

1st National Surfacewater-Groundwater Field Methods School

Field Data Collection and Management



Established in 1987, the Centre for Groundwater Studies (CGS) has now merged with the National Centre for Groundwater Research and Training (NCGRT).

When	Where
1 st National SW-GW Field Methods School Monday 8 – Friday 12 Nov 2010	UNSW Farm, WELLINGTON NSW

Who Should Attend

This course is intended for hydrogeologists, hydrologists and related water industry personnel who wish to develop their field application skills. **Please note: This course is being restricted to 24 attendees.**

Course Objective

There is a very serious shortage of skilled personnel who are capable of making appropriate hydrogeological and hydrological measurements in the field. Even the most sophisticated groundwater models come to naught if there is no field data with which to calibrate and test them. The National Water Commission has signalled the urgent need for investing heavily in training of personnel so that a general ability to implement the National Water Initiative can be fully developed. This National SW-GW Field Methods School will be the first of a succession of Schools to be run at the UNSW Wellington Farm Site that is being developed as a specialised training centre.

The Wellington Field Site

The UNSW owns a 400ha farm adjacent to Wellington in Central New South Wales. The Macquarie River forms a 2.5 kilometre long boundary. Gold and diamonds were recovered from the alluvial gravels in the 20th Century during a 30 year long period of work using a dredge. The UNSW will install pumping and monitoring bores on the property and will collaborate with civic authorities in the development of this site. It is anticipated that 50ha of trees will be planted and the general status of the soils and plant cover will be improved. It is anticipated that the hydrological changes caused by vegetation change will also provide input to the field schools.

Course Outline

Attendees will be organised into 4 teams of six for intensive training with an instructor. Each team will spend 4 days collecting field data, with one day allocated to each of the 4 basic activity groups of: Hydrochemistry, Geophysical methods, Hydrogeology measurements including pumping tests; and Hydrological methods including gauging. In addition to these 4 days, there will also be a 1-day field trip to observe groundwater and dryland salinity related features in the region. The Wellington Caves and the associated phosphate mine are a significant local feature, and the NSW DPI Baldry recharge assessment site is also close by.

NB: Attendees will need to prepare for all weather conditions, eg. sunscreen, hat, wet-weather gear, strong shoes and water bottle.

Expected Outcomes

At the completion of the course participants will:

- Be able to use the geophysical field techniques of electrical resistivity imaging and seismic refraction profiling
- Be able to carry out hydrogeological mapping tasks, to construct a flow net based upon measurements made in the field
- Be able to organise a pumping test and collect the data efficiently
- Be able to gauge surface flows and download climatological instrumentation
- Be able to sample groundwater from piezometers

Course Leaders

Professor Ian Acworth will lead the course with input from the Connected Waters team at UNSW including Dr Martin Andersen, Dr Wendy Timms, Dr Bryce Kelly, Dr Mathew Macabe, Mr Hamish Studholme and Ms Anna Greve. The general expertise of this group can be followed on the CWI web site: www.connectedwaters.unsw.edu.au

Course Fees

AU\$3300 (incl GST) includes: notes, tuition, morning and afternoon teas, lunches and field trip. **NB: To maximise learning opportunities this course is limited to 24 students, ie. 4 teams of 6 attendees.**
REGISTER NOW TO AVOID DISAPPOINTMENT.

Accommodation

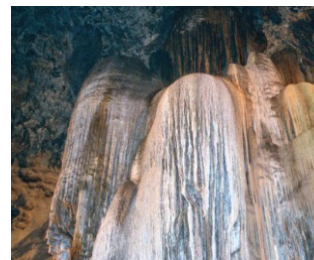
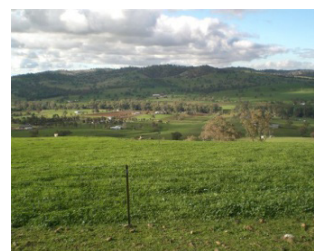
Attendees are to **arrange own accommodation.**

Getting to Wellington NSW: You can get there by train from Sydney on the Dubbo service; or else fly to Dubbo.

