



National Symposium
on Recycled Organics

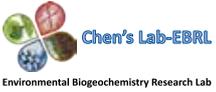
20 & 21 June 2019

Brisbane
Riverview Hotel

HOSTED BY:



ARUP



www.nstro.com.au

PRELIMINARY PROGRAM & INVITATION TO REGISTER



Your invitation to register for the 2nd National Symposium on the Beneficial Use of Recycled Organics

On behalf of Griffith University, we would like to invite you to join us for the 2nd National Symposium on the Beneficial Use of Recycled Organics.

This Symposium will bring together over 100 delegates from universities and government agencies, environmental consultants, land managers and farmers from around Australia, to present and discuss advances and research results regarding the use of recycled organic products to enhance agricultural production in degraded and marginal landscapes and also to enable the environmental rehabilitation of such areas.

The symposium will present keynote speakers, case studies, poster presentations, a networking dinner and a field day providing the opportunity to see first-hand organics recycling facilities and end-user's operations.

We look forward to seeing you in Brisbane in June.



Dr Maryam Esfandbod
Symposium Organising Committee Chair



Prof Chengrong Chen
Symposium Organising Committee Co-Chair



Background

In Australia, large volumes (> 20 M tonnes) of organic wastes are produced each year, including garden organics, forestry residues, municipal solid wastes, agricultural residues, biosolids, and timber.

Much of this organic waste can be viewed as a resource that can be recycled to treat degraded landscapes. Some of these recycled organics have been applied to agricultural lands, which reduce landfill, increase soil nutrients and organic matter, improve soil structure and sequester carbon. However, due to their diverse chemical, physical and biological nature, the improper application of recycled organics may lead to poor plant performance, environmental pollution and cause health concerns.

Organising Committee

- Dr Maryam Esfandbod, Griffith University
- Prof Chengrong Chen, Griffith University
- Dr Mehran Rezaei-Rashti, Griffith University
- Prof Andrew Ball, RMIT
- Dr Georgina Davis, Queensland Farmers Federation
- Martin Tower, Phoenix Power Recyclers
- Dr Rob Fearon, Qld Water

Key Themes

- **Raw Materials:** Source Material, Contamination
- **Technologies:** Composting, Anaerobic Digestion, Waste to Energy, Pelletisation, Value-adding
- **Markets and End-Users:** Use of bulk compost, Biosolids, Economic analysis of use of RO

Venue

Brisbane Riverview Hotel
Cnr Kingsford Smith Drive & Hunt Street
Hamilton QLD 4007

The Brisbane Riverview Hotel is situated overlooking the widest reach of the Brisbane River and is centrally located, only ten minutes from the Brisbane Airport and the City Centre and conveniently located to entertainment precincts such as Racecourse Road, Portside Brisbane Cruise Terminal, James Street and Fortitude Valley.

The hotel offers free onsite parking and Wi-fi for all guests and delegates along with 90 spacious, newly refurbished guest rooms.



Host Organisation



Griffith University was created to be a different kind of university - challenging conventions, creating bold new trends and pioneering solutions through innovative teaching and research. Its high-quality degrees are specifically designed to prepare students for the future and are developed in consultation with industry, based on cutting-edge research, and taught by Australia's most awarded teachers.

Since its beginning, Griffith has been deeply connected to the Asian region, environmentally aware, open to the community and industry focused. Always ahead of its time, Griffith introduced Australia's first degrees in a range of important areas, including modern Asian studies and environmental science, and students benefit from an extensive network of industry partners to gain the skills and confidence that employers want.

Ranking in the top 2% of universities worldwide, Griffith offers degrees in: architecture, construction and planning; business and government; criminology and law; education; engineering, IT and aviation; humanities, languages and social science; medicine, dentistry and health; music and performing arts; science and environment; and visual and creative arts. The university hosts 50,000 students across six campuses in South East Queensland including its Digital campus.

Visit: www.griffith.edu.au



Keynote Speakers

Dr Danielle Toáse

Principal Environmental Scientist, Environmental Restoration - ARCADIS

Dr Danielle Toáse is a Principal Environmental Scientist at Arcadis Australia Pacific and has experience in research, regulation, remediation contracting, technical advising and environmental consulting.

