PLANT SYNBIO AUSTRALIA

News

NEWS FROM AUSTRALIA'S PLANT SYNTHETIC BIOLOGY NETWORK

Plant SynBio Australia is funded through Biopathfarms Australia under the National Collaborative Research Infrastructure Strategy (NCRIS) and institutional partners

Welcome

We are delighted to present the latest update from Plant SynBio Australia (PSBA).

A lot has happened since our last issue, including the official launch of our node at Adelaide University, where we were delighted to welcome colleagues from our other nodes at ANU and La Trobe to join the celebration.

All nodes have attracted interest and work from research organisations and industry seeking our plant synthetic biology advice and access to our specialised infrastructure to assist their projects. Many of these projects have been supported by our parent body, BioPlatforms Australia, through their research voucher scheme.

We have published a suite of factsheets to make information about Plant SynBio Australia and our services easy to find. Available from the 'Resources' section of our website, these factsheets provide a snapshot of our corporate structure and nodes along with the technologies, services and know-how we offer at each location.

If you would like to know more about our capabilities, or discuss how we could support your research projects, please don't hesitate to get in touch.

Warm regards,
The Plant SynBio Australia team

Latest news

Round 2 of the NCRIS Synthetic Biology Voucher Scheme opens

BioPlatforms Australia is now accepting submissions for Round 2 of the NCRIS Synthetic Biology Voucher Scheme, which provides matched funding of up to $50,000 to support multidisciplinary research using Australia's synthetic biology infrastructure and national research network.

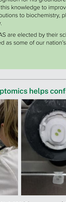
This merit-based co-funding is designed to help innovative researchers, startups and SMEs access the world-class synbio facilities and expertise at any of our nodes.

Applicant projects should target significant challenges that can be addressed through synthetic biology, with a primary focused on accelerating R&D in industrial fermentation, plant synthetic biology, and biomedical innovation being of particular interest.

Applications close on 11 September 2026.

CLICK HERE FOR FULL DETAILS

Professor Bob Furbank elected as an AAS Fellow



Plant SynBio Australia is delighted to congratulate Professor Bob Furbank on being made a Fellow of the Australian Academy of Science (AAS).

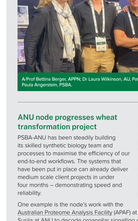
Based at the ANU Research School of Biology, Professor Furbank one of 26 scientists who were honoured as AAS Fellows earlier this year.

In a remarkable career, he has earned international recognition for his groundbreaking research into photosynthesis and ways to use this knowledge to improve crop yields. He has also made significant contributions to biochemistry, plant molecular genetics and plant synthetic biology.

Fellows of the AAS are elected by their science community peers and are widely recognised as some of our nation's most distinguished scientists.

READ MORE »

Spatial transcriptomics helps confirm gene expression sooner



Dr Maria Peirats-Llobet, a spatial transcriptomics expert at the Plant SynBio Node at LISAF (La Trobe Institute for Sustainable Agriculture and Food), is helping to accelerate synthetic biology research by correlating genetic modifications with their physical expression.

Building this capability within Plant SynBio can help us to demonstrate the impact of modified genes sooner, saving research programs valuable time.

READ MORE »

Another LISAF researcher, Dr Peter Dracatos, is collaborating with the LTU Plant Synbio team on harnessing cloned resistance alleles for enhanced disease resistance outcomes in cereals.

It is hoped the research program will reveal new options for applying genetic disease resistance to a range of cereal crop species,and help farmers reduce the cost and environmental impact of applying disease control chemicals to their growing crops.

"Local access [to Plant SynBio] and the expertise of its personnel complements my research and creates opportunities to develop precision breeding strategies for the cereal industry" Dr Dracatos said.

READ MORE »

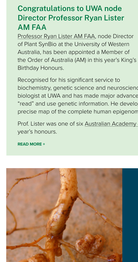
Engaging with Australia's horticulture industry

Plant SynBio recently engaged with Hort Innovation – Australia's peak research body for horticulture – at the Hort Connections 2026 conference to explore the potential of synthetic biology for the sector.

As part of the conference's program, Adelaide University hosted a delegation for a behind-the-scenes tour of the plant science research and innovation infrastructure available at the Waite Precinct including an almond degustation led by Associate Professor Cassandra Collins, featuring distinctive Australian varieties, insights from the South Australian Research and Development Institute (SARDI) on cutting-edge molecular diagnostics, and a tour of the Australian Plant Phenomics Network infrastructure at The Plant Accelerator®.

The Plant SynBio team also joined the Adelaide University booth with colleagues from the Waite Research Institute, ARC Centre of Excellence in Plants for Space, the School of Agriculture, Food and Wine, and Business Development.

