



SOIL SCIENCE
AUSTRALIA

2026 Soil Science Australia National Conference

1 - 5 NOVEMBER 2026 • PAN PACIFIC HOTEL PERTH

PROGRAM GUIDE

2026 BOORLOO (PERTH)
CONFERENCE



SOIL SCIENCE
AUSTRALIA



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Australian Government

**Department of Agriculture,
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SOIL CRC



SOILSWEST



UWA School of Agriculture
and Environment



Global Initiative of
**Crop Microbiome and
Sustainable Agriculture**

**BUSINESS
EVENTS
PERTH**



SUNDAY 1 NOVEMBER

6.30pm - 8.30pm Welcome Reception and Exhibition Opening at Pan Pacific Hotel

Sponsored by SOIL CRC

MONDAY 2 NOVEMBER

8.00am - 5.00pm

Registration and Exhibition Open

8.30am Opening Sessions | Sponsored by University of Western Australia

Golden Ballroom

10.15am Group Photo

10.20am Morning Tea

11.00am Conference Sessions

Soil Organic Matter and Nutrient Dynamics Golden Ballroom South

Technology, Data Processing, and Artificial Intelligence | Sponsored By WA Agricultural Research Collaboration Golden Ballroom Centre

Policy, Planning and Governance for Soils Golden Ballroom North

12.30pm Lunch

12.45pm Poster guided tours

1.15pm Concurrent Sessions

Soil Organic Matter and Nutrient Dynamics Golden Ballroom South

Technology, Data Processing, and Artificial Intelligence Golden Ballroom Centre

Soil Description, Classification and National Inventories Golden Ballroom North

2.45pm Afternoon Tea

3.30pm Concurrent Sessions

Soil Organic Matter and Nutrient Dynamics Golden Ballroom South

Technology, Data Processing, and Artificial Intelligence Golden Ballroom Centre

Soil Description, Classification and National Inventories Golden Ballroom North

Soil Health, Conservation and Sustainability Golden Ballroom North

5.00pm Sessions Close

5.00pm - 6.30pm

ECR Event at Pan Pacific Hotel (Conference Level)

Sponsored by RAID Network (Researchers in Agriculture for International Development)

TUESDAY 3 NOVEMBER

8.00am - 5.00pm

Registration and Exhibition Open

8.45am Opening Sessions

Golden Ballroom

10.15am Morning Tea

11.00am Concurrent Sessions

SOIL CRC Golden Ballroom South

Soil Health, Conservation and Sustainability Golden Ballroom Centre

Soil Constraints, Amendments and Engineering Golden Ballroom North

Soils-First Agronomy & Land Management Goldsworthy

12.30pm Lunch

12.45pm Poster guided tours

1.15pm Concurrent Sessions

Soil Security and Resilience Golden Ballroom South

Soil Organic Matter and Nutrient Dynamics Golden Ballroom South

Soil Health, Conservation and Sustainability Golden Ballroom Centre

Soil Organic Matter and Nutrient Dynamics Golden Ballroom Centre

Soil Constraints, Amendments and Engineering Sponsored by Eurofins APAL Golden Ballroom North

2.45pm Afternoon Tea

3.30pm Expert Panel | Valuing Australian Soils on the Global Stage

Golden Ballroom

5.00pm Sessions Close

PROGRAM AT A GLANCE

WEDNESDAY 4 NOVEMBER

8.00am - 5.00pm

Registration and Exhibition Open

8.45am Opening Session | Sponsored by CSIRO
Golden Ballroom

10.15am Morning Tea

11.00am Concurrent Sessions

Boodja Katitjin: Soil Stewardship and Storytelling
Golden Ballroom South

Soil Security and Resilience Golden Ballroom Centre

Soil Health, Conservation and Sustainability Golden
Ballroom North

Soil Constraints, Amendments and Engineering
Goldsworthy

12.30pm Lunch

12.45pm Poster guided tours

1.15pm Concurrent Sessions

Soils-First Agronomy & Land Management Golden
Ballroom South

Soil Security and Resilience Golden Ballroom Centre
Soil Health, Conservation and Sustainability Golden
Ballroom Centre

Soil Health, Conservation and Sustainability Golden
Ballroom North

Soil Constraints, Amendments and Engineering
Goldsworthy

2.45pm Afternoon Tea

3.30pm Concurrent Sessions

Policy, Planning and Governance for Soils Golden
Ballroom South

Soil Organic Matter and Nutrient Dynamics Golden
Ballroom Centre

Soil Health, Conservation and Sustainability Golden
Ballroom North

Soil Constraints, Amendments and Engineering
Goldsworthy

4.30pm Closing Session

5.00pm Sessions Conclude

7.00pm - 11.00pm

Conference Dinner at Optus Stadium

Sponsored by Department of Agriculture, Fisheries and
Forestry

Coaches depart at 6.45pm from Pan Pacific Hotel

THURSDAY 5 NOVEMBER

**Field Trip 1 - Soil constraints, Salinity and Soil
Innovation in Western Australia**

Sponsored by SoilsWest

Coaches depart the Pan Pacific at 6.30am and return
by 6.00pm

Field Trip 2 - Swan Coastal Plain

Coaches depart the Pan Pacific at 7.00am and return
by 5.45pm

**Field Trip 3 - Land Restoration, waste recovery and
soil amendments**

Sponsored by Alcoa

Coaches depart the Pan Pacific at 8.00am and return
by 5.30pm

PROGRAM INFORMATION

This program is subject to change without notice. For the most up-to-date information, please refer to the conference app. Your login details can be found on your name tag.

Presentations in the concurrent streams are 12 minutes, including question time, unless otherwise indicated.

Presentations marked *brief* are 6 minutes, including question time.

BOOTH LISTING

1



SOIL SCIENCE
AUSTRALIA

2-3



THE UNIVERSITY OF
WESTERN
AUSTRALIA

UWA School of Agriculture
and Environment



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Agriculture

4



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BOOTH LISTING

8



SOIL CRC

9



ICT
INTERNATIONAL

10



Alcoa

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metagen^{AUS}

12



CSIRO

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Australian Government
Department of Agriculture,
Fisheries and Forestry

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RAPIDMAP

FLOOR PLAN AND EXHIBITION LISTING







2026 SOIL SCIENCE AUSTRALIA CONFERENCE PROGRAM

SUNDAY 1 NOVEMBER

6.30pm - 8.30pm **WELCOME RECEPTION AND EXHIBITION OPENING | SPONSORED BY SOIL CRC**
Pan Pacific Perth, Convention Floor, 207 Adelaide Terrace, Perth WA 6000



UWA School of Agriculture
and Environment

MONDAY 2 NOVEMBER

8.30am **OPENING PLENARY | SPONSORED BY UNIVERSITY OF WESTERN AUSTRALIA**
GOLDEN BALLROOM

8.30am **Gather and Introduction**
Dr George Mercer,
Conference Chair, Soil Science Australia

8.35am **Welcome to Country**
Aunty Karan Hayward, Noongar Elder

8.45am **Conference Opening**
Dr George Mercer,
Conference Chair, Soil Science Australia

8.55am **Ministers Address**

9.00am **Patrons Address**
The Hon Penny Wensley AC
Patron, Soil Science Australia