Danielle has a PhD in environmental geochemistry and has worked on a range of complex, high-profile contaminated sites across Australia and in Antarctica. Danielle's professional interests surround the assessment and remediation of contaminated sites, and the development of new or adaptation of existing remediation technologies.

Danielle has authored more than 10 peer-reviewed publications on environmental remediation, holds an Honorary Research position at Macquarie University and is currently a member of the Sydney ALGA branch committee.



Michael Burke

Director - Biofutures - Dept of State Development, Manufacturing, Infrastructure and Planning (DSDMIP)

Michael Burke is the Director of DSDMIP's Biofutures Sectoral Team where he is responsible for delivering the \$20 million Queensland Biofutures 10-Year Roadmap and Action Plan and the successful deployment of its programs. These include the \$5 million Biofutures Industry Development Fund; the \$4 million Biofutures Acceleration Program; and the \$4 million Biofutures Commercialisation Program.

He is also overseeing the implementation of two new resource recovery funding programs aimed at diverting and reprocessing waste in Queensland: the \$100 million Resource Recovery Industry Development Program and the \$5 million Waste to Biofutures Fund.

Michael has previously held senior policy and industry development roles within the Department of Agriculture and Fisheries for the intensive animal and broad acre cropping industries. His background is in aquatic animal husbandry where he spent 15 years in a research capacity at the Bribie Island Aquaculture Research Centre. Michael has a Master of Aquaculture and post-graduate degree in aquatic animal health.



Dr Lukas Van Zwieten

Senior Principal Research Scientist, Soils Unit - NSW Department of Primary Industries

Lukas Van Zwieten received a PhD from the University of Sydney in 1995. He is a senior principal research scientist with NSW Department of Primary Industries based at Wollongbar, and is an Adjunct Professor at both Southern Cross University (South Cross Plant Science) and Griffith University (Australian Rivers Institute). Lukas is a Program Leader for the Soils CRC. His research focuses on soil processes including C and N cycling, and how these relate to greenhouse gas emissions, contaminants in the soil environment, and unravelling microbial and chemical processes in the rhizosphere.

He is a 2018 Thomson Reuters Highly Cited Researcher with over 110 journal papers and 9000 cites. He received the 2016 NSW Premiers Award "Public Sector Science and Engineering" and is a Churchill Fellow. He is a member of Soil Science Australia.



THANK YOU to our Sponsors

Thank you to the following organisations for their generous support of the Symposium

Government Partner



Department of Environment and Science

Our department recognises the enormous value a clean environment, innovative society and economy, and vibrant culture makes to our lives.

As a diverse organisation, the department brings together key areas of work to achieve our objectives for a better Queensland.

Visit: www.des.qld.gov.au

Dinner Sponsor

ARUP

Arup is an independent firm of designers, planners, engineers, consultants and technical specialists, working across every aspect of today's built environment. Together we help our clients solve their most complex challenges – turning exciting ideas into tangible reality as we strive to find a better way and shape a better world.

Visit: www.arup.com.au

Platinum Partner



Rocky Point is a strong, sustainable and diverse company with focus areas across farming, retail and bulk garden products, revegetation and renewable resources. Our principle is to Keep Growing; our people, our customers, our business dealings and our sustainability mindset.

At Rocky Point we believe a plant diet is just as important as our own. That's why we craft high quality, nutrient rich, custom composts, soils and potting mixes ensuring your plants are getting exactly what they need. To guarantee this quality we oversee every part of the creation, starting at the very beginning with the raw materials.

Visit: www.rockypoint.com.au

Gold Partner



ALS is a leading testing, inspection, certification and verification company head quartered in Brisbane, Australia. Servicing multiple industries globally, ALS employs over 14,000 staff in over 65 countries. For more than 40 years, ALS has been providing services to clients around the world, helping them make better more informed decisions.

Visit: www.alsglobal.com/au

Silver Partners



The Soil CRC (CRC for High Performance Soils) is bringing together scientists, industry and farmers to find practical solutions for Australia's underperforming soils. It aims to enable farmers to increase their productivity and profitability by providing them with knowledge and tools to improve the performance of their soils. It is the biggest collaborative soil research effort in Australia's history, with 39 Participants contributing both cash and in-kind contributions.

