NOVEDAR_Consolider

3rd Summer School

Model-based Design, Operation and Control of Wastewater Treatment Plants

28th June – 2th July 2010

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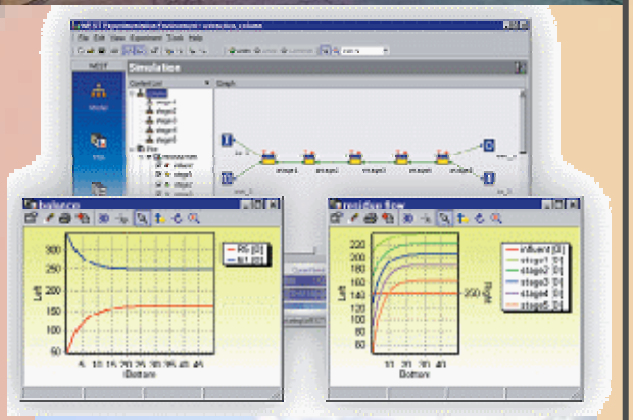
NOVEDAR_Consolider (CSD2007-00055)



DESCRIPTION

This short but intensive course immerses the participants in the most advanced modelling and simulation tool for the wastewater treatment plants management.

The course combines theoretical sessions in the mornings with practical computer sessions during the afternoons. The last day a visit to Bilbao-Galindo WWTP is scheduled.

Specialist lectures and collaborators are in charged of the different sessions. Facilities available include a personal PC.

SOCIAL PROGRAM

- Guided tour (Tuesday evening)
- Farewell dinner (Thursday evening)

REGISTRATION

- Fill in the registration form at www.novedar.com
- Fees: 2000€ for companies; 500€ for PhD students, including course stuff, lunches and the whole social programme
- Registration Deadline: May 20th

ORGANISATION

- Scientific Coordinator
  Prof. Eduardo Ayesa
- Technical Coordinator
  Paloma Grau and Cristina Martín

MORE INFORMATION

www.novedar.com

MODEL BASED DESIGN, OPERATION AND CONTROL OF WASTEWATER TREATMENT PLANTS

PROGRAMME OF THE COURSE

	Monday (28th June)	Tuesday(29th June)	Wednesday(30th June)	Thursday(1th July)	Friday(2th July)
	Water line: Model-based design of the DN process	Water line: Model-based Operation and Control	Sludge line: Design and operation of anaerobic digesters	Integrated modelling and Uncertainty assessment of advanced WWTPs	
Theoretical Sessions	Introduction (1) Fundamentals on activated sludge for C and N removal (2) Mathematical modelling of AS reactors (ASM1) (2) Model-based design of water line for C and N removal (4)	Description of automatic control strategies for the DN process (1) Description of a Full-scale illustrative example (7) Fundamentals of Expert Systems (6)	Fundamentals of anaerobic digestion (3) Mathematical modelling of anaerobic digesters (10) Plant-Wide-Modelling approaches (8) Benchmark BSM2 (8)	Biofilm Fundamentals (5) Biofilm Modelling (5) Fundamentals of uncertainty assessment by Monte Carlo simulations (9)	Visit to Galindo-Bilbao WWTP
Practical Sessions	Introduction to the WEST platform Description of DN Plant layout (Denitrification – Nitrification) Simulation study: Model-based design of the DN process	Introduction to automatic controllers in WEST Description of DN Plant layout with controllers Simulation study: Model-based tuning of DN controllers	Description of ANAD Plant layout Model-based design of the ANAD Plant layout Simulation study: performance of anaerobic digesters	Simulation of the BSM2 Plant layout in WEST Optimum design and operation of DN and anaerobic digester	

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(4) Dr. Luis Larrea (CEIT)
(5) Dr. Mark van Loosdrecht (TUD)
(6) Dr. Ignasi Rodriguez-Roda (ICRA)
(7) Dr. Mikel Maiza (CEIT)
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