9.30am **Presidents Address**
Dr Darren Kidd,
President, Soil Science Australia

9.45am **Keynote Address**
Prof Braj Singh,
University of Western Australia

10.15am **GROUP PHOTO**

10.20am **MORNING TEA**

SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS	TECHNOLOGY, DATA PROCESSING, AND ARTIFICIAL INTELLIGENCE SPONSORED BY WA AGRICULTURAL RESEARCH COLLABORATION
GOLDEN BALLROOM SOUTH	GOLDEN BALLROOM CENTRE
CHAIR: A/Prof Luke Mosley and Dr Maria Pfeifle	CHAIR: Prof Vanessa Wong and Aditi Sharma
11.00am Hydrological controls on long-term soil organic matter persistence in South Australian peatlands Christopher Auricht, Auricht Projects Adelaide University	11.00am SWEB: The Sydney soil water-energy balance model for translating satellite forcing and soil hydraulic information into high-resolution root-zone soil moisture estimates Dr Yi Yu, The University of Sydney
11.13am Reconciling carbon sequestration value with soil health benefits of organic amendments Prof Nanthi Bolan, The University of Western Australia	11.13am Spatial modelling of soil acidification across the agricultural regions of South Australia Stuart Wright, Department for Environment and Water
11.26am Long term impacts of strategic tillage on soil organic carbon in sand soils Alice Butler, Dr Tom Edwards and Benedict Arthur, DPIRD WA	11.26am Creating impact from Australian soil data and information Peter Wilson, CSIRO
11.39am Mineral removal and its influence on thermal step-ramping estimates of resistant organic carbon in fine soil fractions Dr Claudia Damatirca, CSIRO	11.39am Australian National Soil Monitoring Program: Using, accessing and interpreting the Program's data Dr Stirling Robertson, CSIRO
11.52am Permanganate OXidisable Carbon (POXC) is a poor predictor of soil organic carbon stock change Dr Mark Farrell, CSIRO	11.52am Seeing the invisible: repurposing deep learning tools for segmentation of soil micro-pores from synchrotron micro-CT scans. Bartholomew Poyser, Adelaide University
12.05pm Spatial distribution and primary controlling factors of soil organic matter under agricultural land based on CatBoost model Dr Yan Guo, Henan Academy of Agricultural Sciences Prof Qiang Wang, Prof Xiang Zhang, Henan and Prof Kai Zeng, Henan Academy of Agricultural Sciences	12.05pm Modelling soil erodibility and erosion risk across Western Australian landscapes Dr Jakob Petereit, DPIRD WA
12.18pm Organic carbon stabilisation in soils with contrasting clay minerals: Evidence from micro-spectroscopic mapping Dr Shamim Mia, University of New England	12.18pm From site to continent: aligning soil carbon model complexity with data availability, validation and application Dr Chiara Pasut, CSIRO
12.30pm LUNCH	

POLICY, PLANNING AND GOVERNANCE FOR SOILS

GOLDEN BALLROOM NORTH

CHAIR: Dr Emily Leyden and Alex Busch

11.00am

Is drought resilience a missed opportunity for soil physics?

Dr Marcus Hardie, University of Tasmania

11.13am

Building Soil Literacy: An educational tool linking soil properties, processes, and management

Assoc Prof Frances Hoyle, Murdoch University

11.26am

How can we have assurance about emerging biostimulant products?

Jeff Kraak, Fertilizer Australia

11.39am

Soil stewardship from paddock to policy: a data-driven understanding of decision-drivers, with insights from 5,000 rural landholders

Assoc Prof Hanabeth Luke, Murdoch University

11.52am

Review of soil-centric approaches to scaling productivity and natural capital market participation in the Kimberley region.

Dr Jessica Rigg Impact Ag Australia

12.05pm

The benefit in multi-disciplined teams to fully realise the scope of sustainability through soil health in current farming practice

Shane Fitzgerald, Metagen

12.18pm

Drivers of soil organic carbon stability under C4 perennial pastures in NSW

Natalie Sawyer University of New England

MONDAY 2 NOVEMBER

Sessions

11.00am - 12.30pm

Lunch Break

12.30pm - 1.15pm

Guided Poster Tour

12.45pm - 1.15pm

Technology, Data Processing, and Artificial Intelligence Session Sponsored By
WA Agricultural Research Collaboration



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SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS GOLDEN BALLROOM SOUTH	TECHNOLOGY, DATA PROCESSING, AND ARTIFICIAL INTELLIGENCE GOLDEN BALLROOM CENTRE
CHAIR: Dr Tom Edwards and Dr Ramesha Jayaramaiah	CHAIR: Dr Mark Farrell and Dr Kattie Weigh
1.15pm Managing soil organic carbon decline in irrigated cotton: insights from long-term experiments Dr Gunasekhar Nachimuthu, NSW DPIRD	1.15pm Hydraulic conductivities calculated from perched water table recession curves are much lower than from data layers available to modellers Dr Malcolm McCaskill, Agriculture Victoria
1.28pm Can occasional deep tillage deplete soil organic carbon? Insights from a long-term minimum tillage cotton cropping system experiment Blake Palmer, Cottoninfo	1.28pm Assessing national remotely sensed fractional cover products for monitoring erosion risk and land management in WA agricultural landscapes Justin Laycock, DPIRD WA
1.41pm Sugar phosphate signalling maintains healthy soil processes while increasing wheat yields Bartholomew Poyser, Adelaide University	1.41pm Opportunities for field and remote sensing of soil health in grain growing systems Dr Ameesh Khatkar, The University of Sydney
1.54pm Long-term conservation agriculture influences soil organic matter and nutrient dynamics in rice-based systems Dr Karthika Pradeep, Murdoch University	1.54pm Unlocking National Soil Insights: Advancing Soil Monitoring through Infrared Spectroscopy and Modelling Gerard Grealish, CSIRO
2.07pm <i>brief</i> Ammonium and nitrate uptake in a wheat-chickpea intercropping system affected by water availability Shirin Akter, University of Sydney	2.07pm An interactive decision-support tool for interpreting soil moisture dynamics in agricultural soils Christopher Auricht, Auricht Projects and Adelaide University
2.14pm <i>brief</i> NSW Rangeland soil carbon Dr Karl Andersson, DPIRD NSW	2.20pm A meta-analysis on the effects of biochar on agricultural production in tropical regions Dr James O'Connor, The University of Western Australia
2.21pm <i>brief</i> Quantifying potassium flux and availability in soils at different moisture levels and fertiliser treatments using diffusive gradients in thin films Tony Bernard, Adelaide University	2.33pm Operationalising FAO-aligned parametric land evaluation in a raster GIS environment: Application to rubber cultivation in the Southern Philippines Richie Lador, Griffith University
2.28pm <i>brief</i> Sustainable Nutrient Management for Enhancing Rice Yield in Peaty Soils of Bangladesh Dr Md Khairul Bhuiyan, Bangladesh Rice Research Institute	
2.35pm <i>brief</i> From data to decisions: Whole Farm Nutrient Mapping to guide nutrient management in high rainfall grazing systems Holly Butterworth, DPIRD WA	
2.45pm AFTERNOON TEA	

SOIL DESCRIPTION, CLASSIFICATION AND NATIONAL INVENTORIES

GOLDEN BALLROOM NORTH

CHAIR: Dr Noel Schoknecht and Belinda Nielson

1.15pm

Australian National Soil Monitoring Program: Advancing Agricultural Sustainability

Gerard Grealish, CSIRO

1.28pm

The characterisation of NSW DPIRD research stations soils to identify soil constraints and inform future research priorities

Justine Cox, NSW DPIRD

1.41pm

A predictive acid sulfate soil-landscape model for undrained and drained peaty swamps in the Lower South-East of South Australia

Prof Robert Fitzpatrick, Adelaide University

1.54pm

Soil Landscape Review of the WA South Coast

Luke Burnside, DPIRD WA

2.07pm *brief*

PATCH Coding: Improving Soil Profile Communication and Farmer Extension Using Colour Coded Horizon Identification in Australian Soil Pits

Michael Eyres, Field Systems

2.14pm *brief*

A new eDIRT app: supporting rigorous soil data collection in Australia

Humphrey Milford, DCCEEW

2.21pm *brief*

Australian Soil Judging Competitions as experiential learning: Assessing the educational impact on knowledge, skills, and attitudes

