



iah
Australian National
Chapter
NSW Branch



www.iah.org.au

Student Night
Tuesday 22 September 2015
5:30 pm for 6 pm start

Parsons Brinckerhoff offices

Ernst & Young Centre
Level 26, 680 George Street, Sydney CBD

****For late arrivals, please phone Sean Daykin on [0413412980](tel:0413412980) for access****

The 2015 Student Night is sponsored by Sara Mehrabi

Danielle Griffani, University of Sydney:

Contaminant and heat transfer in fractured porous materials

Fracture networks in aquifers and geothermal reservoirs, can act as preferential pathways for groundwater flows, significantly influencing contaminant transport and heat recovery processes. This presentation will focus on how the advection-diffusion mechanisms within the fractures and the surrounding matrix underpin the effective transfer properties at the macro-scale. We will introduce a series of numerical simulations, which quantify the transfer efficiency of model fracture-matrix systems, covering a wide range of; flow rates, diffusivities and fracture network geometries. From an analysis of these results, we will identify a semi-empirical formula that can predict the effective transfer efficiency of all tested systems.

Monika Markowska, UNSW, Australia:

Cave monitoring to constrain the paleoclimate interpretation of $\delta^{18}\text{O}$ proxy in speleothems from semi-arid areas

The stable oxygen-isotope ratio ($\delta^{18}\text{O}$) is the most commonly used paleoclimate proxy in speleothems (i.e. cave deposits) to reconstruct records of past environmental change. Over the past decade it has become apparent that the oxygen-isotope signal preserved within speleothems is complex and reflects changes in climate, hydrologic pathways and the depositional environment within the cave. Disentangling the preserved $\delta^{18}\text{O}$ signal is critical to the correct interpretation of high-resolution records and often requires site specific hydrological and climate understanding.

Rory Williams, Macquarie University:

The geomorphic and hydrological structure and function of a chain-of-ponds river system: A unique Australian river type

This talk focuses on the subsurface characteristics, evolution and continued maintenance of the Mulwaree River Ponds. The Ponds sit within a valley fill setting; they have not been scoured by the current fluvial regime, suggesting antecedent controls from a gravel-bed palaeochannel. A perched aquifer saturates extensive gravel layers under a broad fine-grain-topped floodplain and $\delta^{18}\text{O}$ and $\delta^2\text{H}$ results suggest that the ponds water is refreshed during flood events and becomes enriched over time due to surface evaporation.

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 – 2015 Committee

Committee Chair – Katarina David, UNSW

Treasurer – Tingting Liu, HydroSimulations

Secretary – Sean Cassidy, EMM

Technical presentation secretary – Graham Hawkes, AECOM

Meeting Facilitator and Internal Communication – Sean Daykin, Parsons Brinckerhoff

Membership Champion - Dr Andrew McCallum, NSW Office of Water

Newsletter Champion – Dr. Ben Rotter, Coffey

Web Champion – Doug Anderson, UNSW WRL

Sponsorship Champion - Jason Carr, RPS

University Liaison – Dr. Bill Milne-Home

International Student Sponsorship Champion – Dr. Jay Punthakey

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

IAH National Secretary – Dr. Lange Jorstad, Geosyntec Consultants Pty Ltd

The IAH NSW Branch is grateful for our Gold Sponsors:



Water Research
Laboratory
School of Civil and
Environmental Engineering



The IAH NSW Branch is grateful for our Silver Sponsors:

