

II ADVANCED COURSE
***Innovative wastewater treatment
and mathematical modeling***

Palermo, 16-19 May 2016

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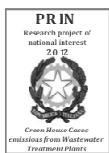
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Introduction

Over the past years, the knowledge and understanding of biological wastewater treatment has advanced extensively and moved away from empirically-based approaches to a fundamentally-based 'first principles' approach that embrace: bio-chemistry, microbiology, mathematics, and physical, chemical and bioprocess engineering. Also, the wastewater treatment plant of the future will be a water resource recovery facility (WRRF), implying attention for quite different aspects of these large scale technologies.

Many of these advances have matured to a degree that they have been codified into mathematical models able to describe and simulate diverse systems under different environmental conditions at either steady or dynamic state. For a new generation of scientists and engineers entering the wastewater treatment profession, the quantity, complexity and diversity of these new developments can be overwhelming, particularly to those from developing countries where access to advanced courses in wastewater treatment is not readily available.

This second edition of the *Advanced Course on Innovative wastewater treatment processes and mathematical modelling* will provide a comprehensive overview and a discussion platform for recent advances and trends currently under development in the context of wastewater treatment. This course is aimed at professionals (Master, PhD or equivalent experience) in wastewater treatment and mathematical modelling with a basic working knowledge of the two other disciplines. The course is primarily aimed at those already employed in industry who wish to update their theoretical knowledge and practical insight in this field.

The Course Chair
Giorgio Mannina