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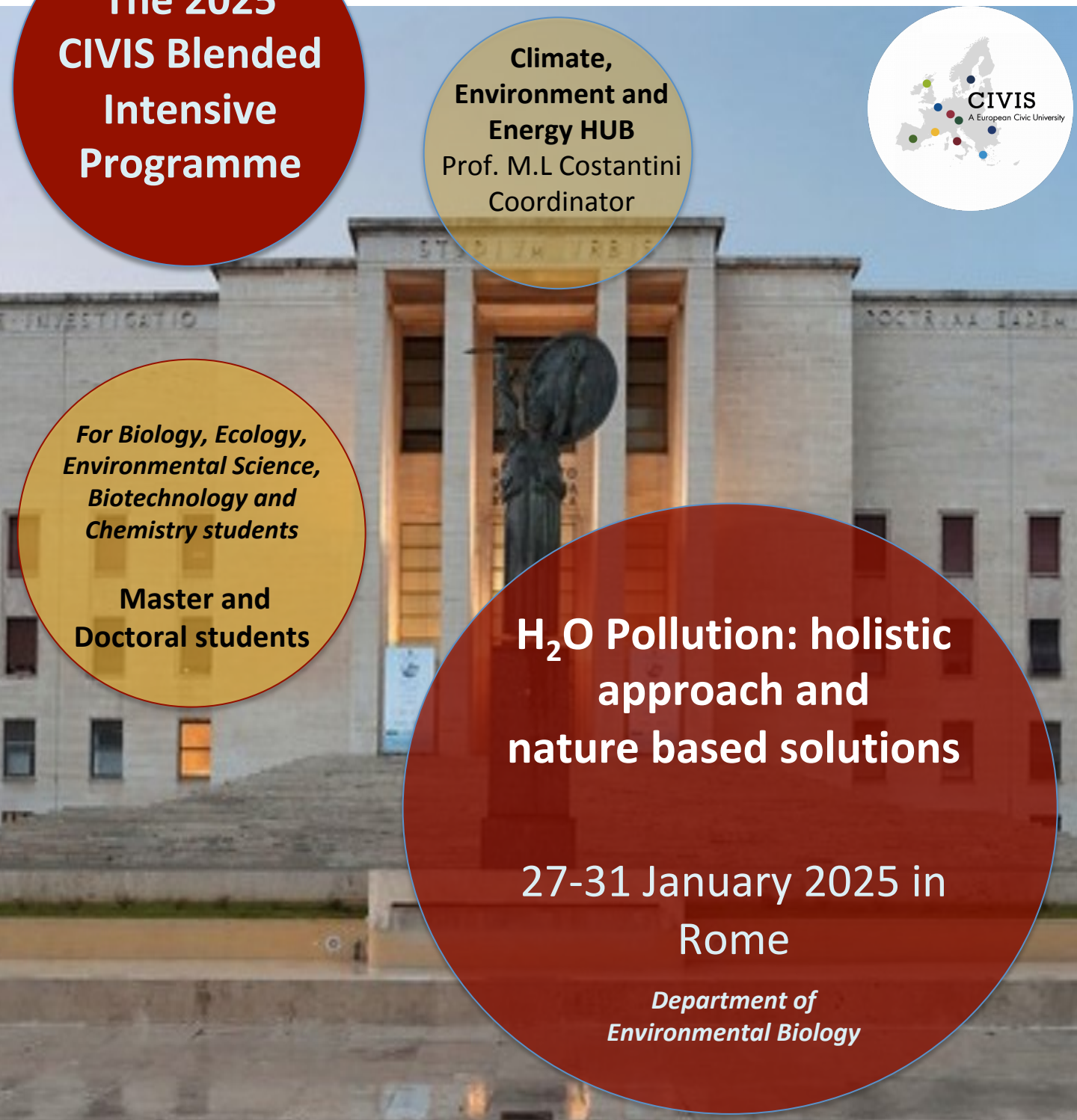
The 2025 CIVIS Blended Intensive Programme

Climate, Environment and Energy HUB
Prof. M.L Costantini
Coordinator

CIVIS
A European Civic University



For Biology, Ecology, Environmental Science, Biotechnology and Chemistry students

Master and Doctoral students

H_2O Pollution: holistic approach and nature based solutions

27-31 January 2025 in Rome

Department of Environmental Biology

JOINT THE EVENT !

SAVE THE DATE !

