**Presentation of the summer school**

This Summer school will focus on the appropriate technologies for managing WASH (Water, Sanitation and Hygiene) services in humanitarian emergencies caused by extreme climate events (e.g. floods, earthquake, etc) and armed conflicts.

The course program will include:

- Introduction to the main criteria for selecting an appropriate technology for intervention in an emergency situation.
- A set of tools to operate in the different stages of a response to a humanitarian crisis.
- Group work on choice and development of appropriate technologies in selected contexts.

**GETTING THERE**

**by car**

Highway A4 Milano-Venezia
- from Milano, exit A4 at “Brescia Ovest” and follow indications to “stadio” (stadium) or “ospedale” (hospital) (North direction). Pass the hospital and turn right from via Triunplina to via Branze
- from Verona or Piacenza, exit A4 at “Brescia Centro” and follow indications to “stadio” or “ospedale”.

**by train**

At Brescia station take the metro towards “Prealpino”, stop at “Europa” then see the map below.

**CeTAmb**

CeTAmb is a research center of University of Brescia supported by Fondazione Cogeme, Museke, Sipec and Tovini. CeTAmb aims to build knowledge and develop research on appropriate technical solutions for the management of environmental issues in Low and Middle Income Countries. CeTAmb collaborates with NGOs’, universities and secondary schools to carry out research and education activities. So far, several projects have been implemented and developed on water, sanitation and energy in different countries.

**The role of appropriate technologies in water, sanitation and waste management to address humanitarian emergencies**

**Coordinators:**

Prof. Sabrina Sorlini  
Prof. Mentore Vaccari

**19th - 23rd June 2023**

University of Brescia - DICATAM  
Via Branze 43, Brescia (Italy)  
Room B.05

**Participation:**  
in person and remote mode

**School Coordinators**

Sabrina Sorlini, Mentore Vaccari  
phone: +39 030371 1299/1300

**Organizing secretariat**

Maria Pezzato, Dilshan Premathilake, Carmencita Tonelini  
phone: +39 030371 1323; e-mail: cetamb@unibs.it

https://cetamb.unibs.it/
The role of appropriate technologies in water, sanitation and waste management to address humanitarian emergencies

**Monday 19th June**

**Morning session**
- 09:30 Participant registration and welcome
- 10:00 Presentation of the Summer School - S. Sorlini
- 10:15 Appropriate technologies in WASH to address humanitarian emergencies
  - Environmental aspects - M. Vaccari
  - Health aspects - A. Matteelli
  - Social aspects - L. Volpi
  - Economic aspects - D. Castellani
- 12:00 Discussion and participant presentation
- 13:00 Lunch

**Afternoon Session**
- 14:00 The experience of the PhD students
  - Technological Track
    - Traditional building systems and contemporary environmental sustainability: vernacular architecture, agriculture and social inclusion - M. Bonetti
    - Revitalizing resources: valorisation of graphite from end-of-life Li-ion batteries through sustainable recovery - D. Premathilake
    - Disaster preparedness in drinking water supply - M. Pezzato
  - Health Track
    - Lifestyle assessment in rural and urban areas, Sub Saharan Africa: the value of Global Health - G. Di Rosario
- 15:30 Introduction to drinking water supply and quality in humanitarian contexts - C. Valsangiaco
- 16:00-18:00 Practical activity: Bacteriological analysis of 10 water samples - C. Valsangiaco

**Tuesday 20th June**

**09:00-13:00 DRINKING WATER in humanitarian crisis**
- C. Valsangiaco
  - Humanitarian response
  - WASH in emergencies
  - International standards
- 13:00 Lunch
- 14:00-17:00
  - Presentation of case studies
  - Interpretation of bacteriological results
- 17:30 Visit to the old town

**Wednesday 21st June**

**09:00-13:00 Appropriate technologies and strategies in the WASTE management sector in humanitarian crises** - B. Reed
- Institutional and behavior change aspects
- SPHERE Project
- Staff competencies
- Innovation and current research
- 13:00 Lunch
- 14:00-18:00
  - Presentation of case studies
  - Group work

**Thursday 22nd June**

**09:00-13:00 SANITATION in humanitarian crises** - C. Luthi and S. Ubbiali
- Appropriate technologies
- Strategies
- 13:00 Lunch
- 14:00-18:00
  - Presentation of case studies
  - Group work: students choose between a development or humanitarian context and prepare a sustainable sanitation solution
  - Presentation of group work results

**Friday 23rd June**

**9:00-13:00 Practical experiences and presentation of CASE STUDIES**
- Oxfam Italia - R. Sansone
- Italian Red Cross - G. Bolzoni
- Other case studies
- 13:00 Lunch
- 14:00-18:00 Visit to CeTamb laboratory of appropriate technologies, DICATAM Department

**EXTRA ACTIVITIES**
- Visit to CeTamb laboratory of appropriate technologies, DICATAM Department
- Visit to the old town center of Brescia

**SPEAKERS**
- Giuseppe Bolzoni - Italian Red Cross (IT)
- Davide Castellani - University of Bergamo (IT)
- Christoph Lüthi - Sandec/EAWAG (CH)
- Alberto Matteelli - University of Brescia (IT)
- Brian Reed - WASH adviser, England (UK)
- Riccardo Sansone - OXFAM, Italia (IT)
- Sabrina Sorlini - CeTamb, University of Brescia (IT)
- Sara Ubbiali - Sandec/EAWAG (CH)
- Mentore Vaccari - CeTamb, University of Brescia (IT)
- Claudio Valsangiaco - University of Applied Sciences and Arts of Southern Switzerland (CH)
- Laura Volpi - University of Milan (IT)

**PhD Students**
- Mariachiara Bonetti - CeTamb, University of Brescia (IT)
- Gianluca Di Rosario - University of Brescia (IT)
- Maria Pezzato - CeTamb, University of Brescia (IT)
- Dilshan Premathilake - CeTamb, University of Brescia (IT)