Visit: www.soilcra.com.au



Queensland Urban Utilities is one of the largest water distributor-retailers in Australia. Our people ensure that a population of more than 1.4 million South East Queenslanders have access to world-class drinking water, recycled water and sewerage services. Our customers are our priority, and we work hard to find new ways to meet the evolving needs of our communities.

Visit: www.urbanutilities.com.au



HZI is a global leader in thermal and biological energy from waste, acting as an engineering, procurement, and construction contractor delivering complete turnkey plants and system solutions for energy recovery from waste. HZI's innovative and reliable waste solutions have been part of over 600 reference projects delivered since 1933.

Visit: www.hz-inova.com



Our products and solutions serve the research community and analysts in diverse fields such as chemistry, molecular biology, medical science environmental analysis and industry. It has resulted in our leadership in spectroscopy, chromatography, mass spectrometry, environmental analysers, medical systems, aircraft equipment, semiconductors and flat panel display equipment. Our Excellence is proven in the Science, Shimadzu.

Visit: www.shimadzu.com.au

Symposium Supporters



Preliminary Program - Thursday 20 June 2019

0800 REGISTRATION, TEA AND COFFEE

OPENING PLENARY

0830 *Welcome and housekeeping*
Dr Maryam Esfandbod, Chair of NSRO

0840 *Official welcome*
Duncan Pegg MP, State Member for Stretton

0850 *The future of organic waste management in Queensland*
Tony Roberts, Dept. of Environment & Science
The Queensland Government is developing an organic waste action plan to complement its new Waste Management and Resource Recovery Strategy. The session will explore the challenges and opportunities of recycling organic waste, and how the plan will help to grow the organic recycling industry in Queensland and support the state to move to a more circular economy.

0905 *Action Plan for Organics*
Rick Ralph, WRIQ

0915 *Introduction of ANROWM*
Prof Chengrong Chen, Chair of ANROWM

0920 *KEYNOTE PRESENTATION: Queensland's Biofuture*
Michael Burke, Department of State Development
Biofutures is an industrial biotechnology and bioproducts platform.

0945 *KEYNOTE PRESENTATION: An industry perspective on the assessment and management of emerging contaminants*
Dr Danielle Toáse, ARCADIS
Emerging contaminants are contaminants of potential concern that have only recently been identified as presenting a public health risk but remain understudied and in some cases are still not regulated. This presentation focuses on emerging contaminants such as per and poly-fluoroalkyl substances, particularly in recycled organics.

1015 MORNING TEA BREAK

RAW MATERIALS

1045 *A spatial view of Australia's biomass resources*
Kelly Bryant, Department of Environment and Science
The Australian Biomass and Bioenergy Assessment (ABBA) is an Australia-wide assessment of biomass resources and biomass resource supply chains. The project is collecting and publishing information about the location, amount, current usage and projected future demand of all types of biomass across Australia.

1105 *A tool kit for inactivating pathogens during composting*
Dr Muriel Lepesteur, EPA Victoria
Numerous parameters may influence pathogen inactivation during composting. Using examples, the timing and mechanisms of pathogen inactivation throughout the composting process will be revealed and the implications for process management and future research needs identified.

1125 *Nano-stabilization of recycled organics to enhance carbon sequestration*
Nanthi Bolan, The University of Newcastle
Applying recycled organics including biosolids, manures and composts to agricultural land could increase carbon storage in soils and contribute significantly to the reduction of greenhouse gas emissions. Recently, there have been increasing interests in the conversion of these recycled organics into biochars in order to reduce the rate of decomposition, thereby enhancing carbon sequestration in soils.

1145 *Do water utilities treat Biosolids as a waste or resource?*
Peter Donaghy, Queensland Urban Utilities
A new approach to biosolids production is required to ensure the continued sustainable reuse of biosolids. Moving away from a compliance approach to a production facility approach can enable utilities to create value by producing what the customer wants.

1205 *Returning Nutrients to Our Soils*
Luke Jacovides, SESL Australia
This presentation provides an overview of the successful and less-successful waste to land application methodologies and the scientific approach in determining the potential benefits (and drawbacks) of land application.

