WATER QUALITY MONITORING, MODELLING AND MANAGEMENT
CURRENT NEEDS, CHALLENGES AND OPPORTUNITIES

**Politecnico di Milano,
Monday, July 15, 14:30
Castigliano room**

Abstract: This talk will offer some thoughts regarding the current needs, challenges and opportunities in water quality monitoring, modelling and management. Many needs are highlighted by major pollution events that continue to persist and have not yet been successfully managed. Opportunities mostly focus on improving model applicability or ease of implementation. Challenges seem in most cases to be related to insufficient data for model calibration and validation. This in turn reflects on the challenges of maintaining long term monitoring and knowing what to monitor even before such data are deemed needed. Data useful for developing and validating large scale water quality models are often only sparsely available if at all. This applies in particular for emerging pollutants (e.g. plastics, chemicals, drugs), and especially in most developing countries. Monitoring and modelling water quality at the global scale is important to identify and predict robust hot spot regions of severe water quality degradation, to better understand future (global) changes in response to management actions, and to quantify indicators and linkages among SDGs. For many pollutants, and especially at large scales, water quality modelling is still in its infancy. These are needed to enable meaningful water quality assessments and inform policies needed for water quality management and decision making.

Short Bio:

Daniel P. Loucks, Emeritus Professor of Civil and Environmental Engineering and Professor at the College of Human Ecology at Cornell University in the United States, has been actively involved in both the development and application of water resources systems models for over four decades. As a consultant to private, governmental and international organizations he has participated in regional water resources planning, development and management projects in Africa, Asia, Australia, Eastern and Western Europe, and North and South America.
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