In line with Sustainable Development Goals

ENEA · IRSA CNR · Una finestra sul mare · Sapienza Università di Roma · Universitet Stockholms · University of Glasgow

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General programme of the BIP

	Monday	Tuesday	Wednesday	Thursday	Friday
9: 00 – 11: 00	Arrival and registration – Opening session	Field trip	Lab activities in Sapienza	Visit to Stakeholders	Project writing session
11: 15 – 13: 15	Learning sessions	Field trip	Lab activities in Sapienza	Visit to Stakeholders	Project writing session
14: 15 – 16: 15	Learning sessions	Field trip	Lab activities in Sapienza	Visit to Stakeholders	Sum up and feedback
16: 30 – 18: 30	Learning sessions	Workshop	City tour – water at the ancient Romans' times	Workshop	Closing session
20: 30			Social event		

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LECTURES AND APPLICATIONS IN ROME

1) New ecological approaches to assess water quality

- Isotope fingerprints to track pollution sources and environmental changes over space and time
- Detection of Microcystin-producing cyanobacteria and naturally-occurring biodegrading bacterial community using qPCR.
- Ecotoxicology testing adapted for detection of Microcystins
- Identification of antibiotic resistant bacteria and genes
- Ecotoxicology testing with macro-invertebrates
- Behavioural studies with organisms
- Non-animal alternatives (NAMS etc)
- Identification of microbiological indicators of depollution by molecular methods
- Ecotoxicological tests in water mixtures to support chemical analysis
- Degradation tests under anaerobic conditions

2) New chemical approaches to assess water quality

- Sources, occurrence and health impacts of emerging contaminants and methods for their identification
- Sensors to monitor water quality
- Digital PCR for monitoring using molecular markers
- Non-target screening and targeted analysis

3) Green and nature-based solutions for pollution remediation including bioenergy production

- Green chemistry solutions for water pollution problems
- Nature-based solutions for pollution remediation
- Bioremediation of emerging contaminants, phyto-assisted bioremediation
- Energetic valorisation of human activities' residual products including pharmaceuticals and other emerging contaminants
- Bioelectrochemical systems (BES), microbial fuel cells (MFCs), microbial electrolysis cells and anaerobic digestion in bioremediation, wastewater treatment, biofuel, energy and biochemical production

fieldwork

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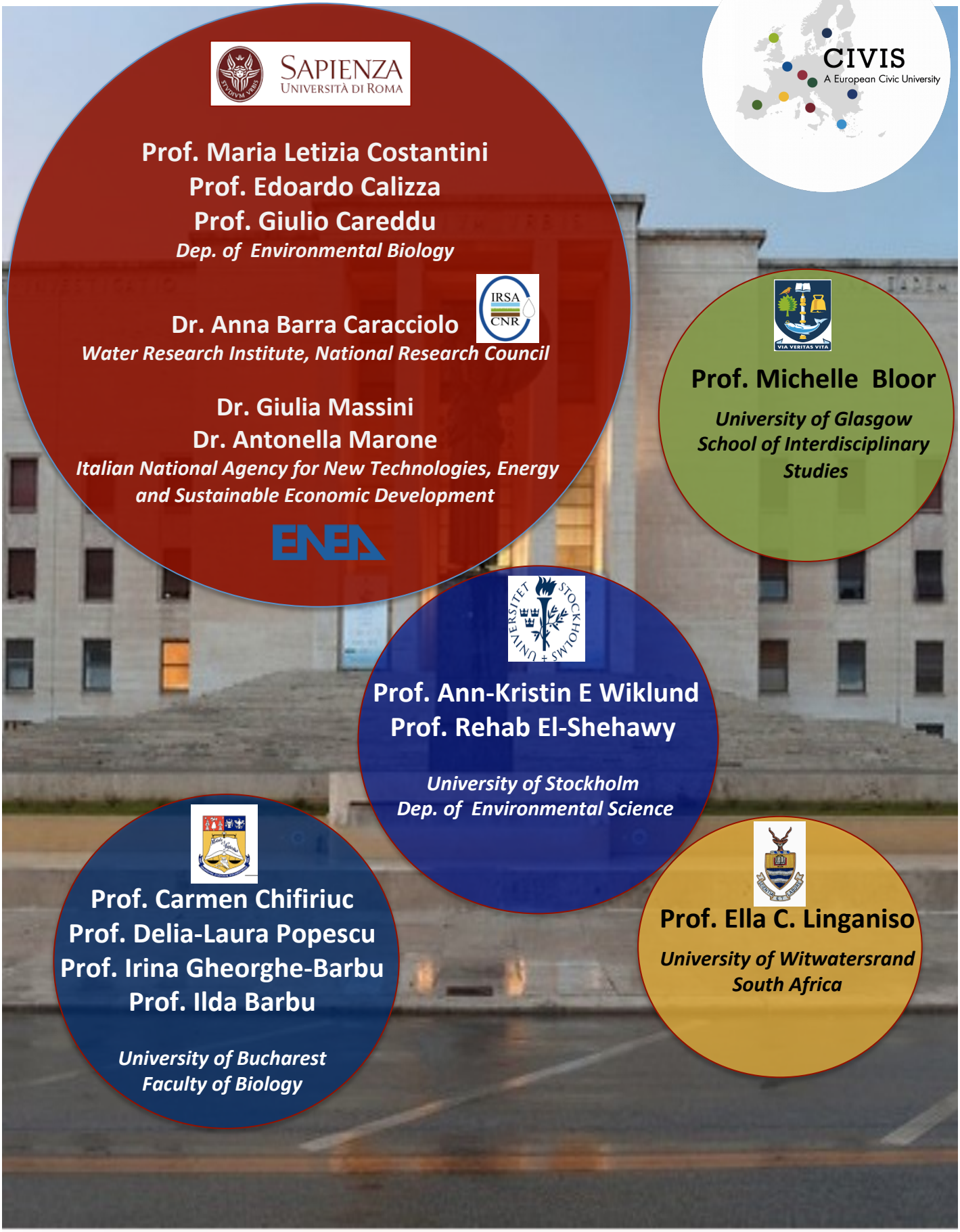
Affiliation of the Academics



