

Program

Australian Groundwater School – Adelaide
 Flinders Uni, Victoria Square
 Monday 3 April 2017 - Room 2 (Level 1)



NATIONAL CENTRE FOR
GROUNDWATER
 RESEARCH AND TRAINING

TIME		THEME/TOPIC	PRESENTERS
8.30am		Registrations and Coffee	
8.45am		Welcome and Introduction	
9.00am	1	The Importance of Groundwater In Australia <ul style="list-style-type: none"> • What is groundwater • Where is groundwater found? • The hydrologic cycle • What is hydrogeology and its history? • Australian groundwater facts and figures • Australian aquifer map. sedimentary basin/fractured province, inset on map 	Prof. Okke Batelaan <i>Dean, School of Environment, Flinders University</i>
10.00am	2	Introduction to Hydrogeology <ul style="list-style-type: none"> • Factors affecting groundwater • Introduction and examples of aquifer types • Water table and capillary zone • Aquifers & aquitards 	Prof. Okke Batelaan <i>Dean, School of Environment, Flinders University</i>
11.30am		Morning Tea	
11.45am	3	Introduction to Groundwater Hydraulics <ul style="list-style-type: none"> • Groundwater flow systems • Storage in aquifers • Hydraulic Head • Physical & hydraulic parameters 	Dr Dylan Irvine <i>Lecturer, School of Environment, Flinders University</i>
12.45pm		Lunch	
1.45pm	4	Surface Water – Groundwater Interactions <ul style="list-style-type: none"> • Introduction to surface water hydrology • Locations and modes of interaction between surface water and groundwater • Water balance • Human impacts • Recharge/discharge definitions and estimation 	Dr Dylan Irvine <i>Lecturer, School of Environment, Flinders University</i>
2.45pm		Afternoon Tea	
3.00pm	5	Groundwater Dependent Ecosystems <ul style="list-style-type: none"> • Introduction and definition • Types of GDEs • Hydrogeological framework • Methods and indicators used in the determination of GDEs • Level of dependency 	Dr Dylan Irvine <i>Lecturer, School of Environment, Flinders University</i>
4.30pm		Overview session	Dr Dylan Irvine
5.00pm		End Day 1	

Australian Groundwater School – Adelaide (Flinders Uni Vic Square)
 Tuesday 4 April 2017 – Room 10.3

TIME		THEME/TOPIC	PRESENTERS
9.00am	6	Groundwater Hydraulics <ul style="list-style-type: none"> Groundwater flow equations Borehole pumping tests Single borehole test Lab measurements of hydraulic conductivity 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
11.00am		Morning Tea	
11.15am	7	Tutorial <ul style="list-style-type: none"> Pumping to test an aquifer- a simple example Groundwater Budget 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
1.15am		Lunch	
1.45pm	7	Tutorial <ul style="list-style-type: none"> Unconfined groundwater contours 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
3.00pm		Afternoon Tea	
3.15pm	8	Fractured Rock Aquifers <ul style="list-style-type: none"> Fractured rock provinces in Australia Classification Basic Characteristics Groundwater flow Locating and mapping fractures 	Dr. Doug Wetherill <i>Senior Groundwater</i> <i>Modeller, Jacobs Group</i> <i>Australia</i>
4.15pm	9	Mining Hydrogeology <ul style="list-style-type: none"> Mine Dewatering Dewatering Methods Impacts of dewatering Design of dewatering system 	Rohan Baird <i>Senior Hydrogeologist</i> <i>Department of</i> <i>Environment, Water and</i> <i>Natural Resources</i>
5.15pm		Networking Drinks – Treasury: 2 Flinders St, Adelaide SA 5000	
6.15pm		End Day 2	

Australian Groundwater School – Adelaide (Flinders Uni Vic Square)
 Wednesday 5 April 2017 – Room 10.3

