

2022 APS Host Resistance Annual Report

Which of the goals from the APS strategic plan does your group most currently align with? (select all that apply)

Goal 1: Collaboration and access accelerate new advancements in plant health science

Goal 2: A growing workforce has the skills necessary to advance plant health

Goal 3: Our science impacts decisions leading to a sustainable future

Please provide a brief narrative describing 1) activity associated with the current year's APS meeting and future annual meetings (e.g., special sessions sponsored or cosponsored, committee meetings held, etc.), and 2) activity outside annual meeting, if any (e.g., meetings, workshops, projects, other initiatives): (Maximum 1500 characters)

HS Co-sponsored Sessions in Plant Health 2022: Warming Up to Change

a. “There's a collection for that”. This session will be on Tuesday, August 9 from 12:30 - 1:45 PM EDT. This session will introduce the APS community to the depth and breadth of the many types of collections that exist, why they are important, and why they should be preserved for future generations of scientists. At the end of this session, attendees will: 1) be aware of the types of collections, how to access them, how to deposit a microbe and germplasm into a collection; 2) understand the challenges faced by many collections; 3) be able to explain the relevance and importance of preserving the many types of collections and how they can incorporate these collections into their research programs.

b. “Plant Forensics: Building Pipelines for Rapid Detection of Plant Health Using High Throughput Approaches”. This session will be on August 10 8:30 AM – 9:45 AM EDT. The proposed session aims to familiarize a wide range of audiences, irrespective of background and level of expertise, with an assortment of cutting-edge tools that have been proven to aid in the early detection and diagnosis of plant stress from either biotic or abiotic factors or both. At the end of the session, attendees will be aware of various advancements in sequencing, spectroscopy, artificial intelligence, geographical information systems, and alternative farming systems.

What are the key scientific or societal objectives you are currently focusing on:

The Host-Resistance committee is working to develop successful proposals for Plant Health 2023. This year we are focusing on developing more collaborative proposals with several APS committees. We are continuing our efforts to develop the networks and collaborations within and outside of our committee and establish a larger social media presence highlighting host-resistance research for the benefiting the plant health and developing sustainable agriculture.

Please provide brief highlights of your expected outcomes for next year with target milestones, resources required, and member lead if applicable:

Multiple proposals will be sent for the Plant Health 2023 special sessions and Councilors' Challenge applications. The goals are to address the host resistance and sustainable agriculture as well as enhance the interactions and collaborations of the members inside and outside of our committee. For instance, 1) One idea is developed to apply the beneficial microbes in enhancing host resistance for the sustainable agriculture; 2) Another idea was proposed to feature how disease resistance/plant-microbe interactions can be affected by the environmental factors so as to the sustainable future (e.g. R-genes that are more or less effective at higher temperatures and the mechanisms behind this). 3) Cell to Ecosystem zooming out life spectrum as online monthly meeting. 4) A webinar series on germplasm collections including various committees that would be organizing seminars by various speakers.

Through our networks and collaborations, we expected our proposal will be selected for the Plant Health 2023. Also, our interactions and communications will be further enhanced.

List all members for the next term. Only include committee position, full name and affiliation:

Chair: Ye Xia, Ohio State University

Vice Chair: Jagmohan Singh, ICAR-Indian Agricultural Research Institute

Immediate Past Chair: Jason Zurn, Kansas State University