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Prof. Edoardo Calizza
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Dep. of Environmental Biology

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Water Research Institute, National Research Council

Dr. Giulia Massini
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Italian National Agency for New Technologies, Energy and Sustainable Economic Development

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Prof. Ann-Kristin E Wiklund
Prof. Rehab El-Shehawy
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Prof. Carmen Chifiriuc
Prof. Delia-Laura Popescu
Prof. Irina Gheorghe-Barbu
Prof. Ilda Barbu
University of Bucharest
Faculty of Biology

Prof. Ella C. Linganiso
University of Witwatersrand
South Africa

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Innovative approaches for effective detection and removal of pollutants in sustainable water management

Blended Intensive Programme

Rome
27-31 January 2025

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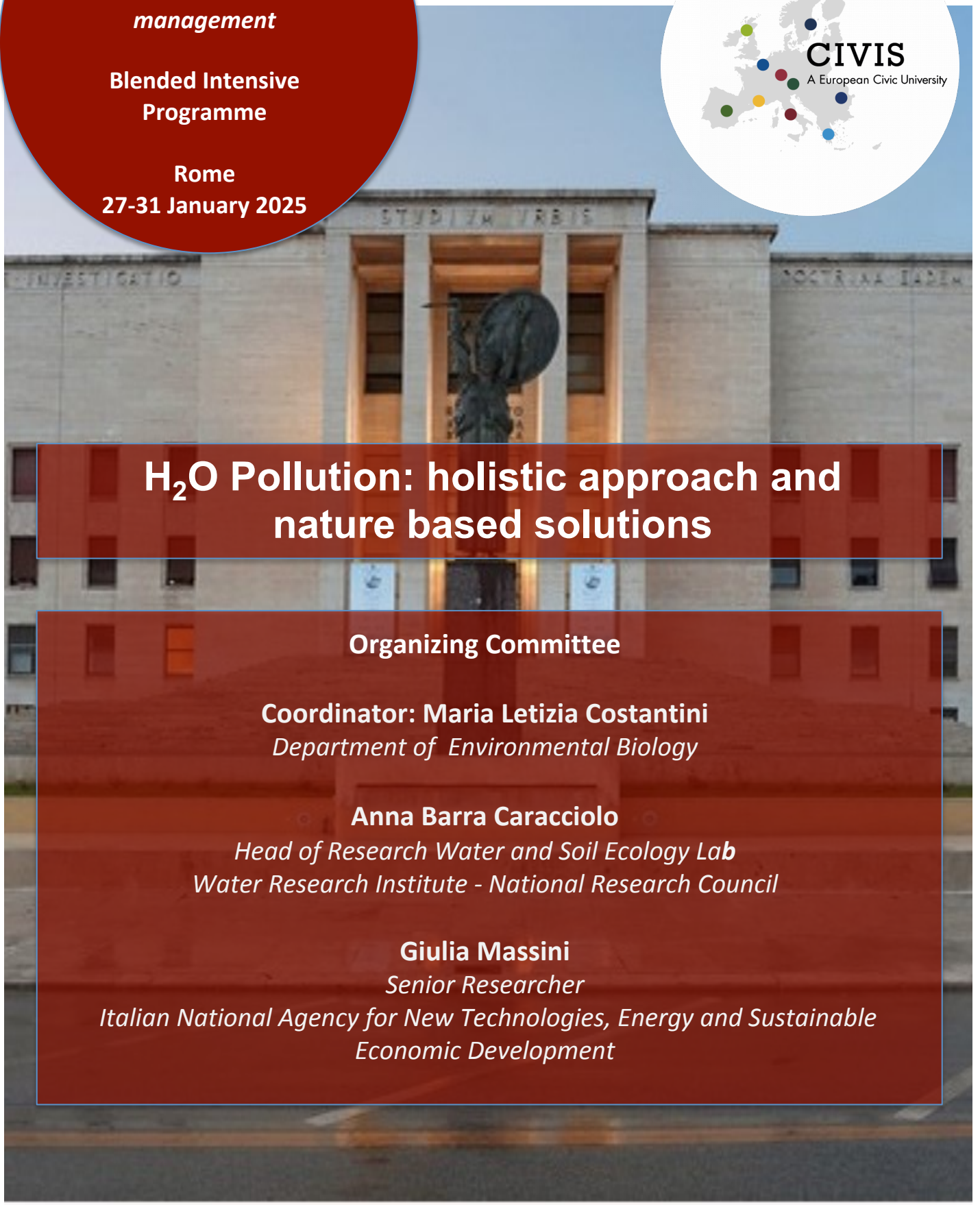

H_2O Pollution: holistic approach and nature based solutions

Organizing Committee

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