PMN
PLANT METABOLIC NETWORK
Spring 2025

The Plant Metabolic Network (PMN) is your go-to resource for curated metabolic pathway data, genome annotations, and analysis tools that support plant research and enhance understanding of plant metabolism. This newsletter will keep you informed about the latest developments, events, and resources from PMN, including database updates, feature enhancements, tutorials, workshops, and research highlights.

Collaborator Spotlight

Dr. Philipp Zerbe

University of California, Davis

Dr. Philipp Zerbe is a professor at the University of California, Davis, where he started his research lab in 2014 as a part of the Plant Biology Department.

Completing both his undergraduate and graduate studies at Ruhr University Bochum in Germany, as well as a postdoc at the University of British Columbia in Canada, Dr. Zerbe's research focuses on the discovery and engineering of specialized metabolic pathways in food, bioenergy, and medicinal plants.

Dr. Zerbe is one of our collaborators who was included in our latest publication *Plant Metabolic Network 16: expansion of underrepresented plant groups and experimentally supported enzyme data*.

Dr. Zerbe is one of the first individuals to submit data to the Plant Enzyme Consortium, which helps to address limitations and expands the enzyme function coverage of PMN.

Dr. Philipp Zerbe was recently featured on the "Talking Biotech with Dr. Kevin Folta" podcast. To listen, click below:

Talking Biotech Podcast

Learn More About Dr. Zerbe Here

Become A Collaborator

The PMN Team on the Road

Meet the PMN Team at these upcoming conferences!

Where We Will Be: **PSNA 2025 (Phytochemical Society of North America)**
When: June 24-28, 2025
Who Will Be There: Charles Hawkins, Gabrielle Wyatt, and Hiroshi Maeda

Dr. Charles Hawkins and Gabrielle Wyatt will lead a workshop on *The Plant Metabolic Network: A Unified Resource for Plant Metabolism* at PSNA on June 28 from 1:00-2:00 PM.

Gabrielle Wyatt will also have a poster entitled *Cytochrome P450 Gene Family Expansion Driving Diterpenoid Diversity in Switchgrass (Panicum Virgatum).*

Where We Will Be: **ASPB Plant Biology 2025**
When: July 26-30, 2025
Who Will Be Attending: Sue Rhee, Charles Hawkins, and Farida Yasmin

Where We Will Be: **The Gordon Research Seminar - Integrative Strategies for Harnessing Plant Metabolism Towards a Sustainable Future**
When: June 14-15, 2025
Who Will Be There: Sue Rhee

Dr. Sue Rhee will be the Keynote Speaker of this seminar starting on Saturday, June 14 at 3:15 PM. The keynote is titled *Metabolic Cell Biology and Functional Annotation of Unknown Metabolites.*

Dr. Rhee will also be a panel member on a career panel discussion on Sunday, June 15 at 1:30 PM-2:30 PM.

Where We Will Be: **The Gordon Research Conference - Innovations in Plant Metabolic Engineering for Health and Sustainability**
When: June 15-20, 2025
Who Will Be There: Hiroshi Maeda and Sue Rhee

Dr. Sue Rhee will be a discussion leader on the session titled *Integration of Artificial Intelligence* on Monday, June 16 at 9:00 AM-12:30 PM.

Dr. Hiroshi Maeda will be the discussion leader on *Innovations in Plant Enzyme Engineering* on Monday, June 16 at 6:00 PM-8:00 PM.

Where We Will Be: **Bay Area Plant Sciences Symposium**
When: April 16, 2025
Who Will Be There: Farida Yasmin

Where We Will Be: **20th International Congress of Developmental Biology Program**
When: June 18-22, 2025
Who Will Be There: Sue Rhee

Dr. Rhee will be speaking on *Understanding How Organisms Sense Water from Molecular to Ecological Scales: Arabidopsis Thaliana FLOE1 as a Case Study* on Saturday, June 21 at 10:30 AM-12:30 PM.

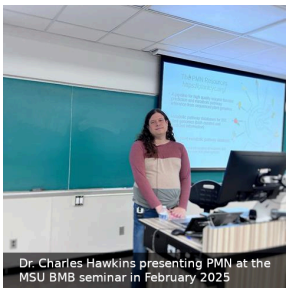
Where We Will Be: TERPNET 2025
When: August 4-8, 2025
Who Will Be There: Gabrielle Wyatt

Are you interested in using the Plant Metabolic Network for your research?

Click below to get started!

Start Building

Outreach


Dr. Charles Hawkins presenting PMN at the MSU BMB seminar in February 2025

PMN Presents at McGill University

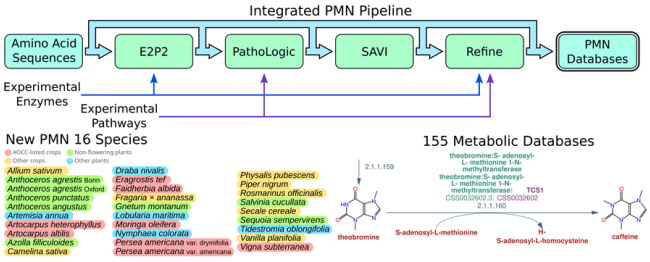
Dr. Charles Hawkins was invited to be a virtual guest speaker for Dr. Mehran Dastmalchi's undergraduate course, "Plant Specialized Metabolism" at McGill University on Wednesday, March 26th.

Dr. Hawkins got to present a lecture on PMN and then helped students navigate the plantcyc on their own.

If you're interested in bringing PMN to you, contact us below!

Contact Us

Publication Spotlight



Plant Metabolic Network 16: expansion of underrepresented plant groups and experimentally supported enzyme data

Charles Hawkins, Bo Xue, Farida Yasmin, Gabrielle Wyatt, Philipp Zerbe, Seung Y Rhee
Published: 18 November 2024

Abstract: The Plant Metabolic Network (PMN) is a free online database of plant metabolism available at https://plantcyc.org. The latest release, PMN 16, provides metabolic databases representing >1200 metabolic pathways, 1.3 million enzymes, >8000 metabolites, >10 000 reactions and >15 000 citations for 155 plant and green algal genomes, as well as a pan-plant reference database called PlantCyc. This release contains 29 additional genomes compared with PMN 15, including species listed by the African Orphan Crop Consortium and nonflowering plant species. Furthermore, 52 new enzymes with experimentally supported function information have been included in this release. The single-

species databases contain a combination of experimental information from the literature and computationally predicted information obtained through PMN's database generation pipeline for a single species, while PlantCyc contains only experimental information but for any species within *Viridiplantae*. PMN is a comprehensive resource for querying, visualizing, analyzing and interpreting omics data with metabolic knowledge. It also serves as a useful and interactive tool for teaching plant metabolism.

Read The Article Here

Meet the PMN Team

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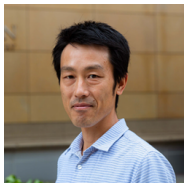

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