Dr Ivanah Oliver, University of New England

2.28pm

The use of gamma radiometrics to identify soil type and plant habitat

Henry Smolinski, DPIRD WA

MONDAY 2 NOVEMBER

Sessions

1.15pm - 2.45pm

Afternoon Tea Break

2.45pm - 3.30pm



SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS GOLDEN BALLROOM SOUTH	TECHNOLOGY, DATA PROCESSING, AND ARTIFICIAL INTELLIGENCE GOLDEN BALLROOM CENTRE
CHAIR: Dr Erinne Stirling and Megan Williams	CHAIR: Justin Laycock and Bonnie Armour
3.30pm The decadal biogeochemical soil signatures of human remains: from decomposition to skeletonisation Dr Jason Reynolds, Western Sydney University	3.30pm Remote sensing evidence for recovery of wetland soil function after hydrological restoration in southern Australia Christopher Auricht, Auricht Projects & Adelaide University
3.43pm Meta-omics baselines of perennial ryegrass rhizosphere and root microbial communities across contrasting soil types in a working dairy production system Dr Tim Sawbridge, Agriculture Victoria	3.43pm Can earth observation foundational model embeddings improve traditional soil mapping approaches? A test case across 75 Australian dryland cropping farms Nikolas Hoskin, The University of Sydney
3.56pm A comparison of models for soil organic carbon dynamics: from first-order to microbially explicit Moa Van Kretschmar, The University of Sydney	3.56pm Agro meteorological and Soil-Based Wheat and Rice Yield Forecasting in the Western and Northern Agro-Climatic Zone of Haryana Using Multivariate Statistical and Predictive Modeling Techniques Dr Chetna Sagwal, Haryana Space Applications Centre
4.09pm Overcoming Low-Carbon Constraints: A Thermal Fractionation Approach for Soil Organic Carbon Measurable Fractions in Australian Rangelands Xueyu Zhao, CSIRO	4.09pm Monitoring wind erosion risk using roadside transects in the Victorian Mallee Rebecca Mitchell, Agriculture Victoria
4.22pm <i>brief</i> Interactions between soil organic and inorganic carbon in Loess agricultural soils of North China: A mini-review Prof Xiujun Wang, Shanxi Agricultural University	
4.29pm <i>brief</i> Soil Carbon and nitrogen decline in Australian grain cropping systems: Evidence, drivers and management pathways Dr Alexis Pang, The University of Melbourne	
4.36pm <i>brief</i> Re-examining the Relationship between Chemical Lability of Organic Amendments, Biological Availability of Soil Organic Carbon, and Nutrient Availability Thilakshi Paranavithana, Griffith University	
4.43pm <i>brief</i> Effects of Tillage, Residue Management, and Nitrogen Rates on Ammonia (NH ₃) Volatilization and Nitrogen Use Efficiency of Wheat Mohammad Saiful Alam Sarker, Bangladesh Agricultural University	
4.50pm <i>brief</i> Key soil properties affecting ammonia volatilisation from Australian grain-cropping soils Dr Karl Andersson, NSW DPIRD	

SOIL DESCRIPTION, CLASSIFICATION AND NATIONAL INVENTORIES

GOLDEN BALLROOM NORTH

CHAIR: Lucy Porter and Mali Eagle

3.30pm

From land systems to land facets – the challenge of improved land resource mapping for nature conservation in the deeply weathered landscapes of western Queensland

Ben Harms, CPSS, CPSS-SSLE, Department of the Environment, Tourism, Science and Innovation

3.43pm

Techniques for examining soils at archaeological sites in Australian cities

Roy Lawrie, CPSS, NSW Soil Knowledge

3.56pm

Towards standardised bulk density estimation in blue carbon and peaty sediments: challenges of coring, recovery, and volume determination

Dr Emily Leyden, Adelaide University

4.09pm

Alpine Humus Soils of Kosciuszko National Park: definition, extent and distribution

Sally McInnes-Clarke, NSW Department of Climate Change, Energy, Environment and Water

4.22pm

Know Your Southern Soils: Revisiting Soil Survey Legacies and Building New Stories from WA's South Coast

David Rowe, DPIRD WA

SOIL HEALTH, CONSERVATION AND SUSTAINABILITY

4.35pm *brief*

Microplastic distribution in key Australian surface soils

Nayab Naeem, Griffith University

4.42pm *brief*

PAM-NaPSS with CNC reinforcement hydrogels for soil conditioning and water-efficient agricultural practices

Sundus Sundus, Griffith University

4.49pm *brief*

Effects of Soil Conditions on Carbon Dioxide Removal via Enhanced Rock Weathering

Sofonyas Tefera, James Cook University

4.56pm *brief*

Assessing Carbon Fraction on Soils of Rehabilitated Mines of different Minerals

Bonginkosi Vilakazi, North-West University

MONDAY 2 NOVEMBER

Sessions

3.30pm - 5.01pm

End of Sessions

5.01pm

ECR Event

5.00pm - 6.30pm

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2026 SOIL SCIENCE AUSTRALIA CONFERENCE PROGRAM

TUESDAY 3 NOVEMBER

8.45am	OPENING PLENARY GOLDEN BALLROOM
8.45am	Chair Opening Tim Overheu, Department Primary Industries and Regional Development WA
9.00am	Keynote Address Professor Josh Byrne AM, Dean Sustainable Futures, Faculty of Humanities, Curtin University
9.30am	Plenary Address Dr Susan Orgill, Chief Scientist Impact AG Australia
9.45am	Plenary Address Troy Clarkson, Director of Soil Strategies and Programs, Department of Agriculture, Fisheries and Forestry
10.00am	Plenary Address The Soil CRC: 10 years on – what have we achieved? Dr Michael Crawford, Chief Executive Officer, Soil CRC
10.15am	MORNING TEA

SOIL CRC	SOIL HEALTH, CONSERVATION AND SUSTAINABILITY
<i>GOLDEN BALLROOM SOUTH</i>	<i>GOLDEN BALLROOM CENTRE</i>
CHAIR: Dr Michael Crawford	CHAIR: Dr Karen Holmes and Dr Annachiara Codello
11.00am - 11.18am Soil CRC Program 1 – Investing in high performance soils: the human aspects of soil Catherine Allan, Charles Sturt University	11.00am Organic amendments mitigate heat stress and impart community resistance to rhizosphere microbiome Dr Sasha Jenkins, The University of Western Australia
11.18am - 11.36am Soil CRC Program 2 – Soil performance metrics: from soil indicators to smart decisions through practical tools for Australian agriculture Nathan Robinson, Federation University	11.13am Continental-scale changes in carbon stocks of Australia's agricultural soils – results from the Soil Organic Carbon Monitoring Project Dr Chiara Pasut, CSIRO
11.36am - 11.54am Soil CRC Program 3 – New products for soil fertility and function Megharaj Mallavarapu, University of Newcastle	11.26am Developing the analytics to quantitatively assess soil health Dr André Dalla Bernardina Garcia, CSIRO
11.54am - 12.12pm Soil CRC Program 4 – Integrated soil management solutions: Progress, key findings, and the path to better soil decisions Lukas Van Zwieten, NSW DPIRD	11.39am Improved soil carbon values are the products of a good farming system – evidence and opportunities from the Cool Soil Initiative Dr Cassandra Schefe, CPSS, Agrisci Pty Ltd
12.12pm - 12.30pm Soil CRC Adoption Plan Felicity Harrop, Cooperative Research Centre for High Performance Soils	11.52am Herbicide–fertiliser interactions influence soil microbial diversity and antimicrobial resistance in a wheat cropping system Dr Zakaria Solaiman, The University of Western Australia
	12.05pm Beyond Carbon: How Soil Thermal Properties Influence Climate Dr Amin Shariffar, The University of Sydney
	12.18pm Making Soil Health Real for Children, their Families and the Wider Community Angela Rossen, Artist and Biodiversity Educator
12.30pm LUNCH	

TUESDAY 3 NOVEMBER

Sessions 11.00am - 12.30pm

Lunch 12.30pm - 1.15pm

Guided Poster Tour 12.45pm - 1.15pm

SOIL CONSTRAINTS, AMENDMENTS AND ENGINEERING GOLDEN BALLROOM NORTH	SOILS-FIRST AGRONOMY & LAND MANAGEMENT GOLDSWORTHY
CHAIR: Tina Astbury and Blake Palmer	CHAIR: Dr Susan Orgill and Rachel Cavallo
11.00am Overcoming constraints with deep spading on previously ameliorated soils: Enhanced root growth, productivity, SOC stocks and gross margins on 13-year-old clay-ameliorated sands Leonie Smith, The University of Western Australia	11.00am Evaluating post emergent phosphorus strategies for wheat grown on high phosphorus buffering gravelly soils of southwest WA Raj Malik, DPIRD WA
11.13am From Roots to Shoots: Mechanistic Responses of Wheat to Increasing Soil Strength Kate Carson, La Trobe University	11.13am Efficacy of co-application of soil amendments and commercial inoculants on rhizosphere bacterial communities and wheat growth. Richard Ang, The University of Western Australia
11.26am Lignite granules as an engineered amendment for stabilising nutrients in broiler litter Dr Clayton Butterly, CPSS, The University of Melbourne	11.26am Ammonia volatilisation can be a significant nitrogen loss pathway from fertiliser applied to acidic, poorly buffered cropping soils Dr Louise Barton, The University of Western Australia
11.39am Soil Re-engineering – A New Approach to Improve Crop Productivity on Constrained Sandy Soils in Water-Limited Environments in Western Australia Dr Gaus Azam, DPIRD WA	11.39am How fertiliser P placement controls crop access and recovery in Vertosols: evidence from ³³ P-labelled MAP Dr Mauricio Leite, The University of Queensland
11.52am Improving wheat yield in a low-fertility Arenosol: insights from a grower-scale re-engineering trial in the central wheatbelt of Western Australia Kanch Wickramarachchi, DPIRD WA	11.52am G2HSL rooting depth mitigates against seasonal variability in N-supply in the mixed farming zone Dr Belinda Hackney, NSW DPIRD
12.05pm Variable charge soils and their management Dr Richard Bell, Murdoch University	12.05pm Evaluating phosphorus kinetics of steel slag in acidic soils Ruwani Hapuarachchige, The University of Western Australia
12.18pm Continuous 13C-CO2 labelling reveals mechanisms of SOC stabilisation in constrained, poorly structured soil Dr Kattie Weigh, NSW DPIRD	12.18pm Co-application of struvite with phosphorus-solubilising bacteria enhances soil microbial activity and bioavailable phosphorus in alkaline soil Dr Sasha Jenkins, The University of Western Australia

