

SYMPOSIUM | POMPEII 18-19 MAY 2026

Water Intelligence for Urban Resilience

Official Programme

Organized by



UNIVERSITÀ
DEGLI STUDI
DI SALERNO



SEED

Co-Organized by



UNIVERSITY OF THE
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DEPARTMENT OF ENVIRONMENT



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Khalifa University

POMPEII

PARCO
ARCHEOLOGICO
DI POMPEI

Under the auspices of

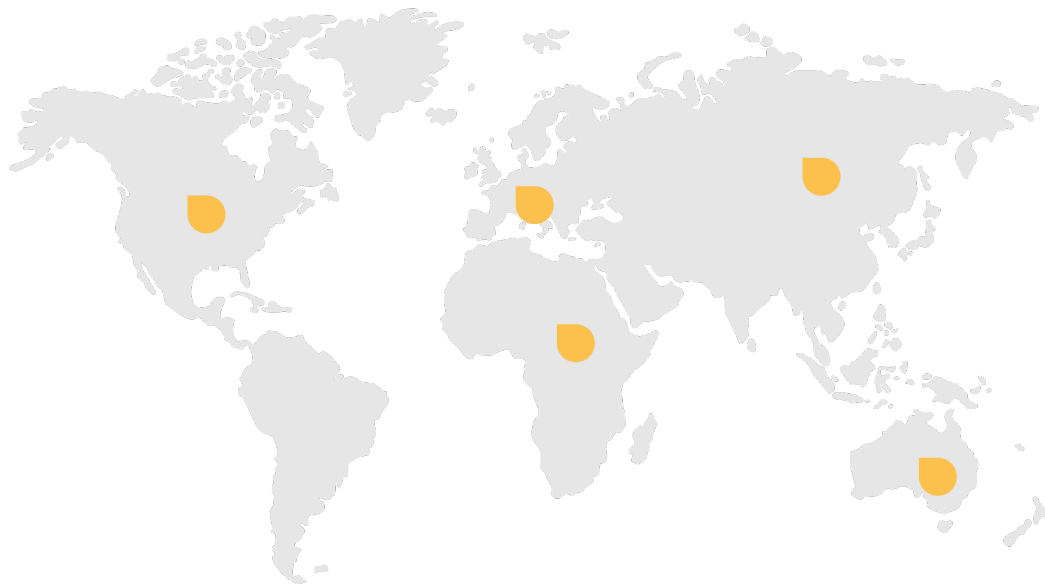




Addressing water Quality in a Changing Environment

An international network of excellence since 2019, advancing urban water resilience through strategic training, global symposia, and a dedicated International Water Academy

<p>+170</p> <p>TRAINED ALUMNI across advanced international Academy programmes</p>	<p>+40</p> <p>DISTINGUISHED PROFESSORS renowned experts from the world's top universities</p>	<p>+30</p> <p>REPRESENTED COUNTRIES within a growing global alumni community</p>	<p>+8</p> <p>GLOBAL EVENTS successful Symposia and Academies delivered since 2019</p>
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Global Academy and Symposia

The core strength of the UrbanWaterSECURITY (UWS) ecosystem lies in the seamless synergy between its high-level Symposium series and the specialized UWS Academy. This connection represents a vital pipeline that transforms global scientific discourse into tangible professional expertise.

While the Symposia serve as an international stage for groundbreaking research, policy debate, and institutional networking, the Academy acts as the practical engine of the initiative. This integrated approach ensures that the “state-of-the-art” insights gathered during our global gatherings are directly translated into the curriculum of our training programs.

Introductory overview

The UrbanWaterSECURITY Symposium 2026 in Pompeii is part of a broader international platform which, since 2019, has brought together advanced training, international symposia and academies to advance the dialogue on the future of urban water resilience. Supported by a distinguished Academic Team, a growing international alumni community and a consolidated record of institutional and scholarly engagement, UrbanWaterSECURITY has become a credible space where science, strategy and capacity building meet.

The Pompeii edition marks a further step in this evolution: a high-level gathering shaped by the theme Water Intelligence for Urban Resilience and embedded in a broader ecosystem committed to rethinking how cities understand, govern and secure water in a changing world.

Why Pompeii

Pompeii offers an exceptional context in which to rethink urban water security. The city stands as a living archive of infrastructure, public space, water distribution and environmental adaptation. Its hydraulic organisation, civic logic and maintenance culture still speak to some of the most urgent questions faced by contemporary cities. For this reason, Pompeii is not simply the venue of the Symposium. It is part of the intellectual framework of the event.

The site allows participants to reflect on how ancient societies organised water, addressed risk, built redundancy, ensured service continuity and embedded resilience within the urban fabric. The 2026 edition is therefore built around a dialogue between ancient solutions and future-ready systems.