Garden Court Motor Inn; 7-9 Lee St Wellington NSW 2820
Ph: +61 2 6845 2288 **Fax:** +61 2 6845 2850

Bridge Motel; 1-5 Lee Street, Wellington, NSW
Ph: +61 2 6845 2555 **Fax:** +61 2 6845 3560

Hermitage Hill Country Retreat and Function Centre
Phone: +61 2 6845 4469 **Fax:** +61 2 6845 3102 **Email:** events@hermitagehill.com.au



AWA
members
receive a
5% discount



To register please see over leaf.

For more information contact: **Phone:** +61 8 8201 5632 **Fax:** +61 8 8201 5635
Email: industrytraining@groundwater.com.au **Web:** www.groundwater.com.au/industrytraining

REGISTRATION FORM / TAX INVOICE

ABN: 65 542 596 200

Please register early by faxing this form to **FAX: +61 8 8201 5635**

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TITLE: FIRST NAME: SURNAME:

EMAIL: NB: Most communication will be via email

JOB TITLE:

COMPANY:

DEPARTMENT:

ADDRESS (Postal):

CITY: COUNTRY/STATE: POSTCODE:

PH: MOB: FAX:

WEB:

DIETARY REQUIREMENTS:

Fees – AU\$

Course Title	Course Fee Includes GST	
1 st National Surfacewater-Groundwater Field Methods School, Mon 8-Fri 12 November NSW <i>Early bird before Friday 24 Sep</i> <i>NB: Limited places available</i>	<input type="checkbox"/> \$ 3300.00 <input type="checkbox"/> \$ 3410.00	<i>After Friday 24 Sep</i>
Less (choose 1 option only):	-\$	
<input type="checkbox"/> 5% discount on *Course Fee only for IDA, IAH, AWA, NZHS, SIA, ACLCA Members (Member No.....)		
<input type="checkbox"/> 10% discount on *Course Fee only for NCGRT, NCED Partner Staff (Partner name.....)		
<input type="checkbox"/> 15% discount on *Course Fee only for Full-time Students (Institution name.....)		
TOTAL AU\$	\$	

**National
Groundwater
Working
Group**



PAYMENT – Please select payment method below:

ABN: 65 542 596 200

1. **Credit Card** Please debit my: **Visa** **Mastercard**

Card Number: _____

Cardholder's Name: Signature:

Expiry Date: __ __ / __ __

2. **Cheque** Payable to: **"NCGRT Groundwater Industry Training"**
Addressed to: NCGRT Groundwater Industry Training, Attn: Glenys Flight
GPO Box 2100,
ADELAIDE, SA 5001, Australia

3. **Please send me a Tax Invoice** **Purchase order number:**



Terms, Conditions, Transfers and Cancellations for all NCGRT Groundwater Industry Training:		
<p>1 CONFIRMATION letter will be sent to all participants prior to a course. Participants must have received their confirmation letter before attending a course.</p> <p>2 TRANSFER of your registration to a different course must be made in writing. This will incur an additional administration fee of \$220.</p>	<p>3 CANCELLATIONS must be made in writing. Then the following terms will apply:</p> <p>a. <i>Less than 3 business days</i> before a course: <i>No refund</i></p> <p>b. <i>Between 3 business days and 3 weeks</i> before a course: <i>50% refund</i></p> <p>c. <i>More than 3 weeks</i> before a course: Refund of the course fee minus an administration fee of \$220</p> <p>d. However, to avoid loss of the course and administration fees, a substitute attendee is welcome, by submitting a new Registration Form</p>	<p>4 If attendees CANCEL Field Trips, generally no refund will be paid.</p> <p>5 While every attempt will be made to deliver courses as advertised, we reserve the right to cancel a course at short notice for conditions beyond our control. Notification of any such cancellation will attract a refund.</p>

For more information contact: **Phone: +61 8 8201 5632 Fax: +61 8 8201 5635**

Email: industrytraining@groundwater.com.au Web: www.groundwater.com.au/industrytraining

Web