SOIL SECURITY AND RESILIENCE	SOIL HEALTH, CONSERVATION AND SUSTAINABILITY
GOLDEN BALLROOM SOUTH	GOLDEN BALLROOM CENTRE
CHAIR: Dr Yvette Oliver and Dr Alexandra Gulizia	CHAIR: Dr Ivanah Oliver and Tony Bernard
1.15pm Linking soil data, landscape outcomes and financial performance in impact investment Dr Susan Orgill, Impact AG Australia	1.15pm Goethite and KMnO ₄ -activated biochar alter glucose-induced carbon mineralisation in a sodic subsoil Arefeh Taghva, University of New South Wales
1.28pm Now you see them, now you don't - a potential future outcome for High Soil Carbon Landscapes. Lawrence Wonhas, Department of Natural Resources and Environment Tasmania	1.28pm Influence of Leguminous Mulching and Sheep Grazing on Nitrogen Availability and Soil Health in a Tropical Taro-Based Cropping System Sootino Marcallonlani Taungakava, University of The South Pacific
1.41pm Who will read the soil? Declining Soil Science Capacity and Risks to Australia's Agricultural Future Rachel Cavallo, RSP-SM, Burnett Mary Regional Group	1.41pm Toxicity of Conventional and Biodegradable Plastic Additives on Soil Fauna: A Case Study with the Root Lesion Nematode <i>Pratylenchus Neglectus</i> Dr Samantha Viljoen, Murdoch University
1.54pm Enhancing Water Use Efficiency in Grain Production Dr Annachiara Codello, Murdoch University	1.54pm Effects of Organic Matter on the Formation of Sulfide Minerals in Supratidal Wetland Soils Meng Wang, Monash University
SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS	SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS
2.07pm Soil organic carbon decomposition and replenishment by plant roots: A meta-analysis Takuma Koyama, The University of Sydney	2.07pm <i>brief</i> Nitrogen (and other major nutrients) dynamics in soil plant interaction through the decomposition of agricultural legumes in rotational farming Dr Luca De Prato, Murdoch University
2.20pm <i>brief</i> The Effects of Iron on Soil Organic Carbon Storage in a Temperate Coastal Wetland Julie Tan, Jupiter Ionics, Monash University	2.14pm <i>brief</i> Ferrihydrite enhanced plant growth and storage of rhizodeposited carbon in an alkaline soil Zeinab Ghasemzadeh, Adelaide University
2.27pm <i>brief</i> Soil carbon sequestration potential of Queensland under land use change and future climate scenarios Dr Stephen Leo, Department of the Environment, Tourism, Science and Innovation	2.21pm <i>brief</i> What Drives Soil Organic Carbon Concentrations in a High Rainfall-High Carbon Zone? Dr Abe Gibson, Southern Cross University
2.34pm <i>brief</i> Soil Carbon Responses to Mulching Film-Derived Biodegradable Microplastics Dr Tran Thi Kim Anh, The University of Sydney	2.28pm <i>brief</i> Can Plants Access Soil Legacy Phosphorus? Evidence From a Controlled Pot Trial Xiaoli Zhou, Griffith University
	2.35pm <i>brief</i> Integrating Biochar with Chemical Fertilizers Reduces Greenhouse Gas Emissions while Enhancing Soil Resilience in Sub-tropical Triple Rice Ecosystems Mohammad Jahangir, Bangladesh Agricultural University

**SOIL CONSTRAINTS, AMENDMENTS AND
ENGINEERING | SPONSORED BY EUROFINS APAL**
GOLDEN BALLROOM NORTH

CHAIR: Dr Gaus Azam and Evanna McGuinness

1.15pm

From soil pore architecture to soil function: a pore-space perspective on key processes in agricultural soils

Dr Vilim Filipovic, The University of Queensland

1.28pm

Trends in P fertility following a single application of Iron Man Gypsum to sandy soils under pasture production

Dr Brad Degens, Department of Water and Environmental Resources

1.41pm

One off strategic deep tillage followed by a return to conservation tillage provides a long-term increase in crop production while preserving soil quality

Dr Tom Edwards, DPIRD WA

1.54pm *brief*

From MIR Spectra to Engineering Surfaces: Digital Soil Mapping of Atterberg Limits across Queensland

Jim Payne, Department of Environment, Tourism, Science and Innovation

2.01pm *brief*

The effects of climatic and soil properties on soil water repellency

Dr Maria Pfeifle, DPIRD WA

2.08pm *brief*

Soil management legacies govern microbial stability and resilience to compaction stress

Dr Lukas Van Zwieten, NSW DPIRD

2.15pm *brief*

Large rhizosheath on wheat (*Triticum aestivum*) enhance root growth, diverse bacterial communities, and grain yield when grown in acidic soil with a high Al^{3+} content.

Huyen Pham, The University of Western Australia

2.22pm *brief*

Agronomic and Soil Biochemical Responses to Gyplime Application in Contrasting Western Australian Soils

Nazmun Nahar Afia, The University of Western Australia

2.29pm *brief*

Challenges in Classifying Acid Sulfate Soils: Acid Neutralisation Capacity Verification, and the Limits of Chip Tray Tests

Dr Hannah Mikkonen, Environment Protection Authority

2.36pm *brief*

Evaluating the capability of remote sensing to detect machinery-induced soil compaction in forested sites

Clara Moody, The University of Western Australia

TUESDAY 3 NOVEMBER

Sessions

1.15pm - 2.48pm

Afternoon Tea

2.48pm - 3.30pm

**Soil Constraints, Amendments and
Engineering Session Sponsored By
Eurofins APAL**



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SOIL SCIENCE AUSTRALIA

MEMBERSHIP INFORMATION

Become a Member

Become a Soil Science member today to build your network, advance your career and further the field of soil science.

Join Now

Want to make a difference to the field of Soil Science? Looking to connect, learn and collaborate with other soil professionals?

By joining SSA you help us in our mission to promote the importance of soil in Australia, build a strong and collaborative soil science community, advocate for soil science and advance the professional capability of our members.

Member Benefits

- **Local Branch Membership:** Connect with your peers, share ideas, and collaborate on projects.
- **Networking Opportunities:** Attend exclusive events, training sessions and meetings throughout the year to connect with fellow soil science professionals.
- **Soil news:** Receive the Soil Crumbs bulletin directly to your inbox, keeping you updated with the latest developments in the field.
- **Accreditation Opportunities:** Pursue certifications like CPSS and RSP to enhance your professional credentials.
- **Discounted Conference Access:** Enjoy discounted rates to the National Soils Conference, held every two years.
- **Recognition & Awards:** Be eligible for nomination in the prestigious Annual National Soil Science Awards.
- **Sharing your voice:** Help shape the future of soil science in Australia and advocate for the profession.
- **Exclusive member benefits:** Including a 20% CSIRO Publishing discount and significant savings on events and training.
- **Member Portal Access:** Create your member profile and connect with soil science professionals across Australia and beyond.
- **Tax-Deductible Membership Fees:** Enjoy the added benefit of claiming your membership fees as a tax deduction.



