

## PRESENTATION OF THE COURSE

The course aims at exploring techniques and methods of intervention in humanitarian emergency in all its forms (conflicts, natural disasters, immediate/chronic and post-emergency), showing the different approaches in the technical operations.

An overview of differences in the approach of development and emergency projects will be presented specifying socio-political, legal, economic, health and environmental issues. Participants will study appropriate technologies for water, sanitation and waste management in emergency situations through the presentation of case studies and teamwork.

Finally, an appropriate approach for action planning of environmental services will be presented from emergency towards sustainable development.

The course is addressed to:

- people working in International Development Cooperation;
- PhD students;
- students, researchers and assistant professors and all interested people.

Participation is free of charge but subordinated to regular **registration** by sending an e-mail to the organizing secretariat writing full name, affiliation, address, e-mail and phone within the **19th of June 2015**.

A maximum number of 30 people will be accepted.

The course language is English except for the Monday morning session which will be in Italian.

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

### **Scientific secretariat**

Sabrina Sorlini, Mentore Vaccari

phone: +39 030371 1299/1300; e-mail: [sorlini@ing.unibs.it](mailto:sorlini@ing.unibs.it)

### **Organizing secretariat**

Andrea Perteghella, Lavinia Di Francesco,

Marta Domini, Silvia Gibellini

phone: +39 0303711323; e-mail: [cetamb@ing.unibs.it](mailto:cetamb@ing.unibs.it)

**[www.ing.unibs.it/cetamb/](http://www.ing.unibs.it/cetamb/)**

## CeTAmb LAB

CeTAmb LAB aims at conducting research on appropriate technical solutions to environmental issues in Low and Middle Income Countries. CeTAmb LAB collaborates with partners such as NGOs or universities, to carry out research and education activities. Nowadays, a number of projects has been developed on water and sanitation and energy recovery in several Countries (Kenya, Senegal, Burkina Faso, Gaza Strip, Mozambique, Colombia, Peru, Brazil, Bosnia and Herzegovina, Cameroon, Chad and others).

## GETTING THERE

### by car

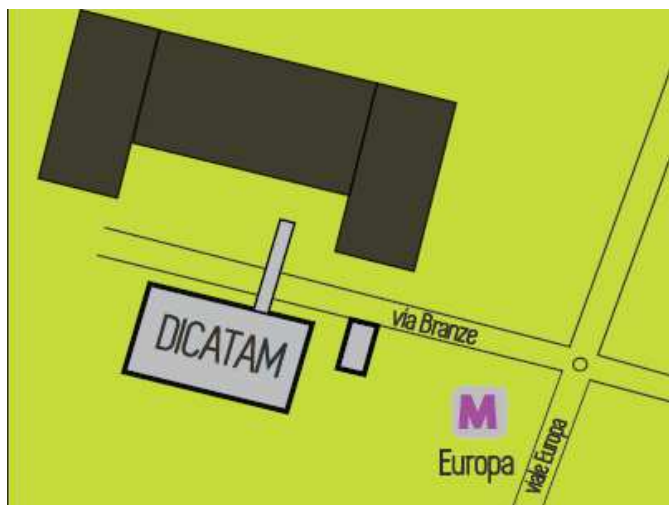
Highway A4 Milano-Venezia

- 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.



CeTAmbLAB

Research laboratory for Appropriate  
Technologies for Environmental  
Management in resource-limited Countries

## 5<sup>th</sup> International Summer School

**Water, sanitation and waste  
management in humanitarian  
crises:  
appropriate technologies and  
planning towards  
development**

**29<sup>th</sup> June - 3<sup>rd</sup> July 2015**

*Coordinators:*

*Prof. Carlo Collivignarelli,*

*Prof. Sabrina Sorlini, Eng. Mentore Vaccari*

University of Brescia—DICATAM

Via Branze 43 Brescia (Italy)

Room B.05

*Under the  
patronage of*



LE UNIVERSITÀ  
PER EXPO 2015  
COMITATO SCIENTIFICO  
DEL COMUNE DI MILANO



# Water, sanitation and waste management in humanitarian crises: appropriate technologies and planning towards development

## COURSE PROGRAMME

### Monday 29<sup>th</sup> June

09:15 Participants registration

09:45 Welcome

#### Morning session

10:00 Presentation of the Summer School (*C. Collivignarelli*)

10:15 Appropriate approaches for water, sanitation and waste management in emergencies:

- Social/Anthropological aspects (*A. Casella*)
- Health aspects (*C. Castelli*)
- Economic aspects (*L. Viganò, D. Castellani*)
- Environmental aspects (*S. Sorlini*)

12:15 Discussion

12:45 Lunch

#### Afternoon session

14:15 Presentation of the researches developed in the “Appropriate Methods and Technologies for International Development Cooperation” PhD course.

