

Program

Australian Groundwater School – Brisbane
Monday 5 November 2018
Novotel Brisbane Southbank



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 	Dr Lucy Reading, <i>Lecturer Environmental Science & Management, Soil Sciences, Geology, University of Technology</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 	Dr Lucy Reading, <i>Lecturer Environmental Science & Management, Soil Sciences, Geology, University of Technology</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 Harald Hoffman, <i>Lecturer in Hydrogeology, University of Queensland</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 Harald Hoffman, <i>Lecturer in Hydrogeology, University of Queensland</i>
2.45pm		Afternoon Tea	
3.00pm	5	Groundwater Hydraulics <ul style="list-style-type: none"> • Groundwater flow equations • Borehole pumping test • Single borehole test • Lab measurements of hydraulic conductivity 	Dr Michael Teubner, <i>Consultant, MD Teubner Consulting</i>
5:00pm – 6.00pm		Networking Drinks: Spice Central Kitchen Bar (Novotel)	

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TIME		THEME/TOPIC	PRESENTERS
9.00am	6	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 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	7	Tutorial, Part 1 <ul style="list-style-type: none"> • Interpreting hydrographs • Developing groundwater contours • Borehole test for hydraulic conductivity • Contaminant transport 	Dr Michael Teubner <i>Consultant,</i> <i>MD Teubner Consulting</i>
1pm		Lunch	
2pm	7	Tutorial, Part 2 <ul style="list-style-type: none"> • Water budgeting • Estimating groundwater flow • Hydrostratigraphic conceptualisation 	Dr Michael Teubner <i>Consultant,</i> <i>MD Teubner Consulting</i>
3.15pm		Afternoon Tea	
3:30pm	8	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>
4.30pm		End Day 2	

Australian Groundwater School – Brisbane
Wednesday 7 November 2018
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TIME		THEME/TOPIC	PRESENTERS
9.00am	9	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 	
10.00am	10	Managed Aquifer Recharge <ul style="list-style-type: none"> What is MAR and what is it for? MAR structure types Water sources to MAR 	
11.00am		Morning Tea	
11.15am	11	Environmental Isotopes in Groundwater <ul style="list-style-type: none"> What are isotopes and their use? Types of isotopes, Australian examples 	Dr Harald Hoffman, <i>Lecturer in Hydrogeology, University of Queensland</i>
12.15pm	12	Environmental Isotopes in Groundwater (practical session)	
1.00pm		Lunch	
1.45pm	13	Groundwater Chemistry <ul style="list-style-type: none"> Why study groundwater chemistry? Physical and chemical composition of groundwater Origin of solutes, evolution in groundwater Field parameters 	Dr Lucy Reading, <i>Lecturer Environmental Science & Management, Soil Sciences, Geology, University of Technology</i>
2.45pm		Afternoon Tea	
3.00pm	14	Groundwater Contamination <ul style="list-style-type: none"> Introduction and definitions Sources of contamination Fate of contaminants in the sub surface Groundwater remediation 	Dr Lucy Reading, <i>Lecturer Environmental Science & Management, Soil Sciences, Geology, University of Technology</i>
4.00pm	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 	
5.00pm		End Day 3	

Australian Groundwater School – Brisbane
 Thursday 8 November 2018
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TIME		THEME/TOPIC	PRESENTERS
9.00am	16	Coal Seam Gas and Groundwater <ul style="list-style-type: none"> • Definition of CSG and Unconventional Gas • Where CSG resources are located in Australia • How CSG is extracted • Operational aspects • Regulation surrounding operation • Issues, challenges and waste disposal 	
10.00am	17	Mining Hydrogeology <ul style="list-style-type: none"> • Mine Dewatering • Dewatering Methods • Impacts of dewatering • Design of dewatering system 	
11.00am		Morning Tea	
11.15pm	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 	Mr Michael Jamieson, Principal Policy Officer <i>Queensland Government Department of Natural Resources, Mines and Energy</i>
1.00pm		Lunch	
1.45pm	2	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 	Ms Jacqui Robertson <i>PhD Candidate, Griffith Law School, Griffith University</i>
3.00pm		Afternoon Tea	
3.15pm	21	Groundwater Governance – Water Law (continued)	Ms Jacqui Robertson <i>PhD Candidate, Griffith Law School, Griffith University</i>
3.45pm		End of course wrap up and evaluation	
4.00pm		End Day 4	