Invitation to Participate – An Inspire Session focused on the PSRN and the Plant Science Decadal Vision for 2020-2030 at the Upcoming Ecological Society of America Meeting in Salt Lake City, Utah, August 2-7, 2020.

Dr. Natalie Henkhaus, Executive Coordinator for the Plant Science Research Network (PSRN) and the American Society of Plant Biologists, and Dr. Thomas Wentworth, Professor Emeritus, NC State University, representing the PSRN leadership and Steering Committee, are seeking expressions of interest from scientists who would like to be presenters in an Inspire Session at the ESA 2020 meeting in Salt Lake City, Utah.

For those of you unfamiliar with Inspire Sessions, the ESA web site states: “Inspire sessions are Ignite-style sessions intended to stimulate the exchange of new and exciting ideas in a short time period. Proposals are encouraged to address the meeting theme, ‘Harnessing the ecological data revolution,’ if appropriate, but doing so is not necessary. Any timely and coherent subject of broad ecological interest will be considered. We also welcome proposals that explore interdisciplinary connections with areas of social and natural science outside of ecology or that relate to ecological education at any level” (https://www.esa.org/saltlake/inspire-sessions/).

The purpose of the proposed Inspire Session is to increase exposure of the ecological community to the work of the PSRN and its upcoming Decadal Vision. Before we go any further, we want to allay fears that participating in an Inspire Session would disqualify you from presenting a talk or poster in another session at the ESA meeting. Good news here – ESA waives the “one presentation rule” for Inspire Session presenters! ESA states “…that Inspire presenters [must] limit themselves to one Inspire presentation. They may present something else (a poster, or a different type of talk) as their second presentation.”

Natalie and I are seeking scientists who:

- are passionate about the work of the PSRN and promotion of the 2020-2030 Decadal Vision
- are already planning to register for and attend the 2020 ESA Meeting in Salt Lake City (August 2-7) and who have dedicated funding to do so
- plan to be at the conference Monday, August 3, through Thursday, August 6 (our Inspire Session could at any time during these four days)
- are interested in exploring the Inspire format, in which presenters have 5 minutes to make 1-2 key points, accompanied by 20 timed slides that advance every 15 seconds
- are willing to create a brief Inspire presentation for a topic relevant to this session
- are willing to submit an abstract for their presentation by the deadline in January 2020
- are willing to attend the entire Inspire Session (90 minutes long total) and to participate in discussion after the presentations

Interested?

- Please read the draft Description, Justification, and Summary Sentence, along with the list of potential topics that follow.
- Contact Natalie and me ASAP indicating your interest and commitment. Please include your choice of topic (from the following list or another that you propose)
Please note that the deadline for receipt of Inspire Session proposals is Thursday, September 19th. We won’t submit a proposal unless we have at least 6 committed speakers! If our proposal is successful, we will know by December 12, 2019.

The Plant Science Decadal Vision, 2020-2030 - Why Ecologists Should Care About It -
A Proposal for an Inspire Session at the ESA 2020 Annual Meeting in Salt Lake City

Description

This Inspire Session focuses on the Plant Science Research Network (PSRN) and one of its key products, the 2020-2030 Plant Science Decadal Vision. The PSRN was established in August 2015 through the support of an NSF Research Coordination Network award to the Boyce Thompson Institute and the American Society of Plant Biologists; the Ecological Society of America is one of PSRN’s 15 member organizations. PSRN promotes the plant sciences through community-building and encouraging collaboration among subdisciplines. Through its Plant Summits, PSRN also developed a consensus-based research agenda, part of its Plant Science Decadal Vision. Because the Decadal Vision drew on all organizational levels of the plant sciences from the genomic to the global, ecologists, systematists, and evolutionary biologists played critical roles in its development. This Ignite Session focuses on the Plant Science Decadal Vision, 2020-2030. We offer attendees an overview of the PSRN and its development of the Decadal Vision, followed by presentations focusing on building public interest in plants systems (aka eradicating “plant blindness”), engaging a generation of citizen plant scientists, and supporting a diverse and adaptive scientific workforce. We also present examples of the broad palette of the Decadal Vision’s research agenda, including supporting biodiversity for planetary resilience, sustainable plant production systems, promotion of human nutrition, health, and well-being, emerging and disruptive technologies (including the transparent plant), and data stewardship. Attendees will depart with a clear understanding of the PSRN’s activities, the scope of the Decadal Vision, and its relevance to the promotion of ecological science.

