



Department
Chemistry

2023 - 2027
**DEPARTMENT
OF EXCELLENCE**
Ministero dell'Università e della Ricerca



UNIVERSITÀ
DI TORINO



project

INTERNATIONAL SCHOOL ON WATER REUSE 13-15 SEPTEMBER 2023



**TORINO – CHEMISTRY DEPARTMENT
VIA PIETRO GIURIA 7
ROOM “Avogadro”**

Program

13th September

- 8:30-9:00** Registration
- 9:00-9:20** Institutional greetings
- 9.20-9.40** Presentation of NODES Project and Spoke2
School opening
- Session I** *Chair: D. Palma (University of Torino, Italy)*
- 9:40-10:05** Water as a non-infinite resource: human appropriation, water footprint, water scarcity (**V. Maurino**, University of Torino, Italy)
- 10:05-10:50** Composition of natural and treated water and its chemical and microbiological pollutants (**M. Minella**, University of Torino, Italy, **P. Roslev**, Aalborg University, Denmark, **R. Binetti**, SMAT, Torino, Italy)

10:50-11:15 COFFEE BREAK

Session II *Chair: M. Minella (University of Torino, Italy)*

- 11:15-11:35** The “water good” in the international regulatory framework (**A. Fusco**, University of Torino, Italy)
- 11:35-11:55** The management of water resources and EU legislation for its reuse (Regulation 2020/741) (**M. Ricciardo Calderaro**, University of Torino, Italy)
- 11:55-12:25** Water reuse practices in Europe: a focus on risk assessment and management (**R. Maffettone**, EC, JRC, Ispra, Italy)
- 12:25-12:50** Institutional arrangements for water reuse: assessing challenges for the transition to water circularity (**T. Fidelis**, University of Aveiro, Portugal)

12:50-14:00 LIGHT LUNCH

14:15-15:45 **ROUND TABLE: Water reuse “tips and issues”. Hydrogeologic, agricultural, infrastructural perspectives.**

Speakers: **M. Lasagna** (University of Torino, Italy), **F. Ferrero**, (University of Torino, Italy), **P. Simon** (ESAMUR, Murcia, Spain), **A. Battilani** (Irrigants d’Europe), **A. Quazzo** (SMAT, Torino, Italy)

Chair: **L. Rizzo** (University of Salerno, Italy)

Session III *Chair: T. Fidelis (University of Aveiro, Portugal)*

- 15:45-17:00** A few remarks for an informed debate on the acceptance of water reuse: attitudes, practices and behaviors (**S. Gattino**, **M. Martini**, **D. Acquadro Maran**, **A. Sciullo**, University of Torino, Italy, **P. Albuлесcu**, University of Timisoara, Romania)
- 17:10-17:50** Water as a New Asset Class for Paradigm Shift for Climate–Water Resilience (**A. Elmahdi**, Green Climate Fund, GCF)

17:50-19:00 GET TOGETHER COCKTAIL

14th September

8:45 MEETING AT TORINO ESPOSIZIONI (VIALE BOIARDO) TO TAKE THE PRIVATE BUS

9:00-12:00 Visit to the local waste water treatment plants (**SMAT S.P.A.**, Torino)

12:50-14:00 LIGHT LUNCH

14:00-15:50 ROUND TABLE. Water reuse: EU Regulation and technological challenges.

Speakers: **L. Rizzo** (University of Salerno, Italy), **I. Oller** (Plataforma Solar de Almeria, CIEMAT, Spain), **C. Varese**, (University of Torino, Italy), **G. Cravotto** (University of Torino, Italy), **A. Tiraferri** (Polytechnic of Torino, Italy), **V. Boffa** (University of Aalborg, Denmark)

Chair: **A. Arques** (Polytechnic University of Valencia, Spain)

15:50-16:10 Analytical challenges in the water reuse scenario (**A. Bianco Prevot**, University of Torino, Italy)

16:10-16:30 COFFEE BREAK

Session IV Chair: **I. Oller** (Plataforma Solar de Almeria, CIEMAT, Spain)

16:30-17:00 From wastewater treatment plant to a “water-based factory”; Experience of LIFE GREEN SEWER (**X. Yang**, CETIM, Spain)

17:00-17:30 LCA applied to water treatments technologies for water reuse (**G. Maniakova**, Istituto Mario Negri, Milano Italy)

17:30-18:00 Business models for small and local loops of water reuse; Project Ô experience (**M. Lai**, IRIS, Italy)

20:30 SOCIAL DINNER

15th September

Session V Chair: **R. Maffettone** (EC, JRC, Ispra, Italy)

9:00-9:50 Water reuse in Spain: drivers and barriers in Murcia and Almeria region (**I. Oller**, Plataforma Solar de Almeria, CIEMAT, Spain and **P. Simon**, ESAMUR, Murcia, Spain)

9:50-10:20 The long experience of Israel in wastewater treatment and reuse: regulation policy, quantitative and qualitative aspects (**E.N. Zalcmán**, Israel National Water Authority)

10:20-10:40 COFFEE BREAK

Session VI Chair: V. Maurino (University of Torino, Italy)

10:40-11:40 WATER REUSE IN AGRICULTURE: effects on soil hydro-ecological functioning (**F. Ferrero**, University of Torino, Italy), nutrients recovery (**L. Celi**, University of Torino, Italy), and technologies for fertigation (**E. Dinuccio**, University of Torino, Italy).

11:40-12:00 Aquaponics: a case of integrated aquaculture with total water reuse (**B. Sicuro**, University of Torino, Italy)

12:00-12:25 An update on Water reuse in Europe (**F. Pizza**, Eureau, MM Spa, Milano, Italy)

12:25-12:45 Water-Energy-Food-Climate Nexus in an integrated peri-urban wastewater treatment and reuse system (**F. Fatone**, Marche Polytechnic University, Italy)

12:45-13:00 Closing remarks (A. Bianco Prevot, V. Maurino, University of Turin, Italy)