Australia's horticulture sector faces significant and pressing challenges, including climate resilience, productivity demands and sustainability targets. It was therefore a valuable opportunity to demonstrate how advanced scientific technologies can help deliver innovative solutions to support the industry.



A/Prof Bettina Berger, APPN; Dr Laura Wilkinson, AU; Patrick Hygonnet, AU; Dr Darren Wong, AU; Paula Angerstein, PSBA.

ANU node progresses wheat transformation project

PSBA-ANU has been steadily building its skilled synthetic biology team and processes to maximise the efficiency of our end-to-end workflows. The systems that have been put in place can already deliver medium scale client projects in under four months – demonstrating speed and reliability.

One example is the node's work with the Australian Proteome Analysis Facility (APAF) at Macquarie University and Dr Hendry Susila at ANU to decode organelar signalling of heat stress responses in wheat.

Supported by the NCRIS facility research voucher scheme, the project has made significant progress. Since February this year, 12 genetic transformations of Fielder wheat have been led by PSBA scientist Dr Ayesha Weliwatta. A total of 195 T0 primary transformants from the first seven constructs have been successfully growing in soil and are at the final stage of genotyping. The remaining five constructs are currently in the regeneration or rooting stages.

These milestones represent a major achievement for our facility and highlight our fast-growing capabilities in crop transformation.

Download our Biomanufacturing factsheet

Through advanced plant synthetic biology, plants can be repurposed from natural producers of biomass into precision manufacturing systems that convert carbon dioxide, sunlight, and simple nutrients into high-value products.

As a network of Australian synthetic biology experts, the Plant SynBio team is perfectly placed to enable innovations in plant function, converting these versatile biological platforms into sustainable biomanufacturing systems that align with net-zero and circular economy goals.

DOWNLOAD THE FACTSHEET

Our people

Congratulations to UWA node Director Professor Ryan Lister AM FAA

Professor Ryan Lister AM FAA, node Director of Plant SynBio at the University of Western Australia, has been appointed a Member of the Order of Australia (AM) in this year's King's Birthday Honours.

Recognised for his significant service to biochemistry, genetic science and neuroscience, Professor Lister is a genome biologist at UWA and has made major advances in understanding how epigenomes "read" and use genetic information. He developed techniques that enabled the first precise map of the complete human epigenome.

Prof. Lister was one of six Australian Academy of Science Fellows awarded in this year's honours.

READ MORE »

In our eyepiece...

Could AI be about to unlock symbiotic nitrogen fixation for non-leguminous crops?

Supplemental nitrogen is critical to the productivity of Australian cropping systems – but global events have repeatedly exposed the vulnerability of offshore urea sources. On the other hand, the symbiotic nitrogen fixation (SNF) capability exhibited by legume species is close to cost- and carbon-neutral.

Researchers in China believe they have developed a pathway to help bring SNF to modified non-leguminous crops – by using AI to manage the sequence, chromatin accessibility, and expression data of the telomere-to-telomere genomes and pangenomes that regulate nitrogen-fixing cell compatibility in plant hosts.

READ MORE »

Connect, Share and Subscribe

To keep in touch with the latest developments, opportunities and outcomes across all four Plant SynBio Australia nodes, please join our LinkedIn community and subscribe to these regular news round-ups.

If you have a peer or colleague who might be interested, please forward the newsletter to them with a brief note of introduction. We'd be delighted to welcome them to our world.

TO SUBSCRIBE, please email your preferred Plant SynBio Australia node (see below).

JOIN our LinkedIn community

Contact Us

Contact us to discuss your research project and/or to visit our facilities:

Adelaide University: psba@adelaide.edu.au
Australian National University: psbaanu.edu.au
La Trobe University: plantsynbiolatrobe.edu.au

plantsynbio.au

Plant SynBio Australia is funded through Biopathfarms Australia under the National Collaborative Research Infrastructure Strategy (NCRIS) and supported by the South Australian, Australian Capital Territory and Northern Territory governments. Plant SynBio Australia operates as a collaborative network across four university nodes: Australian National University, La Trobe University, University of Western Australia and Adelaide University.

You've received this newsletter because you are currently subscribed to our mailing list or someone has forwarded it to you.
Don't want to receive these emails? Unsubscribe at any time.
For email address questions/requests, see our privacy statement.

© 2026 Plant SynBio Australia. All rights reserved.

Disclaimer: No warranty is made that this material is free from infection by viruses or anything else which may cause harm. It is your responsibility to check this email and any attachments and links for viruses. Any loss/damage incurred by using this material is not the sender's responsibility. The sender's entire liability will be limited to resupplying the material.