

Sunday 15 September 2024 Half Day Workshops

Time: 1:00 PM – 5:00 PM

Venue: Adelaide Convention Centre

Registration Fees: \$345 inclusive GST

Workshop – 6 - ASbestos-IN-Soil (ASBINS) Master Class

About this Master Class

Asbestos is a contaminant that differs from most others. In particular, its toxicology is such that it primarily affects humans rather than being a risk to the environment. For humans, the main exposure pathway is through inhalation. Inhalation of asbestos fibres can produce a range of lung-associated diseases, including cancers, sometimes resulting from only low levels of exposure.

ASbestos-IN-Soil (ASBINS) is also a unique kind of contamination. It usually occurs discretely in an impacted area and its degradation over time is slow with very low flux rates.

ASBINS can migrate through physical disturbance and this is when its dangerous fibres can be released.

While asbestos in air measurement has been undertaken by occupational hygienists for more than fifty years (since 1969) the measurement of ASBINS has only made significant international progress since 2008 (by Frank Swartjes and Peter Tromp) and in Australia since 2009 when the Western Australian Department of Health published its first edition of the “Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia”, subsequently revised in 2021.

This workshop will summarise the basis of the ASBINS assessment, discuss why the different approach was necessary and present scientifically-defensible methods for derivation of site-specific threshold ASBINS values. Recent developments in ASBINS assessment and management will also be presented by industry practitioners and a case study will be discussed.

To achieve greatest benefit, some pre-masterclass reading and listening are recommended (see below).

Workshop attendees will receive:

- 3.5 hrs of CPD points.
- Link to the workshop papers including pre-reading and pre-listening and post-workshop summary and recommendations.
- Presentation slides (in secured PDF).
- a downloadable online resource folder on USB and Cloud-link.

Program

Time	Speaker	Speaker/Topic
1:00 -1:30 PM	-	Registration
1:30- 1:40 PM	Ravi Naidu	Introduction to ASBINS Master Class and Training Objectives
1:40 -2:00 PM	Ross McFarland	What is ASBINS and Why Does it need to be Treated Differently from Asbestos in Structures?
2:00-2:20PM	Pierina Otness	Risk-based Threshold Values for ASBINS – from where and by how did the 2013 amendment to the 1999 ASC NEPM and 2009/2021 WA DoH Guidelines derive their generic values and what are the challenges and uncertainties associated with these generic values.
2:20- 2:50PM	Pierina Otness	How to Derive Site-specific ASBINS (Tier 2) Values
2:50 – 4:45 PM (including break at 3:00PM)	Girish Choppala, Ross McFarland, Chris Kennedy (remotely) Pierina Otness	ASBINS Monitors, Tools and Their Application (Case Study) <ul style="list-style-type: none"> • Static Air Monitors (SAMs) • Personal Air Monitors (PAMs) • Real-Time Monitors (ALERTPro) • Activity Based Survey (ABS) • Qualitative and Semi-Quantitative Analytical Tools: <ul style="list-style-type: none"> ○ PLM/PCM ○ SEM/TEM/XRD • Quantitative Analysis (for risk assessment) <ul style="list-style-type: none"> ○ ASC NEPM / WA Doh Methods ○ Representative Sampling (10L and 500mL samples?) • Uncertainties and their management Case Study
4:45- 5:00 PM	Ross McFarland / Ravi Naidu	Open Discussion/Next Steps

Essential Pre-reading (skim these when you can):

- 2013 amendment of 1999 ASC NEPM – Section 4 on Asbestos. See: [F2013C00288VOL02 \(8\).pdf](#)
- Addison, J., Davies, L.S.T., Robertson, A., and Willey, R.J. 1988. The Release of Dispersed Asbestos Fibres from Soils Technical Memoranda, TM/88/14, Institute of Occupational Medicine: 50, Edinburgh, UK. See: [CD1.3.MS3 IOM 1988. The release of dispersed asbestos fibres from soils Addison J Davies LST Robertson A Willey RJ Historical Research Report TM 88 14 Institute of Occupational Medicine Edinburgh 1988.pdf \(publishing.service.gov.uk\)](#)
- Swartjes F A and Tromp P C, 2008, A Tiered Approach for the Assessment of the Human Health Risks of Asbestos Soils, Soil & Sediment Contamination, 17:137-149. See: <https://doi.org/10.1080/15320380701870484>
- 2021 WA DoH Guidelines for the Assessment, Remediation and Management of Asbestos Sites in Western Australia. See: [Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia, WA Guidelines \(health.wa.gov.au\)](#)

Essential Pre-Listening (listen when you can in following recommended order):

- <https://belowthesurfacepodcast.buzzsprout.com>
 - **Especially #9 (The Amazing Pierina - 49 minutes)**
 - **#1 (The Mulch Mishap – 38 minutes)**
 - **#2 (Mulchgate – 41 minutes)**
 - **#10 (The Waste Windfall – 38 minutes)**

Presenters



Ross McFarland

AECOM Chief Environmental Scientist,
Australia & NZ

Ross is AECOM's Chief Environmental Scientist for ANZ. He is a Certified Contaminated Land Practitioner (EIANZ SC41077) as well as national Asbestos Removalist Certification. Ross is a certified contaminated land auditor in NSW, ACT, NT, and WA, and works in all jurisdictions of Australia and New Zealand. He has more than 40 years local, national and international environmental chemistry experience, focused on risk-based contaminated sites management, especially for emerging contaminants such as ASBestos-IN-Soil (ASBINS) and PFAS.

Ross was the Australian consultant industry representative for both 1999 and 2013 Assessment of Site Contamination National Environment Protection Measure (ASC NEPM). The ASC NEPM is the nationally agreed technical framework for contaminated sites assessment work. To address a national guidance gap for remediation of contaminated sites, in 2010 Ross was asked to Chair the National Remediation Framework (NRF) Committee. In 2019 the NRF was published, consisting of twenty-four national remediation guidelines.

Ross has been involved with ASBINS since 1999 including being co-author of the 2000 ACLCA Code of Practice for ASBINS, the 2009 WA DoH Guidelines for Asbestos in soil and the ASBINS amendments to the 2013 (ASC) NEPM. Ross maintains a special interest in international developments in ASBINS assessment and remediation.

Most recently, Ross has been directly involved in the application of “real-time” asbestos-in-air monitoring techniques, with direct use in Activity-Based Survey (ABS) at critical Defence-capability operations to allow safe maintenance and management to proceed.



Girish Choppala

Environmental Geochemist and Mineralogist
crcCARE

Dr Girish Choppala is an environmental geochemist and mineralogist at crcCARE with a research focus on the behaviour of toxic metals and metalloids within diverse environments such as soils, mine sites, and sediments. His research investigates into understanding how these toxic metals interact with iron and sulfur minerals, common constituents of these environments. Specifically, Dr. Choppala's current research is centered on examining the mineralogical and morphological changes that asbestos undergoes under extreme weather conditions. His research aims to provide valuable insights into the potential release, transformation, and risks associated with asbestos in these scenarios, with implications for environmental management and remediation strategies.

Other key presenters are –

Chris Kennedy

Team Lead

Geosciences and Remediation Services

AECOM

and

Pierina Otness

Asbestos Assessment and Management Expert

Western Australia Department of Health