TUESDAY 3 NOVEMBER

2.45pm AFTERNOON TEA

3.30pm Expert Panel | Valuing Australian Soils on the Global Stage
Chair: Larissa Taylor, Director of Savoir Consulting

5.00pm SESSIONS CONCLUDE







2026 SOIL SCIENCE AUSTRALIA CONFERENCE PROGRAM



WEDNESDAY 4 NOVEMBER

8.45am OPENING PLENARY | SPONSORED BY CSIRO GOLDEN BALLROOM

8.45am **Soil Science in Real Time: Setting Priorities Together**

Associate Professor Fran Hoyle,
Director, SoilsWest

9.00am **Plenary Address**

Department Primary Industries and Regional Development

9.15am **Plenary Address**

Associate Professor Suzie Reichman, CPSS
University of Melbourne

9.30am **Plenary Address**

Dr Stirling Roberton,
Research Scientist, CSIRO

9.45am **Plenary Address: A whistle-stop tour of Australia's soils**

Dr Noel Schoknecht,
Scientific Committee Chair, Soil Science Australia

10.05am **Plenary Address**

Giacomo Betti,
Investment Manager, Sustainable Cropping Systems South, Grains Research & Development
Corporation

10.15am **MORNING TEA**

BOODJA KATITJIN: SOIL STEWARDSHIP AND STORYTELLING	SOIL SECURITY AND RESILIENCE
<i>GOLDEN BALLROOM SOUTH</i>	<i>GOLDEN BALLROOM CENTRE</i>
CHAIR: A/Prof Hanabeth Luke and Dr Gigi Woods	CHAIR: Peter Wilson and Alice Sforza
11.00am Forensic soil investigation of earth materials on vehicle wheel-rims and road surfacing aggregate near fire scenes is used to link a vehicle to bushfire arson Prof Robert Fitzpatrick, CPSS, CPSS-SSLE, RSP-ASS, Adelaide University	11.00am Quantifying greenhouse gas emissions from the decomposition of crop residue focused on Western Australian wheatbelt region Dr Bidhyut Banik, DPIRD WA
11.13am When Garments Enter the Compost: Early Findings from a Campus Textile Composting Pilot Andreas Pfeifle and A/Prof Pia Interlandi, Curtin University	11.13am Can we grow food on the Moon? Engineering biological systems in lunar regolith Dr Kattie Weigh, NSW DPIRD
11.26am The Talking Soil Book Project: A reflection of a collaborative writing project on soil engagement A/Prof Lisa Lobry De Bruyn, University of New England	11.26am Spatiotemporal drought stress monitoring in WA agricultural landscapes: percentile-rank classification and soil-type stratification Rodrigo Pires, DPIRD WA
11.39am From small plot theory to broadacre practice: the success of grower engagement from the ground up Wayne Parker, DPIRD WA	11.39am Effectiveness of drainage protection slots (DPS) and vegetation buffers in controlling runoff and sediment at a mining site under different surface conditions Dr Rajesh Sharma, Alcoa
11.52am Soil fundamentals training in the Pacific Islands Dr Josephine Woods, Monash University	11.52am Identification and prioritisation of microplastics and their chemical additives in cropping systems. Dr Mike Williams, CSIRO
12.05pm Soil Pits, Soil Mentors, and National Soil Competitions: A Model for Soil Education for Students and Emerging Professionals in Australia Dr Emily Leyden, Adelaide University	12.05pm Effects of bushfire severity on soil properties: a before-after-control-impact (BACI) study from Kangaroo Island, Australia A/Prof Luke Mosley, CPSS, RSP-ASS, Adelaide University
12.18pm Cultivating connections - How do we better connect soil research and information with industry? Lucy Porter, SA Drought, Resilience, Adoption and Innovation Hub and Adelaide University	12.18pm SMART SPRAYS: The development of biodegradable films for agriculture Dr Alexandra Gulizia, Dr Annachiara Codello and Dr Samantha Viljoen, Murdoch University

12.30pm LUNCH

WEDNESDAY 4 NOVEMBER

Sessions 11.00am - 12.30pm

Lunch 12.30pm - 1.15pm

Guided Poster Tour 12.45pm - 1.15pm

SOIL HEALTH, CONSERVATION AND SUSTAINABILITY GOLDEN BALLROOM NORTH	SOIL CONSTRAINTS, AMENDMENTS AND ENGINEERING GOLDSWORTHY
CHAIR: Dr Louise Barton and Dr Maria Pfeifle	CHAIR: Prof Longbin Huang and Dr Felipe Saavedra
11.00am Exploring how the soil habitat influences microbial trait-based ecology: implications for soil health Berenice Della Porta, La Trobe University	11.00am Residual effects of deep-placed organic and inorganic amendments on wheat productivity in an alkaline dispersive subsoil Dr Shihab Uddin, NSW DPIRD
11.13am Keeping Soil Science Simple: A Farmer-Friendly Approach to Testing and Action Bonnie Armour, Hills and Fleurieu Landscape Board	11.13am Better than the mean? Digital Soil Mapping of soil constraints at fine spatial resolution. Cameron Leckie, Southern Queensland and Northern New South Wales Innovation Hub
11.26am The Anthropocene beneath our feet: The bomb-pulse in south-eastern Australian peatlands Rani Carroll, Western Sydney University	11.26am Subsoil amelioration can have long term benefits on sodic grey clay duplex soils in southern WA Glenn McDonald, DPIRD WA
11.39am Towards Integrated Soil Degradation Assessment in Australian Agriculture Dr Aakansha Chadha, Federation University	11.39am Soil water storage: increased access and tools for assessment Thomas Baumgartl, CPSS, Federation University
11.52am Evaluating eligible management activities in pastoral systems for soil carbon sequestration under the Australian Carbon Credit Unit Scheme: a critical review Alice Debney, CPSS, Select Carbon	11.52am <i>brief</i> Soil influences on group two herbicides and nitrogen fixation Benedict Arthur, DPIRD WA
12.05pm Soil microbial community responses to drying and rewetting in a Tasmanian peatland Rory Ferguson, Monash University	11.59pm <i>brief</i> Biochar as soil amendment to improve soil hydrological properties Thomas Baumgartl, CPSS, Federation University
12.18pm <i>brief</i> Carbon dioxide removal via enhanced weathering: Modelling mechanisms and the effect of soil properties Hannah Green, James Cook University	12.06pm <i>brief</i> Understanding erosion evolution in constrained soils to inform practical management in three nature reserves in Victoria, Australia Dr Temma Carruthers-Taylor, Environmental Earth Sciences
	12.13pm <i>brief</i> Are We Measuring the Right Efficiency Metrics? Rethinking Centre Pivot Irrigation Performance Dr Ana De Mattos E Avila, Tasmanian Institute of Agriculture
	12.20pm <i>brief</i> Engineering Performing Soils: Novel Controlled Reactive Soil Amendments (CRSAs) restore function in Dispersive Sodic soils Dr Henry Luutu, Adelaide University

Sessions 1.15pm - 2.45pm

SOILS-FIRST AGRONOMY & LAND MANAGEMENT	SOIL SECURITY AND RESILIENCE
GOLDEN BALLROOM SOUTH	GOLDEN BALLROOM CENTRE
CHAIR: Wayne Parker and Rachel Cavallo	CHAIR: Justine Cox and Dr Samantha Viljoen
1.15pm Digital mapping of soil profile properties using remote sensing and topography covariates in the Central Dry Zone of Myanmar Akari Win, The University of Sydney	1.15pm Assessment of Microplastic Concentration and their Interactions with Heavy Metals in Sediments and Soils Across Diverse Ecosystems in Samoa Samuel Rojo, University of South Pacific
1.28pm Predicting herbicide bioavailability and phytotoxicity from soil properties Dr Michael Rose, Southern Cross University	1.28pm Benchmarking Soil Thermal Buffering Capacity for Climate Smart Adaptation in Australia Dr Amin Shariffar, The University of Sydney
1.41pm Rethinking Hillslope Evolution Modelling: Coupling Soil Weathering, Erosion–Deposition, and Landform Dynamics Dr Indishe Senanayake, The University of Newcastle	1.41pm A pre-disturbance soil organic carbon baseline for the Australian continent using the pedogenon framework Dr Quentin Styc, The University of Sydney
1.54pm Characterising soil fertility and management constraints for cassava production in Cambodia and Lao PDR Dr Wendy Vance, Murdoch University	1.54pm Long-term trends in wheat water use efficiency in South Australia (1961-2024) Andrea Stiglingh, Department for Environment and Water
2.07pm <i>brief</i> Changes in nitrogen and water use in mixed farming systems: A case study on long-term trial Dr Shahnaj Parvin, The University of Melbourne	2.07pm <i>brief</i> Impacts of Organic Amendments on Soil Microbial Communities and Antimicrobial Resistance Gene Profiles in Pasture Soils Mostarak Munshi, The University of Western Australia
2.14pm <i>brief</i> Regeneration of eroded landscapes in western NSW Dr Karl Andersson, DPIRD NSW	SOIL HEALTH, CONSERVATION AND SUSTAINABILITY
2.21pm <i>brief</i> Enhancing Direct-Seeded Rice Production through Optimized Seeding Methods and Nutrient Management Dr Md. Nazrul Islam, Bangladesh Rice Research Institute	2.14pm Use of Low-Cost Sensors for Monitoring Soil Condition Following Landscape Rehydration Prof Vanessa Wong, CPSS RSP-ASS, Monash University
2.28pm <i>brief</i> Residual and fresh phosphorus dynamics under banded and dispersed fertiliser placement in Vertosols Sushila Joshi, The University of Queensland	2.27pm The bean microbiome for better soil and plant health Megan Williams, University of Tasmania
2.35pm <i>brief</i> Ammonia and nitrous oxide emissions and mineral N dynamics in a black Vertosol incubated with enhanced efficiency fertilisers Dr Angus Mcelnea, The Department of the Environment, Tourism, Science and Innovation	