Justification

The submitters and participating presenters sincerely believe in the relevance of the PSRN’s efforts in community-building and encouraging collaboration among all subdisciplines constituting the plant sciences. Although the PSRN has its origins in the fundamental work of cell and molecular plant biologists and translation of their results to ag-biotech, the network has deliberately expanded and evolved, and the 2019 Plant Summit included substantive participation and input from ecologists, systematists, and evolutionary biologists. There was consensus among Plant Summit participants that plant science research, regardless of subdiscipline, must ultimately be relevant to maintaining sustainable ecosystems on Earth and protecting Earth’s biodiversity. We thus believe that ESA is a key player in the work of the PSRN and that the messages of the Plant Science Decadal Vision must be carried back to the membership of ESA. We also anticipate that ecologists can contribute an important reality check on the aspirations of more reductionist scientists. In other words, we all want to accomplish things that will matter in the “real world.” To some extent this is the world in which ecologists naturally work. As an example, plant molecular biologists often talk about creating - and are
attempting to create - plants ideally suited for carbon sequestration. Ecologists have much to contribute regarding the scale and limitations of such approaches, not to mention any unintended consequences. Thus we anticipate a win-win outcome from this Inspire Session – informing the ecological community about the important work of the PSRN and its Decadal Vision, while seeking input from ecologists in further shaping this vision.

Summary Sentence

This session focuses on the Plant Science Decadal Vision, 2020-2030, and work of the Plant Science Research Network in creating this ecologically relevant vision for the future of plant sciences.

The Plant Science Decadal Vision, 2020-2030 - Why Ecologists Should Care About It

TENTATIVE Outline of the Proposed Session

Background Presentation

1. PSRN and the Plant Science Decadal Vision for 2020-2030: “Reimagining the Potential of Plants for a Healthy Future”
   
   Focus: The “who, what, where, when, why, and how” of the Decadal Vision and the PSRN’s role in birthing that vision.

Contributions Ecologists Can Make in Promoting Plant Science, Engaging the Public, and Ensuring a Diverse Scientific Workforce

2. Ecologists’ Roles in Eradicating Plant Blindness and Building Public Interest in Plant Systems
   
   Focus: Ecologists have an important role in cultivating public interest in the plant sciences, because of the many ecologically relevant ways in which plants affect the quality of their lives: improving agriculture; climate change mitigation; and biodiversity and ecosystem services.

3. Ecology as a Key Player in Engaging a Generation of Citizen Plant Scientists
   
   Focus: Citizens are especially attracted to accessible, tangible, and often charismatic efforts to: database living collections; identify species in natural environments; expand efforts to establish urban gardens or farms; and taking part in ecological experiments.

4. Ecologists’ Contributions toward Supporting a Diverse and Adaptive Scientific Workforce
   
   Focus: Ecologists and ESA in particular have been leaders in efforts to develop and support a diverse and adaptive scientific workforce – however, many challenges remain in recruiting traditionally underrepresented groups to the field of ecology.

Presentations Addressing Specific Goals of the Decadal Vision’s Research Agenda, with Focus on Ecological Topics
5. Plants for Planetary Resilience – A Biodiversity-Based Research Goal

Focus: A group of tasks that are right up ecologists’ alley: exploring, identifying, and characterizing new species and their contribution to biological diversity; cataloging species lost in the last century to enable predictions of vulnerabilities for near-term species loss; supporting herbaria, living botanical collections and gardens, culture collection centers, and databases for biodiversity data in perpetuity; and leveraging centuries of scientific study of life on earth to develop machine-learning algorithms for mining the biodiversity literature and specimens.

6. Developing Efficient, Resilient, Sustainable Plant Production Systems

Focus: Understanding and applying how the soil and plant-associated biota reduce plant disease, improve water use efficiency, improve nutrient utilization, sequester carbon and improve plant productivity.

7. Applications of Plant Science to Improve Nutrition, Health and Well-Being

Focus: Ecologists have much to contribute here: developing alternative crops for domestication and production; and understanding and applying how soil and plant-associated biota reduce plant disease, improve water use efficiency, improve nutrient utilization, sequester carbon, and improve plant productivity.

8. The Transparent Plant – Role of Ecologists in its Development and Implementation

Focus: This exciting tool will require much input from ecologists in its development and will become a valuable component of ecological modelers’ toolkits.

9. Disruptive Technologies

Focus: Ecologists are already leaders in the field of developing and implementing new technologies for plant and environmental monitoring. Further development, miniaturizing, and making these tools widely available (democratizing) will benefit from partnerships with ecologists.

10. Data Stewardship

Focus: Ecologists have much to contribute here: collection and curation of long-term ecological datasets; establishing data standards and backbone classifications of natural systems, with special focus on such natural resources as soils, climates, ecoregions, and vegetation types.

Discussion

Focus: How can ecologists benefit and derive benefit from the plant sciences in three strategic areas: People, Systems and Supports, and Research, while also having external benefits for society and the environment?

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