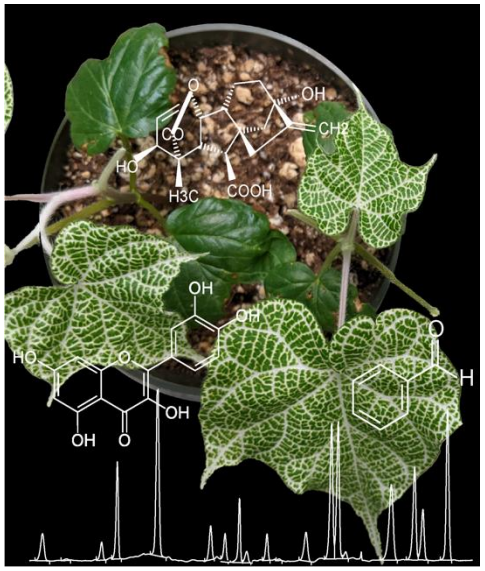
SPECIAL ISSUE CALL FOR PAPERS:
Advances in analyzing and engineering plant metabolic diversity
Proposal Deadline: April 8, 2024



Applications in Plant Sciences (*APPS*), the BSA's open access journal highlighting new tools and protocols across the plant sciences, is organizing a special issue to showcase new approaches in analyzing and engineering plant metabolic diversity.

Plant metabolic networks are dynamic and complex systems, which diversify in a lineage-specific manner and produce hundreds of thousands of structurally diverse metabolites across the plant kingdom. These specialized metabolites often have an impact at different levels beyond central carbon metabolism—from allosteric regulation of proteins, subcellular organization, and intercellular interactions to organismal phenotypes, phylogeographic/interspecies diversification, biotic/abiotic interactions, and ecosystem maintenance.

To capture this broad range of metabolite diversity and function, a variety of techniques are used such as specialized protocols for metabolite extraction, mass spectrometry, nuclear magnetic resonance, spatial metabolomics, computational metabolomics, cheminformatics, enzyme assays, flux and localization analyses, bioassays, chemotaxonomy, phylogenomics, ancestral state reconstruction, and chemical ecology. As the revolutions in genomics, big data, and artificial intelligence have taken hold, there is an increasing need to develop high-throughput alternatives for the above techniques and to leverage AI to address outstanding roadblocks. Similarly, there is a greater impetus to combine different "parts" (e.g., enzymes, regulators, transporters) and reconstruct complex metabolic pathways or to transpose pathways into new systems using modern cloning and transformation methods.

This special issue aims to highlight the breadth of cutting-edge approaches used for unraveling the diversity, function, evolution, and engineering of plant metabolism. We welcome submissions of new methods, toolkits, and software as well as review articles that critically evaluate and compare existing approaches. All articles must have a methods focus—purely research articles focusing primarily on biological questions are not appropriate for this issue. While any article on the above topics will be considered, we especially encourage submissions of broad impact to the phytochemical community.

How to submit a proposal: Authors interested in contributing to this special issue should email a proposal that includes a ***tentative title, tentative author list,*** ***manuscript category***, and a ***200–300-word abstract***. The abstract should ***explicitly address the topics of the special issue*** and explain how the proposed manuscript advances techniques, software, or resources in

the plant sciences; reviews comparing different techniques are also welcome. Please send your proposals to apps@botany.org.

The deadline for proposal submission is April 8, 2024. Proposals will be reviewed by the Editor-in-Chief and the special issue editors. Authors will be notified by April 26, 2024, as to whether their proposal was accepted.

Authors whose proposals are accepted should submit their manuscript by October 1, 2024. Note that acceptance of a proposal does not guarantee the eventual acceptance of the manuscript, as all manuscripts will be rigorously peer-reviewed and held to the standards of the journal. **The target date for publication of the special issue is the first half of 2025;** however, accepted manuscripts will be made available online on the *APPS* website in advance of issue publication.

Reduced article publication charges (at the BSA member rate) are available for papers accepted for publication in the special issue. Authors seeking a publication fee waiver should follow the process outlined on the *APPS* APC page. For more information about journal scope, article types, and manuscript preparation, please see the Author Guidelines. Any questions may be sent to the *APPS* editorial office (apps@botany.org).

The Botanical Society of America and its publications are committed to inclusive science that reflects disciplinary, human, and geographic diversity. Submissions are welcomed from applicants of all ethnicities, races, colors, religions, sexes, sexual orientations, gender identities, socioeconomic status, national origins, disabilities, ages, or other individual status.

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Special Issue Editors

The photo shows transient phytoene desaturase (PDS) gene-silenced *Ipomoea nil* mutant created via VIGS; superimposed by a GC-MS chromatogram and three chemical structures. Image credit: Gaurav Moghe/Kira Tiedge