Scientific rationale and thematic focus

Urban water security is among the defining strategic challenges of our time. Climate instability, hydrological extremes, ageing infrastructure, emerging contaminants, energy pressures, ecosystem stress and uneven governance capacity all require integrated and forward-looking responses. The Pompeii Symposium addresses these issues through an interdisciplinary perspective linking engineering, environmental science, resilience thinking, digital innovation and territorial intelligence.

Particular emphasis will be placed on how good practice can be translated into operational and scalable approaches for cities and regions. The scientific narrative of the Symposium makes clear that the event is not limited to technological discussion. It is equally concerned with governance, implementation, learning capacity, social relevance and the ability to connect science, institutions and communities.



Water Intelligence



Climate Resilience



AI & Decision Support



Governance & Practice

General Chair of UWS

Provides strategic leadership and international positioning, ensuring coherence across the Academy, Symposium activities and the wider UWS mission. The General Chair also serves as President of the Academic Team.



Vincenzo Naddeo
University of Salerno | Italy

Director of the UWS Academy

Provides academic stewardship of the UWS Academy



Vincenzo Belgiorno
University of Salerno | Italy

Chairs of UWS 2026 Symposium

The Symposium Chairs combine European, Middle Eastern and Asian perspectives to ensure continued relevance to key water challenges at both Mediterranean and global levels



Antonis Zorpas
Open University of Cyprus | Cyprus



Shadi Hasan
Khalifa University | UAE



Dimitri Lekkas
University of the Aegean | Greece



Kwang-Ho Choo
Kyungpook National
University (KNU) / South Korea

Academic Team

The Pompeii Symposium will feature lectures, moderated discussions and workshop moments delivered by highly respected experts and internationally recognised scholars selected within, or in close connection with, the UrbanWaterSECURITY Academic Team. These contributors are chosen for their scientific standing, recognised expertise and capacity to engage with the interdisciplinary challenges of water, resilience, engineering, heritage and environmental transition. In this edition the contributions will be taught by the following renowned experts:



Dimitri Lekkas
University of the Aegean |
Greece



Kwang-Ho Choo
Kyungpook National
University (KNU) / South
Korea



Shadi Hasan
Khalifa University | UAE



Maria Chiara Zanetti
Polytechnic of Torino | Italy



Antonis Zorpas
Open University of Cyprus |
Cyprus



Claudio Lubello
University of Florence |
Italy



Paolo Roccaro
University of Catania | Italy



Antonio Buonerba
University of Salerno | Italy



Vincenzo Naddeo
University of Salerno | Italy



Giuseppina Oliva
University of Salerno | Italy



Stefano Cairone
University of Salerno | Italy



Laura Clarizia
University of Naples
Federico II | Italy



**María Eugenia
Suárez-Ojeda**
Universitat Autònoma
de Barcelona | Spain



Vincenzo Calvanese
Archaeological Park of Pompeii
Italy



Giovanni Esposito
University of Naples Federico II | Italy



Luigi Petti
University of Salerno | Italy



Mohamed Ksibi
Sfax University / Tunisia



Gabriel Zuchtriegel
Archaeological Park of Pompeii
Italy



Peter Jarvis
Cranfield University | United Kingdom



Tiziano Zarra
University of Salerno | Italy



Vincenzo Belgiorno
University of Salerno | Italy



Fabio Fatuzzo
Commissioner for Wastewater
Treatment and Reuse / Italy



Gian Maria Vessa
ASIS spa / Italy



Alessandra Marra
ASIS spa / Italy



Raffaele Martinelli
Archaeological Park of Pompeii / Italy



Sara Roversi
Future Food Institute / Italy

Day 1 - Monday 18 May 2026

08:30	Registration
09:00	Institutional greetings and opening <ul style="list-style-type: none"> - Dr. Gabriel Zuchtriegel General Director of Archaeological Park of Pompeii, Italy - Prof. Vincenzo Naddeo, General Chair of UrbanWaterSECURITY - Prof. Vincenzo Belgiorno, Director of UrbanWaterSECURITY - Dr. Maria Rosaria Della Rocca, Director of Environmental Sector of Campania Region - Prof. Luciano Feo, Director of Civil Engineering Department of University of Salerno - Dr. Claudia Pecoraro, Regional Minister for the Environment and the Integrated Water Cycle, Campania Region, Italy - Prof. Federica Ribera, Director of the Master "Living Heritage" - Dr. Vincenzo Marrazzo, President of the Regional Park Authority of the Sarno River Hydrographic Basin - Prof. Fabio Fatuzzo, Commissioner for Wastewater Treatment and Reuse, Italy
10:00	Class 1 Introduction to UrbanWaterSECURITY <ul style="list-style-type: none"> ▪ <i>UWS: Water Intelligence for Urban Resilience</i> Prof. Vincenzo Naddeo University of Salerno, Italy ▪ <i>Cultural heritage as a strategic asset for sustainable development: protection and valorization approaches</i> Dr. Gabriel Zuchtriegel General Director of Archaeological Park of Pompeii, Italy ▪ <i>Climate Change and Water Scarcity: Challenges and Strategies for Sustainable Water Use and Reuse</i> Prof. Demetris F. Lekkas University of the Aegean, Greece
10:50	Class 2 Wastewater Governance for Water Resilience <ul style="list-style-type: none"> ▪ <i>From EU Infringement to Water Resilience: Italy's Commissioner-Led Wastewater Strategy</i> Prof. Fabio Fatuzzo Commissioner for Wastewater Treatment and Reuse, Italy

Day 1 - Monday 18 May 2026

	<ul style="list-style-type: none"> ▪ <i>Evolution of the EU Urban Wastewater Treatment Directive: Compliance and Infringement Resolution</i> Prof. Vincenzo Belgiorno University of Salerno, Italy
11:30	Coffee break
12:00	Class 3 Water and AI <ul style="list-style-type: none"> ▪ <i>AI-Driven Modeling and Smart Sensor Technologies for Real-Time Monitoring of Contaminants of Emerging Concern in Water</i> Prof. Paolo Roccaro University of Catania, Italy ▪ <i>Artificial intelligence for the next-generation sustainable and carbon-neutral wastewater treatment systems</i> Dr. Stefano Cairone University of Salerno, Italy ▪ <i>Addressing water losses in urban networks through digitalization and partitioning into district metered areas</i> Dr. Alessandra Marra and Eng. Gian Maria Vessa ASIS Salernitana Reti ed Impianti SpA
13:00	Classwork 1 <p>Learning assessment based on the lectures delivered in Classes 1, 2 and 3</p>
13:30	Light lunch
15:00	Class 4 Water Security and One Health <ul style="list-style-type: none"> ▪ <i>Drinking Water Security: The Important Role of Natural Organic Matter</i> Prof. Peter Jarvis Cranfield University, United Kingdom ▪ <i>Wastewater-Based Epidemiology for Urban Resilience: Methodological Insights from the SPORE-MED Sfax Workshop</i> Prof. Mohamed Ksibi University of Sfax, Tunisia

Day 1 - Monday 18 May 2026

15:40 | **Class 5 | Contaminants of Emerging Concern: Microplastics**

- *Advanced techniques for the detection and quantification of microplastics*
Prof. Antonio Buonerba | University of Salerno, Italy
- *Fate and removal of microplastics and other relevant microparticles in wastewater treatment plants*
Prof. Claudio Lubello | University of Florence, Italy

16:20 | **Coffee break**

16:50 | **Class 6 | Environment, Energy, and Circularity in Wastewater Treatment Plants**

- *The Role of End of Waste Criteria in Circularity*
Prof. Antonis Zorpas | Open University of Cyprus, Cyprus
- *Turning Waste into Energy: Solar Photocatalytic Hydrogen Production from Organic Wastewater*
Prof. Laura Clarizia | University of Naples Federico II, Italy
- *Urban wastewater treatment and nitrogen recovery through heterotrophic aerobic assimilation*
Prof. Giovanni Esposito | University of Naples Federico II, Italy
- *Wastewater Treatment Plants Are No Longer Just Energy Consumers: The Carboxylate Platform as a Game-Changer.*
Prof. María Eugenia Suárez-Ojeda, Universitat Autònoma de Barcelona, Spain

18:10 | **Classwork 2**

Learning assessment based on the lectures delivered in Classes 4, 5 and 6

18:40 | **Official Group Photo of the Event**

Official group photo of the Symposium with speakers, institutional representatives, students and all participants.