The experiences of the PhD students

#### Technological curriculum

- *A. Pollmann Gomez*: Analysis of water poverty and protection of water resources in Vilankulo city, Mozambique
- *F. De Nardo*: Appropriate technologies for the production of organic fertilizer from organic residues in occupied Palestinian territories
- *L. Di Francesco*: Design of appropriate sanitation facilities in the urban area of Bignona (Senegal)
- *M. Domini*: Integrated and sustainable environmental sanitation concepts in the urban area of Iringa (Tanzania)
- *A. Selmi*: Wastewater reuse in the agricultural sector in Gaza Strip
- *A. Vidoni*: Water supply management in rural areas of Burkina Faso
- *F. Zambetti*: Recovery and management of Waste of Electric and Electronic Equipment (WEEE) in resource-limited countries

#### Health curriculum

- *C. Poppi*: Parasites prevalence in rural community in Ecuador
- *S. Odolini*: Clinical trials and surveillance protocols in the import pathologies
- *S. Bigoni*: Sexually transmitted infection in the migrant population
- *C. Cerini*: Maternal and child health in the Morrumbene district (Mozambique)

16:30 Conclusions

### Tuesday 30<sup>th</sup> June

(speaker: *B. Reed*)

#### Morning session

9:00 - 12:30 Introduction to the humanitarian crisis and emergency in developing countries in the water and sanitation sector:

- SPHERE guidelines and WHO Technical notes for emergency
- Case studies

12:45 Lunch

#### Afternoon session

14:00 - 17:30 Appropriate technologies and strategies in the water and sanitation sector in humanitarian crises:

- Theoretical aspects
- Case studies
- Team work

### Wednesday 1<sup>st</sup> July

(speaker: *G. Bolzoni*)

#### Morning session

9:00 - 12:30 Appropriate technologies and strategies in the drinking water sector:

- Hygiene promotion during the emergencies
- Theoretical aspects on water quality and treatments
- Exercises

12:45 Lunch

#### Afternoon session

14:00 - 17:30

- Exercise: water treatment
- Case studies: Storage of water during the emergencies
- Team work

### Thursday 2<sup>nd</sup> July

(speaker: *T. Tudor*)

#### Morning session

9:00 - 12:30 Appropriate technologies and strategies for special solid waste management in humanitarian crises :

- Key risks pathways and how the risks should be managed
- Short, medium and long-term waste management options

12:45 Lunch

#### Afternoon session

14:00 - 16:30

- Stakeholder engagement
- Case studies

### Friday 3<sup>rd</sup> July

(speaker: *S. Barakat*)

#### Morning session

9:00 - 12:30 Interventions in emergency and reconstruction phase

- The social-political scenarios in humanitarian crises
- Anthropological, economic, institutional aspects

12:45 Lunch

#### Afternoon session

14:00 - 17:30 Reconstruction and urban planning in post-emergencies scenarios:

- Case studies
- Team work

#### Extra activities:

- Visit to the CeTamb LAB laboratory of appropriate technologies, DICATAM Department
- Visit to the old town center of Brescia, organized with the support of FAI Brescia

## SPEAKERS

**S. Barakat**

University of York (UK)

**G. Bolzoni**

Italian Red Cross - IRC (IT)

**A. Casella**

UCSC , Brescia (IT)

**D. Castellani**

University of Bergamo (IT)

**C. Castelli**

University of Brescia (IT)

**C. Collivignarelli**

CeTamb LAB, University of Brescia (IT)

**B. Reed**

Consultant (UK)

**S. Sorlini**

CeTamb LAB, University of Brescia (IT)

**T. Tudor**

University of Northampton (UK)

**L. Viganò**

University of Bergamo (IT)

#### PhD Students:

**S. Bigoni**

University of Brescia (IT)

**C. Cerini**

University of Brescia (IT)

**F. De Nardo**

CeTamb LAB, University of Brescia (IT)

**L. Di Francesco**

CeTamb LAB, University of Brescia (IT)

**M. Domini**

CeTamb LAB, University of Brescia (IT)

**S. Odolini**

University of Brescia (IT)

**A. Pollmann Gomez**

CeTamb LAB, University of Brescia (IT)

**C. Poppi**

University of Brescia (IT)

**A. Selmi**

CeTamb LAB, University of Brescia (IT)

**A. Vidoni**

CeTamb LAB, University of Brescia (IT)

**F. Zambetti**

CeTamb LAB, University of Brescia (IT)