



# Soil Quality Indicators in LCA Roundtable

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The **Australian Life Cycle Assessment Society (ALCAS)**

This event was made possible with the support of:

**GRDC** Grains Research & Development Corporation  
Your GRDC working with you

8-9 April 2014  
CSIRO Black Mountain Campus, Canberra



# Collaborators

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- Event host–ALCAS



- Project partner–CSIRO Land and Water



- Event sponsor–GRDC



- Event organiser–Life Cycle Strategies





# Who is ALCAS?

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- Australian Life Cycle Assessment Society

- Australia's peak body for any environmental, social and economic life cycle related issues
- Promotes LCA as the central method for environmental assessment and decision-making throughout the Australian economy
- Members: LCA practitioners and organizations that use or are interested in LCA
- Manages AusLCI – a national database for life cycle inventories

- AusLCI Agriculture Sector Working Group





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# THE 8TH LIFE CYCLE CONFERENCE

## Pathways to Greening Global Markets

**ALCAS** AUSTRALIAN LIFE CYCLE ASSESSMENT SOCIETY  
An LCA and carbon foot printing conference hosted by the Australian Life Cycle Assessment Society



### Subscribe to ALCAS Newsletter

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### LATEST NEWS

**BIO-BASED PRODUCTS EDUCATES THE SECTOR**  
ALCAS recently delivered a national information session roundtable focussing on Bio-based Products and Life Cycle Assessment. The Roundtable, held on the 19th of February 2014 at the Telstra Conference Centre...  
[MORE »](#)

**ALCAS ROUNDTABLE AND WEBINAR: SOIL QUALITY INDICATORS IN LCA**  
When: Tues 8th – Wed 9th April, 2014. Where: CSIRO Land and Water, Black Mountain Campus, Christian Rd (off Clunies Ross St), Canberra. This 2-day workshop (and webinar) will explore indicators and...  
[MORE »](#)

## Roundtables

ALCAS Roundtables provide a forum for discussing a specific LCA topic in detail. Roundtables generally span either a half or full day, with guest presentations on varying aspects of the topic.

Roundtables are an excellent opportunity to gain a greater understanding on the topic, discuss individual perspectives or research and make links with others to share data and progress on LCA developments.

**Soil Quality Indicators in LCA**  
**CSIRO Land and Water, Black Mountain Campus, Christian Rd (off Clunies Ross St), Canberra**

The next Roundtable will be held on on Tuesday/Wednesday 8/9 April 2014 in Canberra and via webinar.



# Membership

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## **Benefits of ALCAS membership include:**

- Free or discounted access to ALCAS events including Roundtables and LCA conferences.
- A quarterly ALCAS newsletter covering local and international LCA developments and activities.
- 50% discount on subscriptions to the International Journal of Life Cycle Assessment.
- Assisting in the advancement and application of LCA and associated tools towards a more sustainable society.
- Participating in the Australian LCA community and in the national and international development of LCA, including related environmental tools and methods
- Join online at [www.alcas.asn.au](http://www.alcas.asn.au) or contact ALCAS Treasurer [Treasurer@alcas.asn.au](mailto:Treasurer@alcas.asn.au)



A decorative graphic on the left side of the slide, consisting of two overlapping semi-circles. The top one is a darker teal color, and the bottom one is a lighter teal color.

# Housekeeping

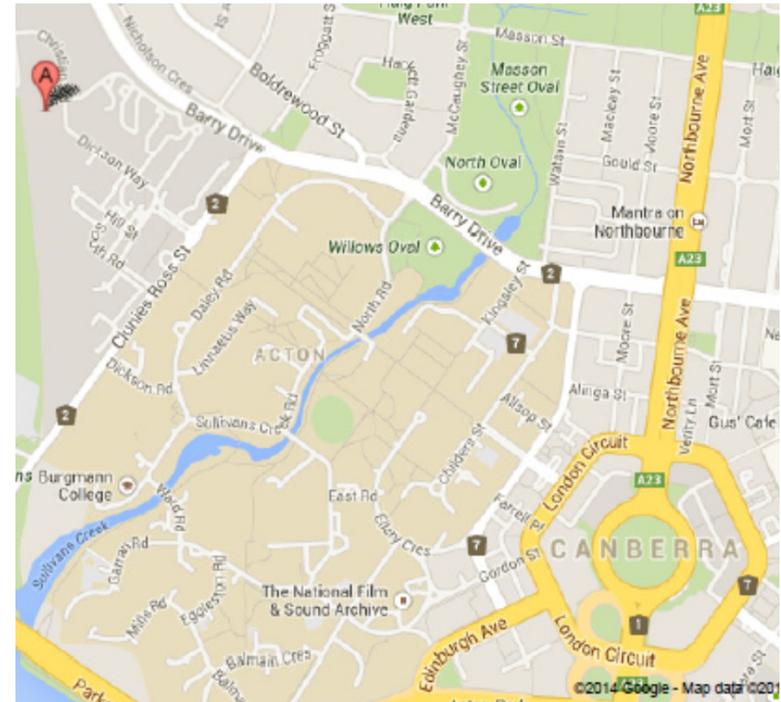
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- Amenities
- In an emergency...
- Attendance sheet
- Evaluation form
- Presentations and webinar recording on ALCAS website ([www.alcas.asn.au/events/roundtables](http://www.alcas.asn.au/events/roundtables))
- Tea and lunch arrangements

