

## COURSE PRESENTERS

Mr Peter Griffiths  
CH2M Hill, Australia

Ms Beth Seviour  
Bugworks

Prof Bob Seviour  
Biotechnology Research Centre  
LaTrobe University, Bendigo

Dr Helen Stratton  
Griffith University and  
Smart Water Research Centre

### Course Testimonials

The following are feedback excerpts from previous attendees:

*"The course was informative as well as enjoyable and well-presented. I will definitely recommend it to others"* - Philip, Wannon Water

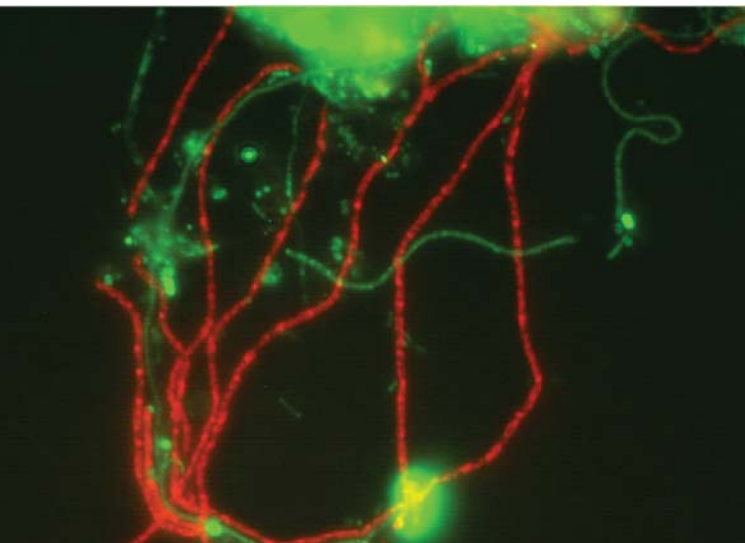
*"Thank you for last week's course, it was very relevant...I will highly recommend this course to all our clients as the problem solving techniques shown in class and the lab would be very helpful to operators and engineers"* - Shane, For Earth

*"I had high expectations so meeting them was fantastic. Enthusiasm of presenters is palpable! Great stuff"* - Cindy, Gympie Regional Council

*"Anyone dealing in liquid waste in the private or public sectors should be made to do this course"* - Adam, Sirromet Wines

*"Course was very informative and have learnt alot which will help me in my work. Thank you! Lab session was excellent"* - Caitlin, Hunter Water

*"I will be sending my operators over the next three years"* - Anon



## ACTIVATED SLUDGE AND BNR COURSE

### DATE

7th - 11th July 2014

### VENUE

Mantra Mooloolaba Beach (Sunshine Coast QLD)  
and University of the Sunshine Coast, Sippy Downs

### FEES

Early bird rate - book and pay by 28 February 2014  
**\$2,400 (plus GST \$240)**

Standard rate - after 28 February 2014  
**\$2,700 (plus GST \$270)**

This includes full week attendance, lunch, morning and afternoon teas, comprehensive course notes, two colour wall posters, course dinner and transport to site visits.

A 5% discount is offered to three or more registrants from the same organisation (off both early bird and standard rates).

### ACCOMMODATION

Please make own arrangements. Discounted rates available (email: h.stratton@griffith.edu.au for a discounted booking form).  
Mantra Mooloolaba Beach, Mooloolaba QLD (Sunshine Coast)  
P +61 7 5452 2871 (from \$130/night)

### CANCELLATIONS

Notification in writing a minimum of two weeks before the course - 90% refund. No refunds will be available after this date. If the nominated delegate is unable to attend, the registration is transferable to other staff from the same organisation.

### MINIMUM NUMBERS

The cost of this course has been kept to a minimum. As a consequence, we reserve the right to postpone this course should delegate numbers be insufficient with full refund.