TIME		THEME/TOPIC	PRESENTERS
9.00am	10	Groundwater Modelling <ul style="list-style-type: none"> • What is a model and what is its purpose? • Modelling groundwater flow • Modelling process • Groundwater modeling codes 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
10.00am	10	Groundwater Modelling Application <ul style="list-style-type: none"> • Modelling guidelines • Limitations and pitfalls in modelling • Modelling case study • Management, regulatory issues 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
11.00am		Morning Tea	
11.15am	11	Groundwater Chemistry <ul style="list-style-type: none"> • Why study groundwater chemistry? • Physical and chemical composition of GW • Origin of solutes, evolution in groundwater • Field parameters 	Prof. Andrew Herczeg <i>Director, Geochemical Solutions) and</i> <i>Professor, School of the Environment, Flinders University</i>
12.15pm	12	Environmental Isotopes in Groundwater <ul style="list-style-type: none"> • What are isotopes and their use? • Types of isotopes • Australian examples 	Prof. Andrew Herczeg <i>Director, Geochemical Solutions) and</i> <i>Professor, School of the Environment, Flinders University</i>
1.15pm		Lunch	
2.00pm	13	Groundwater Microbiology <ul style="list-style-type: none"> • Introduction to microbiology • Pathogens in groundwater • Microbial metabolism in groundwater • Bioremediation 	Prof. Howard Fallowfield, <i>Professor</i> <i>Flinders University</i>
3.00pm		Afternoon Tea	
3.15pm	14	Groundwater Contamination <ul style="list-style-type: none"> • Introduction and definitions • Sources of contamination • Fate of contaminants in the sub surface • Groundwater remediation 	Prof. Howard Fallowfield, <i>Professor</i> <i>Flinders University</i>
4.15pm	15	Salinity and Water Logging <ul style="list-style-type: none"> • What is salinity and why is it a groundwater issue • Primary and secondary salinity & its sources • Dryland and Irrigation salinity, water logging • Impacts and management of salinity 	Steve Barnett <i>Principal Hydrogeologist,</i> <i>The Department of Environment, Water and Natural Resources</i>
5.00pm		End Day 3	

Australian Groundwater School – Adelaide (Flinders Uni Vic Square)
 Thursday 6 April 2017 – Room 10.3

TIME		THEME/TOPIC	PRESENTERS
9.00am	16	Drilling Methods and Bore Design <ul style="list-style-type: none"> • Types and purposes of various bores • Drilling methods • Databases in Australia • Methods, variability & limitations of data collection 	Adrian Costar <i>Hydrogeologist/Geophysicist</i> <i>Department of Environment, Water and Natural Resources</i>
10.00am	17	Geophysics <ul style="list-style-type: none"> • Surface, airborne, borehole • Methods and data processing and interpretation • Hydrologic properties derived from geophysics 	Dr. Michael Teubner, <i>Consultant,</i> <i>MD Teubner Consulting</i>
11.00am		Morning Tea	
11.15am	18	Managed Aquifer Recharge <ul style="list-style-type: none"> • What is MAR and what is it for? • MAR structure types • Water sources to MAR 	Dr. Joanne Vanderzalm <i>Research Scientist</i> <i>CSIRO</i>
12.15pm	19	Groundwater Management <ul style="list-style-type: none"> • What, why, when and how we manage GW? • Principles • Tools for groundwater management • Management issues • Climate change 	Steve Barnett <i>Principal Hydrogeologist,</i> <i>The Department of Environment, Water and Natural Resources</i>
1.15pm		Lunch	
2.00pm	20	Groundwater Governance – Water Law <ul style="list-style-type: none"> • Development of water resources law in Australia • Essential aspects of the current legal framework • Groundwater and water trading 	Prof. Jennifer McKay <i>Professor of Business Law,</i> <i>University of SA</i>
3.00pm		Afternoon Tea	
3.15pm	20	Groundwater Governance – Case Studies	Prof. Jennifer McKay <i>Professor of Business Law,</i> <i>University of SA</i>
4.15pm		Wrap-up	
4.30pm		End Day 4	

Australian Groundwater School – Adelaide
Friday 7 April 2017

FIELD TRIP

TIME	THEME/TOPIC	PRESENTERS
8.45am	Depart from 182 Victoria Square, Adelaide Field trip location TBA	
9.30am		
10.30am	Morning Tea	
11.00am		
12.00pm		
1.00pm	Lunch	
2.30pm		
3.15pm		
5.00pm		
6.10pm	End Day 5	