



iah
Australian National
Chapter
NSW Branch

www.iah.org.au



Tuesday 13 March 2018
5.30pm for a 6pm start

WSP office

Ernst & Young Centre
Level 27, 680 George Street, Sydney CBD

****For late arrivals, please phone Peps on 0404963940 for access****



IAH NSW proudly presents a talk by **Dr Wendy Timms**
UNSW School of Mining Engineering and Connected Waters Initiative

Groundwater & mining: advances with pore pressure analysis and environmental tracer techniques

Groundwater in mining operations presents a number of challenges and opportunities – this talk presents examples of leading practice and R&D in progress. Evaluating potential hydrological changes due to mining is challenging. Opportunities for mine sites to share and store water are increasingly valuable, provided that water discharged is of suitable quality.

Analysis of high frequency pore pressures can reveal how systems work, and provides in-situ specific storage values to improve numerical groundwater models. Examples from the Gunnedah Basin show how pore pressure response to barometric and earth tide loading provides in situ specific storage values that can replace assumed values in models. A new technique for short-term monitoring of response to small stresses in low permeability formations is highlighted. And a unique example from the Sydney Basin shows where specific storage values can change in response to mining stresses.

Leading practice investigations now more commonly include environmental tracer techniques. An advanced technique is highlighted that enables stable isotope analysis in moist sediments and rock core and comparison with rainwater and groundwater values. A high resolution vertical profile of stable isotopes through the Hawkesbury sandstone shows the critical role of thin layers of cemented sandstone barriers to flow.

Several ongoing technical challenges with groundwater and mining are highlighted that require more strategic baseline monitoring, a variety of conceptual models and adoption of leading practices that are commensurate with the risks of the project.

Please RSVP to:

Katarina David katarinadavid@hotmail.com mob 0412 080 360

Graham Hawkes Graham.Hawkes@aecom.com mob 0417 134 422

IAH NSW Branch – 2018 Committee

Committee Chair – Katarina David, UNSW

Treasurer – Tingting Liu, HydroSimulations

Secretary – Lee Douglass, Arcadis

Technical Presentation Secretary – Richard Cresswell, Ecological Australia

Internal Communication – Sean Daykin, Jacobs

Membership Champion – Angus McFarlane, AECOM

Meeting Facilitator – Pepijn van Ravesteyn, WSP

Newsletter Champion – Ellen Kwantes, WSP

Web Champion – Serena Yeung, AECOM

Sponsorship Champion - Richard Green, DPI

International Student Sponsorship Champion – Dr. Jay Punthakey, Ecoseal

IAH International Vice President, Australasia and National Vice President – Dr. Wendy Timms, WRL UNSW

IAH NSW Vice President – Graham Hawkes, AECOM

IAH Australia President – Dr. Lange Jorstad, Geosyntec Consultants Pty Ltd

Student and Young Professional Coordinator and University Liaison– Sienna Xue, WSP

The IAH NSW Branch is grateful for our Gold Sponsors:



Water Research
Laboratory
School of Civil and
Environmental Engineering



engineers | scientists | innovators



EarthScience Information Systems

The IAH NSW Branch is grateful for our Silver Sponsors:



Kalf and Associates Pty Ltd

Hydrogeological, Numerical modeling specialists