### ENQUIRIES

Helen Stratton  
Course Convenor  
Smart Water Research Centre  
Griffith University, Gold Coast Campus 4222  
T +61 7 3735 5503  
E h.stratton@griffith.edu.au  
W www.smartwaterresearchcentre.com

Smart Water Research Centre  
SHORT COURSE  
July 7th - 11th 2014

# Activated Sludge and Biological Nutrient Reduction



smartwater  
Research Centre | science  
securing  
our  
future

Griffith UNIVERSITY | University of the  
Sunshine Coast  
Queensland, Australia

**BACKGROUND**

Effluent quality requirements for sewage treatment are becoming increasingly more stringent. Many sewage treatment plants in Australia are being, or will be in the near future, upgraded to biological nutrient removal. The level of training and understanding for effective operation of these systems within the industry is currently limiting. A specialist training course has therefore been designed for managers, operators and designers of Biological Nutrient Reduction (BNR) systems.

**PURPOSE OF THE COURSE**

This is a University accredited course aimed at people working in the wastewater industry as operators, engineers, scientists or managers, who wish to have a working knowledge or troubleshooting and process optimisation of activated sludge and biological nutrient removal systems. The course is unique in that it provides fundamental knowledge of the interaction between biochemical, microbiological and engineering design and operational aspects of the process.

**WHO SHOULD ATTEND**

You will find this course relevant if you are:

- involved with the management or operation of an activated sludge (AS) BNR plant;
- upgrading your plant to BNR in the near future;
- a scientist working in an AS or BNR laboratory or research environment.; or
- studying environmental engineering or wastewater subjects.



**MONDAY**

- Session 1 The Fundamentals
- Session 2 The Components of Wastewater
- Session 3 Principles of Activated Sludge
- Session 4 The Organisms of Activated Sludge
- Session 5 Nitrification/Denitrification
- Session 6 The Microbiology of Nit/Denit.

**TUESDAY**

- Session 1 Biological Phosphorous Removal
- Session 2 The Microbiology of P Removal
- Session 3 The Components of BNR Process
- Session 4 In Plant Monitoring
- Session 5 Interpretation of Analytical Data
- Session 6 Operation of the AS Process
- Session 7 Operation and Maintenance of BNR
- Session 8 Clarifier and RAS Pumping

Course Dinner

**WEDNESDAY**

- Session 1 Site visit to BNR Plant
- Session 2 Workshop Case Histories and Discussion

**THURSDAY**

**Laboratory Sessions (to be held at University of the Sunshine Coast, Sippy Downs)**  
**Microbiological Examination**  
**Troubleshooting**  
**Filamentous Bulking and Foaming**

**FRIDAY**

- Session 1 Lab Results
- Session 2 Sludge Handling/Revision
- Session 3 One Hour Exam and Closing Workshop

**Course finishes at 3.00pm on Friday**

Name: \_\_\_\_\_

Title: (please circle) Prof, Dr, Mrs, Ms, Mr

Preferred name for badge: \_\_\_\_\_

Position: \_\_\_\_\_

Organisation: \_\_\_\_\_

Postal address: \_\_\_\_\_

\_\_\_\_\_ Postcode: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**Do you have Hepatitis B or A immunisation? Y N**

Where did you hear about the course? \_\_\_\_\_

**FEES**

- Early bird rate - book and pay by 28 Feb 2014 **\$2,400** per delegate (plus GST \$240).
- Standard rate - after 28 Feb 2014 **\$2,700** per delegate (plus GST \$270).

A 5% discount is offered to three or more registrants from the same organisation (off both early bird and standard rate). Includes all sessions, field trips, a comprehensive set of notes, morning teas, lunch and afternoon teas and course dinner.

**Total payment enclosed: \$ \_\_\_\_\_**

- Cheque - Please make payable to Griffith University
- Request invoice (includes EFT details - Purchase Order # \_\_\_\_\_)
- Credit Card - Bankcard Visa Mastercard Amex (please circle)

Credit card No. Expiry date: \_\_\_\_/\_\_\_\_

\_\_\_\_/\_\_\_\_/\_\_\_\_/\_\_\_\_

Cardholder's name: \_\_\_\_\_

Cardholder's signature: \_\_\_\_\_

Please return this section with your payment by

**MONDAY 2 JUNE 2014** to:

Helen Stratton, Course Convenor, Smart Water Research Centre  
 Griffith University, Gold Coast Campus QLD 4222  
 T 07 3735 5503 | E h.stratton@griffith.edu.au

- NB: If you cannot attend but are interested in future courses, please tick the box and return this registration form. You will receive notice of future courses we will be conducting.**