SOIL HEALTH, CONSERVATION AND SUSTAINABILITY

GOLDEN BALLROOM NORTH

CHAIR: Tim Overheu and Dr Bidhyut Banik

1.15pm

Cultural fire effects on soil chemistry and soil fungal and community diversity and composition, South Coast NSW

Dr Linda Henderson, DCCEEW

1.28pm

Detecting tree-edge interface soil spectral signatures using infrared spectroscopy in a South Australian dryland farming system

Ana Paula Ferreira De Brito, Adelaide University

1.41pm

Improving Soil Health Through Plant Diversity in Australian Broadacre Systems: Hurdles and Opportunities

Dr Abe Gibson, Southern Cross University

1.54pm

Soil fauna communities and their roles in nutrient transformations of agricultural soils

Prof Jim Jizheng He, The University of Melbourne

2.07pm

Mechanisms limiting carbon dioxide removal via enhanced weathering of basalt in the field

Fred Holden, James Cook University

2.20pm

Lauric acid-coated biosolids shows potential as a slow-release fertiliser

Dr Sasha Jenkins, Dr James O'Connor, and Lynette Abbott, The University of Western Australia

2.33pm

Developing a Framework for Soil Microbial Indicators

Dr Kattie Weigh, NSW DPIRD

SOIL CONSTRAINTS, AMENDMENTS AND ENGINEERING

GOLDSWORTHY

CHAIR: Dr Darren Kidd and Lawrence Wonhas

1.15pm

S-35 isotopic tracing of sulfur partitioning and fertilizer recovery in oats on vertosols

Mst Sarmin Akter Ranu, The University of Queensland

1.28pm

Optimising soil function in mine rehabilitation

Dr Felipe Saavedra-Mella, Alcoa

1.41pm

Lime Use Efficiency: Getting Carbonate to Where It Counts

Dr Joe Marks, Adelaide University

1.54pm

Deep ripping increased root growth, but resulted in de-watering of a sandy soil profile in a dry year

Stephen Lang, Adelaide University

2.07pm

Exaggerated mound & furrow tillage and covering the soil surface with plastic or polymer can increase stored soil water & the grain yield of crops

Dr Ed Barrett-Lennard, DPIRD WA

2.20pm *brief*

Mapping the Economic Evidence on Soil Amendment Technologies for Drought Resilience: A Scoping Review with Implications for Australian Broadacre Agriculture

Nawarathna Gannawe Bandaralage, University of Newcastle

2.27pm *brief*

Testing Innovative Lime Delivery Strategies for Acid Soil Amelioration Across Australian Cropping Systems

Dr Ramesha Jayaramaiah, Murdoch University

2.34pm *brief*

Improving Soil Nutrient Availability & Maize (*Zea mays*) Productivity using Organic Amendments in Western Viti Levu, Fiji

Ashneel Kumar, Fiji National University

2.45pm AFTERNOON TEA

POLICY, PLANNING AND GOVERNANCE FOR SOILS GOLDEN BALLROOM SOUTH	SOIL ORGANIC MATTER AND NUTRIENT DYNAMICS GOLDEN BALLROOM CENTRE
CHAIR: Cameron Leckie and Dr Bidhyut Banik	CHAIR: Dr Sasha Jenkins and Rani Carroll
3.30pm <i>brief</i> Advancing national soils literacy through farmer-to-farmer programs Dr Davina Boyd and Dr Wendy Vance, Murdoch University	3.30pm <i>brief</i> Fungal Endophytes Effects on Barley Modulate Carbon Sequestration and Nitrogen Dynamics across two Contrasting Soil and Climatic Conditions, tracking with Stable Isotopic Techniques Aditi Sharma, Loam Bio
3.37pm <i>brief</i> Targeted soil training for advisors of farm soil management in NSW Justine Cox, NSW DPIRD	3.37pm <i>brief</i> Potential of chemical extraction procedures to evaluate organic carbon association with different metal species in soils Prof Balwant Singh, University of Sydney
3.44pm <i>brief</i> Co-designing for groundcover: Rethinking extension in Western Australia's sandy soil systems Mali Eagle, DPIRD WA	3.44pm <i>brief</i> Rain on the nutrient parade: Nutrient export from overland flows on grazed pastures observed under a rainfall simulator in the Fitzroy Basin, Queensland Yan Lim, Department of the Environment, Tourism, Science and Innovation
3.51pm <i>brief</i> Bridging the Soil Science Skills Gap: Integrating Traditional Knowledge and Workforce Development to Address Australia's Future Challenges Matthew Eyles, Department of The Environment, Tourism, Science and Innovation	3.51pm <i>brief</i> Long-term soil management shapes aggregate pore structure, microbial communities, and soil organic carbon cycling Dr Jingjing Liu, CSIRO
3.58pm <i>brief</i> Coordinating a National Soil Monitoring Program: Building Consistency, Capability and Governance Across Australia Nicola Lynch, Gerard Grealish and Liz Stower, CSIRO	3.58pm <i>brief</i> Projecting future changes in soil organic carbon across New South Wales using machine learning and climate projections Dr Yuxin Ma, DCCEEW
4.05pm <i>brief</i> Don't Be a Lagger: Giving Soil Carbon Markets a Leading Edge Dr Lynne Macdonald, CSIRO	4.05pm <i>brief</i> Soil organic matter retention and turnover in subtropical perennial pasture systems of northeast NSW, Australia Evanna McGuinness, Southern Cross University
4.12pm <i>brief</i> Assessing and understanding soil health: an online guide Rebecca Mitchell Agriculture Victoria	4.12pm <i>brief</i> Assessing human activity impacts on soil nutrient condition in Australia Budiman Minasny, The University of Sydney
4.19pm <i>brief</i> From Paddock to Nation: Insights into the Contribution of Soil Science in Australia Dr Nathan Robinson, Soil CRC	

SOIL HEALTH, CONSERVATION AND SUSTAINABILITY GOLDEN BALLROOM NORTH	SOIL CONSTRAINTS, AMENDMENTS AND ENGINEERING GOLDSWORTHY
CHAIR: Dr Marcus Hardie and Megan Williams	CHAIR: Dr Richard Bell and Alex Busch
3.30pm Into the Unknown: A Continental Exploration of Viral Diversity in Australian Soils Dr Peipei Xue, Budiman Minasny and Alex McBratney, The University of Sydney	3.30pm Next generation soil technologies to address multiple soil constraints Dr Lukas Van Zwieten, NSW DPIRD
3.43pm Recovery of soil condition near watering points under private land conservation in Australian rangelands Kate Matthews, Flinders University	3.43pm Rebuilding Natural Capital: Eco-Engineered Soil Formation to Overcome Topsoil Deficits for Environmental Remediation and Ecosystem Rehabilitation Prof Longbin Huang, The University of Queensland
3.56pm <i>brief</i> Performance of Conservation Agriculture Practices on Potato Yield in Sandy Loam Soils under Potato-Maize-Aman Rice Cropping System Mohammad Nazmul Hassan, Bangladesh Agricultural University	3.56pm Novel amendments targeting soil acidity reshape microbial community structure and promote wheat growth in a constrained acidic soil Dr Kattie Weigh, NSW DPIRD
4.03pm <i>brief</i> Farming Systems Shape Soil Microbial Diversity and Functional Composition Across Australian Agricultural Landscapes Mahnoor Hayat, Western Sydney University	4.09pm Development of Sprayable Biopolymer Films for Soil Water Security in the WA Wheatbelt Dr Samantha Viljoen, Murdoch University
4.10pm <i>brief</i> Soil biodiversity across landscapes: linking soil microbial communities, soil chemistry and land use to indicators of soil health Dr Tongda Li, Agriculture Science and Technology	
4.17pm <i>brief</i> Microbiome pathways linking soil health and human health Dr Craig Liddicoat, Flinders University	

Afternoon Tea 2.45pm - 3.30pm

Sessions 3.30pm - 4.25pm

Closing Session 4.30pm - 5.00pm

WEDNESDAY 4 NOVEMBER

4.30pm	Closing Session
7.00pm - 11.00pm	SOIL SCIENCE AUSTRALIA CONFERENCE DINNER OPTUS STADIUM Optus Stadium, Pre-Dinner Drinks: Champions Terrace Dinner: Riverview Room 3 333 Victoria Park Drive, Burswood WA 6100 Access: via Gate D and lobby 135 Parking: Marlee Loop carpark (P2) accessed via Victoria Park Drive Coaches: Meet directly outside the Pan Pacific Hotel at 6.35pm from a 6.45pm departure Dinner Speaker: Stuart McAlpine, RegenWA Sponsored By Department of Agriculture, Fisheries and Forestry
	 Australian Government Department of Agriculture, Fisheries and Forestry

FIELD TRIPS, THURSDAY 5 NOVEMBER

Please note the departure times for each field trip, coaches will leave directly outside the Pan Pacific Hotel. Please in the foyer 15 minutes prior to your departure time as indicated below.