1220 *Questions and discussion*

1230 LUNCH BREAK & POSTER PRESENTATIONS

TECHNOLOGIES

1315 *Organic Waste to Watts in San Luis Obispo, California*
Dr Marc Stammach, HZI Australia
A new HZI Kompogas® plant opened in North America in 2018. The plant digests green & food waste to generate biogas and high-grade compost as well as liquid fertilizer. The plant converts the biogas into 24/7 carbon-neutral electricity and contributes to meeting California's Greenhouse Gas reduction and Organics Diversion mandates.

1335 *Realising the benefits of Organic Compost - An insight into the research Rocky Point is doing in this field*
Mark Rayner, Rocky Point
In collaboration with Environmental Biogeochemistry Research Lab at Griffith University, Rocky Point has been conducting trials looking at the impact of different compost amendments on soil health and the cane yield in sugarcane production. Application of both conventional composting and anaerobic digestion techniques will be introduced.

1355 *Thermal hydrolysis at Urban Utilities past and future experiences*
Mark Hordern, Qld Urban Utilities
Thermal hydrolysis pretreatment (THP) with anaerobic digestion is used by Queensland Urban Utilities for biosolids stabilisation. A summary of the studies will be presented, including optimisation of THP reaction temperature, influence of THP reaction time, hydrogen sulphide risks and future studies.

1415 *Overview of the first organic resources recovery centre in Hong Kong*
Dr Simon Tsang, Ove Arup and Partners (Hong Kong)
Organic Resources Recovery Centre Phase 1 is the first organic waste treatment facility in Hong Kong. The food wastes collected are treated by proven technologies configured as mechanical pre-treatment followed by anaerobic digestion and composting to convert organic wastes to valuable resources (i.e. biogas and compost).

1435 *Questions and discussion*

1445 AFTERNOON TEA BREAK

MARKETS & END-USERS

1515 *KEYNOTE PRESENTATION: Use of Recycled Organics in Modern Agriculture: What long term studies have found and identification of opportunities*
Lukas van Zwieten, NSW DPI & Soil CRC
While organic amendments have been used to help produce food for many thousands of years, an understanding of the mechanisms by which they achieve this remain largely unresolved. Recent published literature has investigated long-term results from around the world, and these will be presented with a summary of key opportunities to maximise beneficial effects.

1535 *Overcoming "barriers to adoption" to build sustainable markets for an increasing supply of organics*
Andrew Dougall, Sustainability Victoria
The increasing diversion of organics from landfill is resulting in an increasing supply of recycled organics. To build a market for this supply we need to overcome farmer "barriers to adoption" of recycled organics. This paper describes these barriers and outlines efforts to overcome them in Victoria.

1555 *Understanding nature's blueprint and working with it*
Christopher Cameron, Rockmin Composts
This presentation deals initially with a quick look at some common problems faced by many farmers, then going into detail about the mechanism developed to directly address nature's needs and the results to date of so doing!

1615 *Effect of subsoil compost amendment on soil chemical and biochemical processes in Maryborough Cane field*
Xiangyu Liu, Griffith University
Organic amendments are mostly carried out on the soil surface layer to mitigate the decline in soil health, however, the effects of subsoil application of composts on soil carbon and nutrient dynamics and plant performance are largely unknown. This work is looking into the key benefits of subsoil organic amendments.

1635 *PANEL DISCUSSION: Organic Waste or Wasted Gold*
Facilitated by: **Joyanne Manning**, ARUP

1715 SYMPOSIUM CLOSE

1900 DINNER

Field Day - Friday 21 June 2019

Attendees should assemble in the foyer of the Brisbane Riverview Hotel at 9.00am for a 9.30am sharp departure. The bus will return at approximately 3.30pm, for those flying out of Brisbane Airport on Friday afternoon, the bus will make an additional stop at the Brisbane Domestic Airport at approximately 4.15pm

All participants are required to wear long pants and enclosed, flat shoes. Lunch and snacks will be provided. We recommend that you bring a hat and water bottle. Host sites reserve the right to refuse entry for commercial reasons. Registrants will be advised in advance if they are not allowed entry to a particular site.

