and a special thanks to our Science Policy Office and Committees who help us respond to requests for information on issues affecting soil science, agriculture, and the environment. Those requests are often on a tight schedule, and we appreciate all of our members who step up to contribute comments and case studies.

Communicating Science to the Public

One of the most important and entertaining sessions in the workshop was about the importance of communicating science to nonscientists and how to do this effectively. Joe Palca, science correspondent at *National Public Radio*, reminded us to appreciate those who are good at communication and not to devalue or discourage it. He made the point that all scientists don't have to be great public communicators, but we should all respect and appreciate those who are. He used the example of statistics to illustrate his point: Just as not all of us are great at statistics, we realize how critical it is for good science, so we find someone to help us with the subject. Similarly, if you are fortunate enough to have colleagues who enjoy communicating science to the public, then be sure to include them in your proposals (which often require an outreach component) and acknowledge their efforts in your promotion-and-tenure committees and on their annual evaluations. This is also a diversity issue as many of the scientists who enjoy and excel at community outreach are often women and people of color.

Many institutions are working to find an effective way to give appropriate credit for communicating science to the public just as we do for peer-reviewed journal articles, but this involves a culture change and awareness of the need for, and importance of, science communication.

This topic session made me appreciate the wonderful Public and Science Communications Department we have working on behalf of SSSA, CSSA, and ASA, who help us with interviews, news articles, and even provide training on science communication. Be sure and sign up for the department's training sessions at the Annual Meeting when they are offered—they are really fun, and you'll learn a lot.

Thanks again to all of you for your work in soils, crops, agronomy, and the environment and for supporting my participation in organizations like the CSSP that will enhance my leadership capabilities. I appreciate all of our members and am grateful for your engagement, innovation, and determination to meet the challenges of the 21st century as well as the Grand Challenge of our Societies. As scientists, we have important roles to play to drive soil–plant–water–environment systems solutions for healthy people

on a healthy planet in a rapidly changing climate.

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