Field Trip 1 - Soil constraints, Salinity and Soil Innovation in Western Australia
Sponsored by SoilsWest

Meeting time: 6.15am
Coaches depart the Pan Pacific at 6.30am and return by 6.00pm



Field Trip 2 - Swan Coastal Plain

Meeting time: 6.45am
Coaches depart the Pan Pacific at 7.00am and return by 5.45pm

Field Trip 3 - Land Restoration, Waste Recovery and Soil Amendments
Sponsored by Alcoa

Meeting time: 7.45am
Coaches depart the Pan Pacific at 8.00am and return by 5.30pm





SOCIAL FUNCTION INFORMATION

WELCOME RECEPTION AND EXHIBITION OPENING

Sunday 1 November 2026, 6.30pm - 8.30pm

Pan Pacific Hotel | Conference Level

Delegates: Included in fees

Guest and day delegates: \$55 per ticket



ECR EVENT

Monday 2 November 2026, 5.00 - 6.30pm

Enjoy Career insights and advice as well as speed mentoring and networking

Pan Pacific Hotel | Conference Level

Delegates: Attendance is complimentary and includes a drink token but advance RSVP is required



CONFERENCE DINNER

Wednesday 4 November 2026, 7.00pm - 11.00pm

Optus Stadium,

Pre-Dinner Drinks: Champions Terrace | Dinner: Riverview Room 3

333 Victoria Park Drive, Burswood WA 6100

Access: via Gate D and lobby 135

Parking: Marlee Loop carpark (P2) accessed via Victoria Park Drive

Coaches: Meet directly outside the Pan Pacific Hotel at 6.35pm from a 6.45pm departure

Dinner Speaker: Stuart McAlpine, RegenWA

Sponsored By Department of Agriculture, Fisheries and Forestry

\$195 per ticket



Australian Government

Department of Agriculture,
Fisheries and Forestry

**OPTUS
STADIUM**

Monday 2 November Poster Presentations

- | | |
|------|---|
| 1.01 | Agro meteorological and Soil-Based Wheat and Rice Yield Forecasting in the Western and Northern Agro-Climatic Zone of Haryana Using Multivariate Statistical and Predictive Modeling Techniques
Dr Chetna Sagwal, Haryana Space Applications Centre (HARSAC), HISAR a Citizen Resources Information Department, Government of Haryana |
| 1.02 | From structured capture to trusted data: balancing flexibility and integrity in the National Soil Monitoring Program data pipeline
Bo Dai, CSIRO |
| 1.03 | Monitoring wind erosion risk using roadside transects in the Victorian Mallee
Rebecca Mitchell, Agriculture Victoria |
| 1.04 | The NSW DPIRD soil archive
Dr Karl Andersson, NSW DPIRD |
| 1.05 | The National Soil Monitoring Project in Western Australia
Aimee Mouritz, Wheatbelt Natural Resource Management |
| 1.06 | Spatial distribution and primary controlling factors of soil organic matter under agricultural land based on CatBoost model
Dr Yan Guo, Institute of Agricultural Information Technology, Henan Academy of Agricultural Sciences |
| 1.07 | Exploring the potential of mid infrared spectroscopy for monitoring peatland conditions
Dr Fereshteh Shahriari, RMIT University |
| 1.08 | Are the Grazing Soils of the Northern Rivers Deficient in Micronutrients?
Miss Fatima Anjum, Southern Cross University |
| 1.09 | Decomposition dynamics of direct seeded and puddled transplanted rice residues under rice wheat cropping system in north-west India
Dr Gaus Azam, DPIRD WA |
| 1.10 | Wetland natural values for water quality benefit in agricultural landscapes
Dr Mohammad Bahadori, DETSI |
| 1.11 | Carbon cycling in south-west Australian peatlands: climatic controls on peat formation and degradation
Dr Fabian Boesl, Edith Cowan University |
| 1.12 | Soil Organic Carbon Decomposition Across a 33-year Chrono-sequence of Environmental Plantings with Changing Temperature
Ella Crowley, University of New England |
| 1.13 | Effect of L-Glutamic acid and Urea Co-application on Wheat Root Development and Nitrogen dynamics in Western Australian Sandy Soils: a Column leaching study
Nicolas Farias Rabelo, Murdoch University |
| 1.14 | Building carbon-rich, microbially diverse soil in perennial orchard systems
Jessica Fearnley, DPIRD NSW/UTAS |
| 1.15 | Distinct Soil-type-Depth Specific mechanisms mediate Carbon and Phosphorus Coupling in Tropical soils
Dr Mohsin Mahmood, Shanxi Agriculture University Taiyuan P.R China |
| 1.16 | Effects of land use change to arable cropping on carbon dioxide emissions from two contrasting humic soils of kwazulu-natal
Dr Ntwanano Moirah Malepfane, Tshwane University of Technology |

Monday 2 November Poster Presentations

1.17	Biochar -fertiliser composite enhances nutrient use efficiency in rice Dr Shamim Mia, University of New England
1.18	Biochar-coated urea slows down nitrogen release and improves nitrogen use efficiency in maize Dr Shamim Mia, University of New England
1.19	Microbial biomass estimation – the effect of drying at 40°C on carbon extraction Miss Annabelle Naylor, University of New England
1.20	Clay-Amended Composts: A Pathway to Better Soil Fertility and Wheat Yield Zahra Nizbat, The University of Western Australia
1.21	Insensitivity of Soil Carbon Measurement Uncertainty to Sampling Density in Homogeneous Rangelands Stratified Using Digital Soils Mapping: An Evaluation using the Carbon Farming Methodology Robert Crossley, Carbonlink
1.22	Behaviour of soil organic carbon fractions isolated from different physical fractionation techniques Prakash Paneru, University of New England
1.23	Evaluating nutrient, pesticide, and sediment loss pathways in a banana crop Bronwyn Masters, Department of Environment, Tourism, Science and Innovation
1.24	Soil Organic and Inorganic Carbon Cycling in Enhanced Rock Weathering Systems Emily Thong, Monash University
1.25	Equilibrium soil carbon stocks under different environmental regimes to promote confidence in soil carbon sequestration programs Dr Yuxin Ma, NSW Department of Climate Change, Energy, the Environment and Water
1.26	Rain on the nutrient parade: Nutrient export from overland flows on grazed pastures observed under a rainfall simulator in the Fitzroy Basin, Queensland. Yan Lim, Queensland Department of the Environment, Tourism, Science and Innovation
1.27	Soil organic matter retention and turnover in subtropical perennial pasture systems of northeast NSW, Australia Evanna McGuinness, Southern Cross University
1.28	Wheat recruits beneficial rhizosphere microbes through root exudates to improve phosphorus acquisition Muhammad Ammar Javed, The University of Western Australia
1.29	From growth promotion to disease suppression: Contrasting functions of arbuscular mycorrhizal fungal communities in sorghum Manjeet Dhullm, Western Sydney University
1.30	Growth, P uptake and rhizosphere microbial community structure and function associated with root axes of canola and wheat in an acidic soil Nusrat Jahan, Curtin University Australia
1.31	Long term nutrient enrichment reshapes soil mycorrhizal communities in grasslands Bhavesh, Western Sydney University
1.32	Using near-infrared soil sensing to support soil chemistry measurement and spatial modelling for ACCU soil carbon projects Dr Meghan Barnard, Carbonlink

