

## 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.

The course is relevant to:

- Practitioners in international development cooperation;
- Undergraduates, MSc and PhD students;
- Researchers, professors and other interested persons.

Participation is free of charge but **registration** is required by filling out the registration form at this [link](#) within the **9<sup>th</sup> of June 2023**.

A *maximum number of 30 people* will be accepted to participate in class.

A certificate of attendance will be issued for students attending at least 75% of the course.

Students enrolled at University of Brescia in Civil Engineering, Land and Environmental Engineering or Architectural Engineering degree courses can get n. 3 ECTS, if Summer School has been chosen in the study plan.

### **School Coordinators**

Sabrina Sorlini, Mentore Vaccari  
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### **Organizing secretariat**

Maria Pezzato, Dilshan Premathilake, Carmencita Tonelini  
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<https://cetamb.unibs.it/>

## 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.

### GETTING THERE

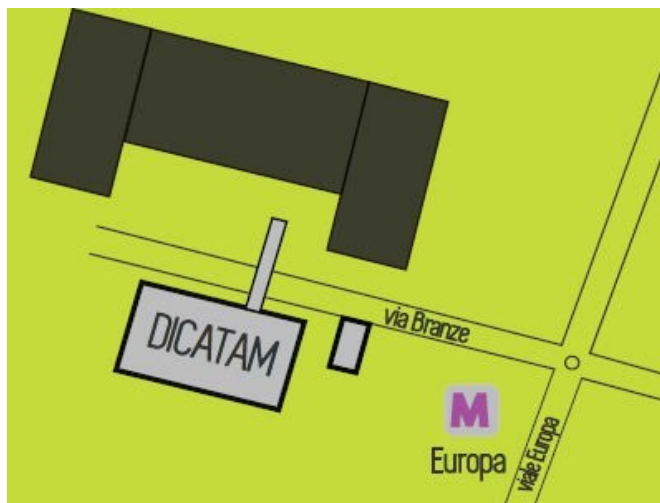
#### **by car**

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 Triumplina 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.



UNIVERSITY  
OF BRESCIA

CeTAMB

Research center 'Appropriate technologies for environmental management in resource limited Countries'

Co-organized by

**eawag**  
aquatic research  
Sandec  
Sanitation, Water and  
Solid Waste for Development

University of Applied Sciences and Arts  
of Southern Switzerland

**SUPSI**

## XII International Summer School

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

Coordinators:

Prof. Sabrina Sorlini  
Prof. Mentore Vaccari

**19<sup>th</sup> - 23<sup>rd</sup> June 2023**

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

Participation:  
in person and remote mode

In collaboration with:



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

## Monday 19<sup>th</sup> 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** Presentation of the PhD course - Curriculum "Appropriate Methodologies and Techniques in International Development Cooperation": opportunities for students and impact on projects - *S. Sorlini*

**14:30** 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 drinking water supply and quality in humanitarian contexts - *C. Valsangiacomo*

**16:00-18:00** Practical activity: Bacteriological analysis of 10 water samples - *C. Valsangiacomo*

## Tuesday 20<sup>th</sup> June

**09:00-13:00** DRINKING WATER in humanitarian crisis

- *C. Valsangiacomo*

- 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 21<sup>st</sup> 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 22<sup>nd</sup> June

**09:00-13:00** SANITATION in humanitarian crises - *C. Luthi e 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 23<sup>rd</sup> 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

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

## PhD Students

<b>Mariachiara Bonetti</b>	CeTamb, University of Brescia (IT)
<b>Gianluca Di Rosario</b>	University of Brescia (IT)
<b>Maria Pezzato</b>	CeTamb, University of Brescia (IT)
<b>Dilshan Premathilake</b>	CeTamb, University of Brescia (IT)