# Housekeeping cont.

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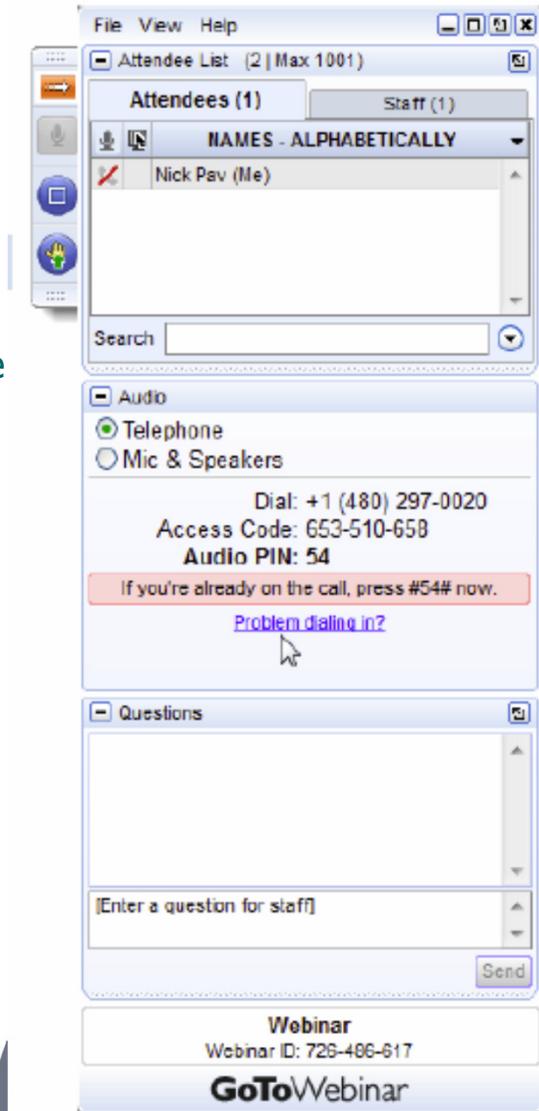
- Group dinner for this evening
  - Chez Frederic from 7:00  
4/14 Lonsdale St



- LCAZ Conference – call for papers extended to Wed 16<sup>th</sup> April

# GoToWebinar

- Participants muted
- No visual of participants
- How to interact
  - Request to speak by 'Putting your hand up' on the Grab Tab.
  - Post a question on the Question Pane
  - Send a text message to +61 (0)478 220551
- Webinar recordings on ALCAS website ([www.alcas.asn.au/events/roundtables](http://www.alcas.asn.au/events/roundtables))





# Aims and Outcomes

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- Aims:

- Review indicators for representing soil issues in the context of LCA
- Consider how inventory can be developed for their integration into LCA

- Outcomes:

- Scope useful indicators in the Australian context
- A plan for further development of indicators through CSIRO projects
- Documented in a conference poster / paper



# Program – Day 1 (Indicators)

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- 11:00-12:30      Setting the scene (Sandra Eady /Tim Grant)
- 12:30-1:00        Lunch (here)
- 1:00–3:00        International developments (Miguel Brandão)
- 3:00–3:30        Afternoon tea
- 3:30–5:00        Overview of soil indicators (Mike Grundy)
- Soil compaction (Sandra Eady)
- Soil organic matter (Ryan Farquharson)
- Soil erosion (Adrian Chappell)
- Soil contaminants (Rai Kookana) – by webinar
- Soil biota (Gupta Vadakattu) – by webinar
- Soil acidification (Mike Webb)
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- 5:30–6:30        Web hook-up with Europe, Asia



# Program – Day 2 (Inventory)

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- 8:00–9:00 Web hook-up with NZ, US, Canada
- 9:00-9:30 Summary of overseas engagement (Marguerite)
- 9:30–10:30 Models for generating inventory  
Soil carbon (Raphael Viscarra-Rossel)  
Soil organic matter (Ryan Farquharson, Jeff Baldock, Enli Wang)  
Carbon Credentials Project (Keryn Paul)
- 10:30-11:00 Morning tea
- 11:00–12:30 Models for generating inventory (cont.)  
Soil compaction (Sandra Eady)  
Soil erosion (Adrian Chappell)  
Soil contaminants (Rai Kookana)  
Soil biota (Andrew Bissett)  
Soil acidification (Mike Webb)
- 12:30-1:30 Lunch (Discovery Centre café)
- 1:30–3:00 Discussion session (Marguerite)



# Summary of overseas engagement

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- Hook-up with Europe
  - Christel - For French grape growing, interest in integrating compaction, erosion, organic matter, heavy metal (Cu). But only just starting
  - Nana (Scotland) aiming to use soil indicators to inform common agricultural policy in Europe
  - Marion (Deloitte, France) project using 7 soil indicators, some quantitative, some qualitative



# Summary of overseas engagement

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- Hook-up with NZ, North America
  - Brian (Ag & Agri-food Canada) working quite extensively on soil indicators, and utilising mapped data
    - Soil organic matter (both for soil function and C accounting)
    - Erosion
    - Cont
    - Contaminants (heavy metals)
    - SOM recognized as important proxy indicator, however some issues
      - SOM state versus change in SOM
    - For erosion, erosion state is based on risk of erosion expressed as a rate. Compare this with an acceptable level of erosion
  - Apart from the carbon story, Not yet integrating into LCA
  - Question of different pools - tricky