Tuesday 3 November Poster Presentations

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|------|---|
| 2.01 | Efficacy of co-application of soil amendments and commercial inoculants on rhizosphere bacterial communities and wheat growth.
Richard Ang, The University of Western Australia |
| 2.02 | Small pathways, high impact: fine sediment export from cattle trails in the Fitzroy catchment
Yan Lim, Queensland Department of the Environment, Tourism, Science and Innovation |
| 2.03 | Phosphorus fertilisers to enhance P availability in calcareous soils
Aasma Parveen, Adelaide University |
| 2.04 | Beyond urea: formulation effects on wheat performance
Manika Rani Debnath, University of Western Australia |
| 2.05 | Regenerative agriculture in the Australian livestock, cropping and horticultural sectors: understanding farmer perceptions, practices and goals to inform a useful definition
A/ Prof Hanabeth Luke, Murdoch University |
| 2.06 | Recovery of soil condition near watering points under private land conservation in Australian rangelands
Kate Matthews, Flinders University |
| 2.07 | Fertilization strategy and aridity reshape soil biotic interactions and their links to nutrient availability across Australia
Kedharnath Reddy Pengani, Western Sydney University |
| 2.08 | Soil pH drives inorganic N speciation and restructures free-living nematode food webs under N addition
Stephen Ahenda, Murdoch University |
| 2.09 | Commercial organic fertilisers and potting mixes as a potential source of antibiotic resistance elements
Wafa Al Saidi, The University of Western Australia |
| 2.10 | Closing the Research - Adoption Gap: Participatory demonstration sites driving soil practice change in vegetable systems
Jesse Clune, RMCg |
| 2.11 | Soil Water Infiltration Dynamics in Australia's Southern Broadacre Cropping Systems
Kuume Benjamen Pendapala Enguwa, Southern Cross University |
| 2.12 | Isolation and Use of Bacterial Inoculum for Accelerating Decomposition of Sargassum spp. Biomass for Organic Fertilizer Production
Peace Idakwoji, University of The South Pacific |
| 2.13 | Separated solids of food waste-derived digestate enhanced the growth of Kikuyu grass and altered rhizosphere bacterial community
Dr Sasha Jenkins, The University of Western Australia |

Tuesday 3 November Poster Presentations

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| 2.14 | Improving sandy soil health through integrated physical, chemical, and biological processes using organic and mineral inputs
Linda Ernawati Lindongi, The University of Western Australia |
| 2.15 | What Really Drives Terbutylazine Sorption Across Global Soils?
Hamid Sadati, Southern Cross University |
| 2.16 | Enhanced rhizobial survival through mitigation of cytotoxicity and oxidative stress by alginate-functionalized graphene oxide aerogels
Sumbul Saeed, Griffith University |
| 2.17 | Effect of different land use systems on selected soil properties in Kashere, Gombe State, Northern Guinea Savanna
Mr Umar Saleh Federal University of Kashere Gombe State Nigeria
Prof Askira M. S., Federal University of Kashere Gombe State Nigeria |
| 2.18 | Variability of soil physical properties and extractable micronutrients under different land uses and depths at the Teaching and Research Farm, Federal University of Kashere, Nigeria
Prof Askira M. S., Federal University of Kashere Gombe State Nigeria |
| 2.19 | Assessment of Long-Term Soil Nutrient Changes in some selected Soils of Upolu, Samoa
Dr Viliame Savou, The University of the South Pacific |
| 2.20 | Soil biodiversity and trophic reassembly shape ecosystem multifunctionality under drought and heatwave
Akhter Hossain, Western Sydney University |
| 2.21 | Spatial Assessment of Soil and Water Conservation Effects on Soil and Ecosystem Service Trade-offs in Sloping Citrus Orchards
Veronica Tan, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences |
| 2.22 | The bean microbiome for better soil and plant health
Megan Williams, University of Tasmania |
| 2.23 | Use of Low-Cost Sensors for Monitoring Soil Condition Following Landscape Rehydration
Prof Vanessa Wong Monash University |
| 2.24 | Microplastics in Australian Plastic-Mulched Soils
Md Mehedee Hasan, Griffith University |
| 2.25 | Exploring drought-tolerant rhizosphere bacteria from Australian grass species for turfgrass management
Aroona Saleem, School of Science, Edith Cowan University |

Wednesday 4 November Poster Presentations

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|------|--|
| 3.01 | Large rhizosheath on wheat (<i>Triticum aestivum</i>) enhance root growth, diverse bacterial communities, and grain yield when grown in acidic soil with a high Al³⁺ content.
Huyen Pham, The University of Western Australia |
| 3.02 | Barley Root and Shoot Response to Low Phosphorus and Acidity Stress
Puja Aryal, The University of Western Australia |
| 3.03 | Addressing residual and newly induced constraints in post amelioration sandy soils
Alex Busch, Adelaide University |
| 3.04 | Soil, landscape and hydrological controls on waterlogging in SWWA duplex soils: a case study at UWA Ridgefield Farm
Ethan Chuah, The University of Western Australia |
| 3.05 | Testing Innovative Lime Delivery Strategies for Acid Soil Amelioration Across Australian Cropping Systems
Dr Ramesha Jayaramaiah, Murdoch University |
| 3.06 | Subsoil amelioration treatment effects on soil physical properties in Victorian cropping soils
Dr Daniel Hendrie, Agriculture Victoria |
| 3.07 | Boosting lime effectiveness with humates: effects on subsoil properties and wheat response
Oshadi Hettithanthri, The University of Western Australia |
| 3.08 | Locally sourced biochar-assisted co-composting affects compost chemical characteristics and nutrient
Dori Kusuma Jaya, The University of Western Australia |
| 3.09 | Subsoil moisture status governs liming efficacy, nutrient availability, and crop root growth
Dr Shahin Rahman, Department of Primary Industries and Regional Development |
| 3.10 | Soil carbon trends over three cropping seasons under various soil treatments and farming systems in three WA sites
Dr Hassan Sardar, Murdoch University |
| 3.11 | Development of Sprayable Biopolymer Films for Soil Water Security in the WA Wheatbelt
Dr Samantha Viljoen, Murdoch University |
| 3.12 | Novel amendments targeting soil acidity reshape microbial community structure and promote wheat growth in a constrained acidic soil
Dr Kattie Weigh, NSW DPIRD |
| 3.13 | Understanding mechanistic basis of differential salinity stress tolerance in Australian canola germplasm
Sabari Thirumalai Samy, School of Biological Sciences, The University of Western Australia |
| 3.14 | Engineering Performing Soils: Novel Controlled Reactive Soil Amendments (CRSAs) restore function in Dispersive Sodic soils
Dr Lukas Van Zwieten, NSW DPIRD |

Wednesday 4 November Poster Presentations

- 3.15 Screening Rice Genotypes for Root Penetration through High Strength Soil**
Naznin Ahmed, School of Agricultural Science, Murdoch University
- 3.16 User friendly indicators for determining soil health in an agricultural soil in New Zealand**
Dr Sally Price, SJP Research
- 3.17 Sample size requirements for farm-scale estimation of soil organic carbon and its temporal change in Australian grain-growing regions**
Billal Hossen, University of Sydney
- 3.18 Don't Be a Lagger: Giving Soil Carbon Markets a Leading Edge**
Dr Lynne Macdonald, CSIRO
- 3.19 Now you see them, now you don't - a potential future outcome for High Soil Carbon Landscapes.**
Lawrence Wonhas, Department of Natural Resources and Environment Tasmania
- 3.20 Who will read the soil? Declining Soil Science Capacity and Risks to Australia's Agricultural Future**
Rachel Cavallo, Burnett Mary Regional Group
- 3.21 Identification and prioritisation of microplastics and their chemical additives in cropping systems**
Dr Mike Williams, CSIRO
- 3.22 Soil Security and Resilience for Off-season Tomato Production**
Adimaitoga Tauyavunilotu William Rabuku, Fiji National University
- 3.23 Compost-Driven Changes in Soil Microbial Communities and Antimicrobial Resistance Gene Profiles in Peri-Urban Horticultural Systems**
Kamrun Sheuly, The University of Western Australia
- 3.24 Long-term trends in wheat water use efficiency in South Australia (1961-2024)**
Andrea Stiglingh, Department for Environment and Water
- 3.25 Investigating antimicrobial resistance during cow manure composting with oil mallee biochar addition under varying temperature conditions**
Mr Gokhan Karadeli, UWA School of Agriculture and Environment, The UWA Institute of Agriculture, The University of Western Australia
- 3.26 Impacts of Organic Amendments on Soil Microbial Communities and Antimicrobial Resistance Gene Profiles in Pasture Soils**
Mostarak Munshi, The University of Western Australia
- 3.27 Heavy Metal Dynamics in Water Spinach (*Ipomoea aquatica*) under Industrial Soil Contamination: Screening, Health Risk and Mitigation Approaches**
Mahbuba Sultana Priti, School of Agricultural Science Murdoch University
- 3.28 Enhancing Resilience and Productivity of Taro-Based Cropping Systems through Optimized Nitrogen Inputs and Intercropping in Fiji.**
Vikashni Prasad, Fiji National University

With Thanks to the 2026 Organising Committee



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