The Field Day will be hosted by **Prof George Mellick - Professor of Neuroscience and Head of the School of Environment and Science, Griffith University**

ROCKY POINT

Established in 1949, Rocky Point specialises in supplying growing media to Horticulture, Agriculture, Revegetation and the Home Garden sectors. On site at our 70-acre facility we produce all of our own compost, along with the preparation and batching of potting mixes, soils, soil conditioners and mulches. All blends are strictly trialled and tested on site as well as externally through a NATA accredited laboratory.

Our on-site bagging and processing plant packages the growing media into bags, ready to be delivered throughout Australia to our network of retailers. Bulk products are delivered by our own fleet of truck and trailers through Queensland and New South Wales. Our vision is to keep growing a healthy and sustainable future for generations to come.



PHOENIX POWER RECYCLERS

Phoenix is Queensland's first purpose built environmentally controlled composting facility. The facility features aerated floor composting tunnels in a negative pressure environment where odour emissions are minimised and the conditions for composting are optimised. This makes it ideally suited to accept FOGO and food wastes of all kinds.

Phoenix is also working to develop markets in the agricultural community, through market education strategy forming partnerships with waste producers from the food production and biosolids industries to develop products that are in increasing demand for the health of agricultural soils.

Dinner

7.00pm – late, Thu 20 June 2019
Hamilton Ballroom, Brisbane Riverview Hotel
Dress: Smart Casual

Sponsored by:

ARUP



The Conference Dinner is an excellent way to strengthen your links with colleagues, peers and industry professionals.

Dinner MC Prof Rebecca Ford – Dean (Research) for the Sciences Group, Griffith University
Dinner Speaker Dr Beth Woods OAM, FTSE – Director-General, Department of Agriculture and Fisheries
Music by Malaysian-born singer/songwriter, Nora Sahak

Accommodation

Brisbane Riverview Hotel is pleased to offer guests attending the conference a special accommodation rate of \$155 per room per night in Executive Rooms OR \$175/night per room per night in Riverview Executive Rooms.

Full Buffet Breakfast can be booked at a special rate of \$25 per person and is served daily in the Plates Restaurant from 6am – 10am.



Please note these rates are available until 01 June 2019 after which rooms can be booked at the best available rate of the day.

- To book please contact the hotel at 07 3862 1800 or res.rv@viewhotels.com.au and quote folio #728159
- To book online visit our website at <http://viewhotels.com.au/brisbaneriverviewhotel/> and enter 728159 in the rate access code/ corporate code box.

General Information

How to Register

Registration can be completed through either the online booking process (requires payment by credit card) or using the fax/mail back form.

Online Registrations

Visit the conference website www.nsro.com.au/register. The process takes approximately 5 minutes and requires a credit card to complete.

Fax/Mail Back Registrations

You can use the registration form included in this brochure or visit www.nsro.com.au/register to download a copy of the form. If registering a group please ensure that each delegate completes a registration form individually.

Payment

Registration will not be confirmed until payment is received in full. All fees are in Australian Dollars \$AUD and are inclusive of 10% Goods and Services Tax (GST)

Group Discounts

A group discount of 10% is applicable for groups of 5 or more delegates from the same organisation who register at the same time.

Cancellations

Cancellation of your registration must be advised in writing to nsro@revolveservices.com.au. Cancellations received on or before 1 May 2019 will receive a full refund less a \$75 administration fee, cancellations received after this date will not receive a refund, however, we will accept delegate name changes at any time leading up to the event. Non-payment does not constitute cancellation.

Parking

The Brisbane Riverview Hotel offers complimentary onsite and off-street parking for hotel guests and event attendees.

Registration Packages & Inclusions

Full Registration

Early	before 22 May	\$250
Standard	23 May - 12 Jun	\$295
Late	13 - 21 Jun	\$340

Includes

- Day Registration (presentations - Thu 20 Jun 2019)
- 1 x Symposium Dinner Ticket (Thu 20 Jun 2019)
- 1 x Tour Ticket (Fri 21 Jun 2019)
- Access to symposium papers

Day Registration - Thursday

Early	before 22 May	\$100
Standard	23 May - 12 Jun	\$145
Late	13 - 21 Jun	\$190

Includes

- Day Registration (presentations - Thu 20 Jun 2019)
- Access to symposium papers

Optional Tickets

- Symposium Dinner Ticket (Thu 20 June 2019) - \$110 each
- Tour Ticket (Fri 21 Jun 2019) - \$60 each

Symposium registrations cannot be shared. Strictly one delegate per registration only.