At sunset | **Social dinner**

Day 2 - Tuesday 19 May 2026

08:30	Registration
09:30	<p>Greetings and opening of the second day's proceedings</p> <ul style="list-style-type: none"> - Prof. Vincenzo Naddeo, General Chair of UrbanWaterSECURITY - Prof. Demetris F. Lekkas Co-Chair of UrbanWaterSECURITY - Prof. Antonis Zorpas, Co-Chair of UrbanWaterSECURITY - Prof. Kwang-Ho Choo, Co-Chair of UrbanWaterSECURITY - Prof. Shadi W. Hasan, Co-Chair of UrbanWaterSECURITY
10:00	<p>Class 7 Advanced Water Technologies for Resilient and Regenerative Cities</p> <ul style="list-style-type: none"> ▪ <i>Fundamentals of Reverse Osmosis for Seawater Desalination</i> Prof. Shadi W. Hasan Khalifa University, UAE ▪ <i>Capacitive deionization for sustainable desalination: Recent advances and future perspectives</i> Prof. Kwang-Ho Choo Kyungpook National University, South Korea ▪ <i>PLANET AQUA: Cities, Bioregions and Blue Communities - Driving Innovation for Regenerative Future</i> Dr. Sara Roversi Future Food Institute, Italy
11:00	<p>Class 8 Contaminants of Emerging Concern: PFAS</p> <ul style="list-style-type: none"> ▪ <i>PFAS in water: legal framework, evidence, perspective</i> Prof. Maria Chiara Zanetti Polytechnic of Torino, Italy ▪ <i>Urban wastewater treatment plants as PFAS hotspots: major sources and the effects of treatment technologies on human and ecological toxicity</i> Dr. Giuseppina Oliva University of Salerno, Italy
11:40	<p>Class 9 Sustainability and Resilience of Heritage Systems</p> <ul style="list-style-type: none"> ▪ <i>Archaeological Park of Pompeii, Italy, Ancient Roman hydraulic engineering systems in Pompeii: knowledge and sustainability</i> Dr. Vincenzo Calvanese Archaeological Park of Pompeii, Italy Dr. Raffaele Martinelli Archaeological Park of Pompeii, Italy

Day 2 - Tuesday 19 May 2026

12:10	Classwork 3 Learning assessment based on the lectures delivered in Classes 7, 8 and 9
12:40	Closing Remarks and UrbanWaterSECURITY Awards <ul style="list-style-type: none">- Prof. Vincenzo Naddeo, General Chair of UrbanWaterSECURITY- Prof. Vincenzo Belgiorno, Director of UrbanWaterSECURITY- Prof. Antonis Zorpas, Chair of UrbanWaterSECURITY
13:00	Editors' Networking Brunch Publishing Strategies for Water, Waste and Environmental Engineering Informal brunch and networking session with Editors and Editorial Board members of leading journals in water, waste, environmental and chemical engineering, including Chemical Engineering Journal, Water Research, Waste Management & Research, Case Studies in Chemical and Environmental Engineering, Euro-Mediterranean Journal for Environmental Integration, Global NEST Journal and other journals represented at the Symposium. The session will offer early-career researchers, PhD candidates and participants the opportunity to discuss publication strategies, journal priorities, manuscript preparation and emerging research directions.
14:30	Class 10 Learning from Pompeii: Roman Hydraulic Engineering for Urban Resilience Dr. Vincenzo Calvanese Archaeological Park of Pompeii, Italy Prof. Luigi Petti University of Salerno, Italy Technical guided visit to the Archaeological Park of Pompeii, exploring how Roman hydraulic engineering shaped the city's water organisation and contributed to urban resilience.

Registration

Registration for the Pompeii 2026 Symposium is open to professionals, PhD candidates and university students, subject to the available capacity of the event. A limited number of university students enrolled in Bachelor's or Master's degree programmes and falling within the eligibility requirements of the H2Oltre project, funded by Campania Region, may benefit from full coverage of the registration fee through the project framework.

Places are limited in order to preserve the quality of discussion, interaction and on-site experience.

Venue

The UrbanWaterSECURITY Symposium 2026 will take place in the Auditorium of the Archaeological Park of Pompeii, offering a distinctive setting at the intersection of heritage, science and international dialogue. Pompeii is easily accessible from both Naples and Salerno by rail and road. For participants travelling by train, Pompei Scavi - Villa dei Misteri is the closest and most convenient station for reaching the venue and the Archaeological Park. The site can also be accessed from the FS station of Pompei, depending on the route of arrival and the specific destination within the city.

In Synergy with Funded Projects

The UrbanWaterSECURITY Symposium 2026 in Pompeii is organised in synergy with selected funded projects and initiatives whose objectives are closely aligned with the Symposium theme. Their support contributes to the scientific quality of the event, strengthens collaboration across institutions and disciplines, and reinforces the international relevance of the Symposium.

SPORE-MED

Sustainable uPgraded WWTPs for resOurce recovery, water Reuse and hEalth surveillance in the MEDiterranean region SPORE-MED (Reference 2322) is part of the PRIMA Programme, supported by the European Union.



WATER4FUTURE

WATER4FUTURE (Project 101241113) Co-funded by the European Union, Call ERASMUS-EDU-2025-EMJM-DESIGN, Erasmus Mundus Design Measures (EMDM).



H2Oltre

H2Oltre project supported by Regione Campania under call INFEAS 2025.



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