

## WWWASTEWATER TRAINING CENTRE COURSES AND MODE OF STUDY ARE UNIQUE

WWWastewater Training Centre courses place the emphasis on developing practical skills by addressing and solving real problems. This practical focus means that you can immediately use your new skills in the workplace. WWWastewater Training Centre courses offer:

- Access to world leading training resources
- Quality multimedia course material developed by expert researchers and practitioners: online notes, exercises, quizzes, learning software
- Development of practical problem solving skills
- Quick and easy access to courses
- Interactive discussion groups with tutors, fellow students and experts
- Excel spreadsheets for operational calculations
- State-of-the-art process simulation
- Progression at a self-controlled pace
- Access to course developers

## YOUR COURSE DEVELOPERS AT THE WWWASTEWATER TRAINING CENTRE

### Paul Lant

Paul Lant is an Associate Professor in the Advanced Wastewater Management Centre at the University of Queensland, Australia. He has an international reputation for his research in modelling and control of biological wastewater treatment processes, and for his work in benchmarking wastewater treatment processes against world best practice. He is a Director of Wastewater Futures Pty Ltd which specialises in delivering wastewater treatment solutions for clients in the oil, petrochemical, biotechnology, food, steel and meat processing industries.

### Linda Blackall

Linda Blackall is an Associate Professor in the Advanced Wastewater Management Centre at the University of Queensland, Australia. She is an expert in the microbiology of wastewater treatment processes and has over 20 years R&D experience in the wastewater field. Linda is the author of over 50 international journal articles and co-author of the book "The Microbiology of Activated Sludge".

### Ken Hartley

Ken Hartley is an independent consulting engineer working in the wastewater treatment field. He has over thirty years experience covering all facets from research through design and contract supervision to commissioning and operations. Ken has authored 50 technical publications including the well known book "Operating the Activated Sludge Process" which has sold 4000 copies. Ken is one of the most experienced engineers in Australia in the field of BNR process design and operations.

### Jürg Keller

Jürg Keller is the Director of the Advanced Wastewater Management Centre and an Associate Professor at The University of Queensland. He has a background in environmental biotechnology, biological nutrient removal and anaerobic treatment technologies. During the last seven years he has established the AWMC as the leading wastewater research group in Australia with international exposure and collaboration. He is a Director of Wastewater Futures Pty Ltd which specialises in delivering wastewater treatment solutions for clients in the oil, petrochemical, biotechnology, food, steel and meat processing industries.

**Sign up for IWA Info Alert - a free email alerting service and we will send you information on new courses from the WWWastewater Training Centre. Register at:**

**[www.iwapublishing.com](http://www.iwapublishing.com)**

## COURSE ENROLMENT INFORMATION

For full information on all the courses and to enrol for a free sample course visit the WWWastewater Training Centre at [www.iwapublishing.com](http://www.iwapublishing.com).

Once you have selected the right course for you, full enrolment is simple. Complete the enrolment form for your chosen course through the IWA Publishing website using our simple shopping cart facility. All transactions are carried out using Secure Socket Layer (SSL) encryption. Once your enrolment has been processed you will be given access to your course and all associated material and resources at the WWWastewater Training Centre.

**IWA Publishing are delighted to offer a new online service...**

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# WWWastewater Training Centre

**The WWWastewater Training Centre provides online training courses for professionals in the wastewater industry.**

- **Advance your professional education**
- **Study when you want, at your own pace**
- **Apply new skills in the workplace**

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**WWWASTEWATER TRAINING CENTRE AT:**

**[www.iwapublishing.com](http://www.iwapublishing.com)**

The WWTWastewater Training Centre is the leading site for continuing professional development in the wastewater industry.

WWTWastewater Training Centre courses are developed by a team of world leading engineers and scientists in wastewater management and are aimed at engineers, consultants, operators and researchers. Our courses enable you to exploit the benefits of the internet, and at the same time, network and share experiences with professional colleagues globally.

You can gain quick and easy access to our courses at any time of day, as long as you are near a computer. You will be able to progress at a pace that suits you - repeating exercises or problems, or re-reading material as many times as you need. All courses contain interactive components enabling you to discuss course material with other students, and obtain feedback from your tutor. All you need is a web browser such as Netscape or Explorer.