Dress Code

The dress standard for the event is business/smart casual including sessions and evening functions.

Long pants and enclosed shoes must be worn for the Field Day on Friday 21 June 2019.

Disclaimer

Every effort has been made to present all the information contained in this brochure as accurately as possible. The organisers reserve the right to change, without notice, any or all of these details.

Students

For student registration please email nsro@revolveservices.com.au.

Insurance

Registration fees do not include insurance of any kind. It is strongly recommended that all delegates take out their own travel and medical insurance before attending the event. The AIEN will not take any responsibility for any participant failing to insure.

Privacy

In registering for this event relevant details may be incorporated into a delegate list for the benefit of all delegates (name, organisation and title) and may be made available to parties directly related to the event including Griffith University and sponsors (subject to conditions). If you do not wish to be included in the delegate list please email nsro@revolveservices.com.au.

Photography/Recording

By registering for the 2nd National Symposium on the Beneficial Use of Recycled Organics you consent and grant permission to Griffith University, its agents and others working under its authority, to take and to have full and free use of video/photographs containing your image/likeness. These images and recordings may be used for promotional, news, online/multimedia, research and/or educational purposes by and for Griffith University. Copies of the event photographs will be made available to the attendees after the event.

Contact

If you have any questions about the event or registration please contact the conference secretariat:

rEvolve Services
T: 1300 421 065
E: nsro@revolveservices.com.au



REGISTRATION FORM

2nd National Symposium on the Beneficial Use of Recycled Organics
20 & 21 June 2019 | Brisbane Riverview Hotel
T: 0400 449 100 | E: nsro@revolveservices.com.au | W: www.nsro.com.au

Please complete one form for each attendee. Symposium registrations cannot be shared, strictly one delegate per registration only.

DELEGATE INFORMATION

Title Mr Ms Dr Prof Cr

Given Name

Surname

Position

Organisation

Postal address

City

State

Postcode

Phone

Mobile

Email

Billing email

Dietary/special requirements (please specify)

What sector of the industry do you work in?

Compost Producer Equipment Supplier

End-User Local Govt

Consulting State/Federal Govt

Soil Scientist Academia/Research

Other

REGISTRATION

PLEASE INDICATE YOUR SELECTION(S) BELOW

All amounts include GST. Early registration discounts end 22 May 2019. Late registration fees apply from 13 June 2019

FULL REGISTRATION

<input type="checkbox"/>	EARLY	STANDARD	LATE
	\$250	\$295	\$340

Includes:

- Day Registration (presentations - Thu 20 Jun 2019)
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- 1 x Tour Ticket (Fri 21 Jun 2019)
- Access to symposium papers

OR SELECT YOUR ITEMS INDIVIDUALLY

DAY REGISTRATION - THURSDAY

<input type="checkbox"/>	EARLY	STANDARD	LATE
	\$100	\$145	\$190

Includes:

- Day Registration (presentations - Thu 20 Jun 2019)
- Access to symposium papers

OPTIONAL TICKETS

SYMPOSIUM DINNER TICKET Thu 20 June 2019
Please indicate the number of tickets @ 110 each

TOUR TICKET Fri 21 June 2019
Please indicate the number of tickets @ \$60 each

\$ _____ **REGISTRATION TOTAL**

PAYMENT

On receipt of your completed form the Symposium Secretariat will issue a tax invoice with payment instructions. Payment may be made by electronic functions transfer (EFT) or by credit card via the link included on the invoice.

Payment Method Credit Card EFT

CREDIT CARD PAYMENT

Card Type Visa MasterCard AMEX

Card Number

Expiry Date CCV

Cardholder Name

Signature

TERMS & CONDITIONS

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SEND YOUR FORM TO

Upon completion, please email your registration form to nsro@revolveservices.com.au

REGISTRATION ENQUIRIES

Phone 0404 517 058 or email emma@revolveservices.com.au

A confirmation and tax invoice will be emailed to you within 2 working days of receipt.