## THE COURSES

### OPERATING THE ACTIVATED SLUDGE PROCESS



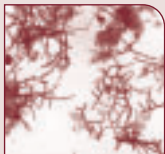
**START:**  
Any time  
**COURSE DURATION:**  
3 months  
**WORKLOAD:**  
40 hours

The best way to learn how to operate an activated sludge plant is to do it. You have just been appointed to the Operations Group to provide technical support to the operators of the City's wastewater treatment plants. Your first assignment is to help improve the performance of the Nectar Brook Wastewater Treatment Plant. The course begins at your first visit to Nectar Brook. The seven modules of the course will then take you through the next two years of operation at Nectar Brook. The course is problem driven, and learning is achieved "on the job", by solving a series of real life operation problems at Nectar Brook.

**COURSE OUTLINE:** Effluent BOD and suspended solids; Effluent ammonia; Aeration; Sludge bulking and foaming; Clarifier loading; Hydraulics and process mixing; pH and alkalinity; Data analysis and interpretation

IWA Members: US\$296.25 / £177.75 / €255.75 Non Members: US\$395.00 / £237.00 / €341.00

### INTRODUCTION TO MICROBIOLOGY FOR WASTEWATER ENGINEERS



**START:**  
Any time  
**COURSE DURATION:**  
3 months  
**WORKLOAD:**  
40 hours

Microbiology is more relevant than ever to wastewater treatment. This course is designed for wastewater professionals who have a desire to learn about those that do the real work in biological wastewater treatment systems - the microorganisms. The course is different to textbook based learning in a number of ways. The nature of the internet enables you to learn by investigating. Online course material comprises state-of-the-art course notes, exercises, CD ROM, and real life operational problems which you will be required to solve. You then use the knowledge and techniques encountered to suggest microbiological solutions to real wastewater problems.

**COURSE OUTLINE:** Microorganisms and metabolic pathways; Diversity of microorganisms in wastewater treatment; Laboratory techniques; Microbial genetics; Microbial physiology; Real life operational problems

IWA Members: US\$296.25 / £177.75 / €255.75 Non Members: US\$395.00 / £237.00 / €341.00

### BIOLOGICAL NUTRIENT REMOVAL



**START:**  
Any time  
**COURSE DURATION:**  
3 months  
**WORKLOAD:**  
40 hours

Developed in response to the lack of good resources available to assist industry professionals to understand biological nutrient removal, this course focuses on skills development that can be applied immediately in the workplace. At the completion of this course you will have accumulated experience from operating our virtual BNR plant, Nectar Brook STP, for two years. The course is developed around solving operational problems which occur at Nectar Brook.

**COURSE OUTLINE:** Nitrification and denitrification; Enhanced biological phosphorus removal; Wastewater characteristics; Prefermentation; Chemical P removal; Modelling BNR; Simulating BNR processes; BNR process configurations; Effect of sulfate reduction; Process start-up and optimisation; Data analysis and interpretation

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### PREFERMENTATION FOR BIOLOGICAL NUTRIENT REMOVAL



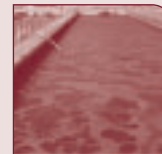
**START:**  
Any time  
**COURSE DURATION:**  
2 months  
**WORKLOAD:**  
20 hours

There is now a rapid trend worldwide to remove the nutrients nitrogen and phosphorus from wastewaters. The most popular method is biological nutrient removal, BNR. A major problem with BNR occurs when the feed wastewater does not contain enough readily biodegradable COD to enable the required removal of nitrogen and phosphorus. Prefermentation is an increasingly popular means of addressing this problem by producing volatile fatty acids (VFAs) from the influent wastewater.

**COURSE OUTLINE:** Prefermenter technology; Modelling prefermentation; Measuring the critical parameters; Dynamic simulator for prefermenters; Using the prefermenter model; Solving real prefermenter problems.

IWA Members: US\$148.50 / £89.25 / €128.25 Non Members: US\$198.00 / £119.00 / €171.00

### COMING SOON - PRINCIPLES OF WASTEWATER TREATMENT



**AVAILABLE:**  
from June 2004  
**COURSE DURATION:**  
3 months  
**WORKLOAD:**  
40 hours

The aim of this course is to teach the key enabling scientific and process engineering fundamentals which underpin wastewater treatment processes and technologies. All of these are taught via real wastewater treatment problems and case studies. The course will also introduce you to a large range of wastewater treatment unit operations (processes and technologies).

**COURSE OUTLINE:** Wastewater characterisation and sampling; Aquatic chemistry; Primary treatment; Secondary treatment; Tertiary treatment; Sludge management; Core engineering skills and tools (e.g. measuring oxygen transfer rates); Real case studies and process examples

IWA Members: US\$296.25 / £177.75 / €255.75 Non Members: US\$395.00 / £237.00 / €341.00