

LOUVAIN

Water

UCLouvain

26 APRIL 2021

13:00 – 18:00

ONLINE SYMPOSIUM INTERDISCIPLINARY APPROACHES FOR ADDRESSING THE 21 CENTURY WATER CHALLENGES

Water
Security

Water
Quality

Anthropological Insights
on Water

Horizon Europe R&I opportunities
by the European Commission

Opportunities to exchange with
Circle U. partners

Panel
Discussions

Pitch
presentations

 **Circle U.**
European University Alliance

LOUVAIN
Water

Interdisciplinary approaches for addressing the 21st century water challenges

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Online symposium

[Watch the videos of the symposium](#)

[Download the programme of the symposium](#)

Scope

There is no life without water. Water is a driver for development: it is vital for human nutrition and health and essential for ecosystem management, agriculture, energy, economic development, peace, and security. Yet, billions of people around the world are continuing to suffer from poor access to water, sanitation, and hygiene. Some 2.2 billion people around the world lack access to safely managed drinking water services, 4.2 billion people do not have access to safely managed sanitation services, and 3 billion lack basic handwashing facilities. Many societies are further confronted with increasing water scarcity, lowering water quality and the indirect impacts of climate changes on water system functions and services. In addition, in many regions of the world, governance and institutions and financial resources dedicated to water management are insufficient for reaching a sustainable trajectory for water management. The current challenges related to water are therefore multi-dimensional, multi-scale and complex, and intertwined with the many other challenges of the sustainable development agenda. Addressing these complex challenges needs multi- and interdisciplinary approaches, and expertise from different scientific disciplines. This should be grounded on a thorough understanding of the water system, the water system processes and associated water services and functions.

The Circle U. is a recently created European university alliance that aims constructing, by 2025 an inclusive, research-intensive and interdisciplinary European university. Students, staff and partners from civil society, businesses and the public sector will collaborate to jointly develop competencies and solutions for keeping Europe and the planet healthy, peaceful, democratic and prosperous. Louvain4water is a transdisciplinary consortium that develops basic and applied research, advanced training and

services in the field of water at UCLouvain. The expertise available in the Circle U. alliance, or in local platforms of participating universities like the Louvain4water platform yields excellent opportunities for consolidating the science base needed to address the current water challenges. Yet, such expertise should be better mapped and linked in order to empower the capacities of participating institutions of the Circle U. alliance in addressing water challenges.

The overall goal of this symposium is to strengthen the conceptual interdisciplinary scientific framework that is needed to address the current multidimensional water challenges and to bring together expertise from different partner institutions of Circle U. in the water science domain. The specific objective is to illustrate and discuss on how interdisciplinarity can be boosted to address the complex water challenges and to draw a roadmap to set-up interdisciplinary activities in the water science domain in the realm of Circle U.

Symposium format

To reach these goals, a scientific symposium was organised at UCLouvain 26 April 2021. The symposium was formatted along several programme activities:

- Opening : Introduction to the European University Alliance Circle U. (presenter to be announced)
- Introduction to Horizon Europe R&I opportunities related to Water, Healthy Oceans and Seas by **Elisabetta BALZI**, Head of Unit, DG Research & Innovation, C.4 Healthy Oceans and Seas, European Commission
- Key note presentations (120 minutes): Experts from the different universities will give some lectures on current progress in the water science domain. We aim for 7 key note presentations of each 20 minutes.
- Pitch presentations (60 minutes): Scientific members of the different universities will be able to showcase their work in the water science domain and invited to record a short presentation (3 minutes per presentations).
- A business meeting (60 minutes) aiming to draw a roadmap for interdisciplinary research in the water science domain within the realm of Circle U.

Programme

Introduction to the European Alliance Circle U. - Prof. Dana Samson -UCLouvain Pro-rector for International Affairs

**13:00 - 14:00 -
Opening session**

Interdisciplinary research at UCLouvain - Prof. Jean-Christophe Renauld – UCLouvain Pro-rector for Research

Introduction to Horizon Europe R&I opportunities related to Water, Healthy Oceans and Seas - Mr. Nikos Zampoukas, Policy Officer - Research and innovation for fisheries and aquaculture, DG Research & Innovation, C.4 Healthy Oceans and Seas, European Commission

WATER QUALITY

Chair: Sandra Soares-Frazão - UCLouvain

Water quality management in agricultural systems: a key for reaching the SDG and global health - Marnik Vanclooster (UCLouvain)

**14:00 -16:00 - Key
note presentations**

Biofilm reactors for micropollutant removal - Kai Bester (Aarhus University)

ANTHROPOLOGICAL INSIGHTS ON WATER

Chair: Vincent Legrand - UCLouvain

Anthropology of maritime sciences - Nefissa Naguib (University of Oslo)

Danubian cosmopolitics: living with new river islands on the Ister - Séverine Lagneaux (UCLouvain)

WATER SECURITY

Chair: Marnik Vanclooster - UCLouvain

Water Security: For whom? - Tobias Krueger (Humboldt-Universität zu Berlin), Naho Mirumachi (King's College London)

Achieving water and food security within Planetary Boundaries: some global simulations - Dieter Gerten (Humboldt-Universität zu Berlin)

Origins and evolution of water-related disasters: what can we, as scientists, do? - Sandra Soares-Frazão (UCLouvain)

Virtual water in the midst of transitions to sustainable food and agricultural systems: reflections on the water-food-trade nexus in the EuroMed region in perspective with Latin America - Vincent Legrand & Leonith Hinojosa (UCLouvain)

International Water Management in the Sahel Region - Dolores Algora Weber (Scientific collaborator UCLouvain)

16:00 - 17:00 - Pitch presentations

PITCH PRESENTATIONS

ROOM 1

Accessible and versatile water quality sensors towards responsible water cycle management - Margo Hauwaert, Grégoire Le Brun, Audrey Leprince, Jacques Mahillon, Ignace Adant, Jean-Pierre Raskin (UCLouvain)

Infrastructuring water beyond pipes and canals: a dialogue across case studies and disciplines - Alba Rossella (Humboldt-Universität zu Berlin, IRI-THESys) & Kanesu Rebekka (Universität Trier, Governance and Sustainability Lab)

Combined effects of climate and land use change on hydrological alteration of a Mediterranean catchment: case study of the Silia - Imen EL GHOUL, Haykel SELLAMI, Marnik VANCLOOSTER and Slaheddine KHLIF (UCLouvain)

Contribution of ravines in the flooding of Cavaillon city in Haïti- Gerardson Mathieu (UCLouvain)

Remote sensing of water resources in semi-arid regions - Nicolas DELBART (Univ. Paris, UMR LIED), Laurent BRUCKMANN (Univ. Liège, UR SPHERES) & Emilie LAVIE (Univ. Paris, UMR PRODIG)

Water governance downstream of the Sidi Salem dam in Tunisia: A critical institutional perspective - Kais Bouazzi (UCLouvain)

Drone-based bathymetry of the Rouyonne River in Haiti: comparison with the official DTM and manual surveys - Rotchild Louis(UCLouvain)

Exploring causal linkages between teleconnection patterns and the terrestrial biosphere in Northeastern Burundi (East Africa) - Pacifique Batungwanayo, Université du Burundi; Marnik Vanclooster, UCLouvain; IPB University, Bogor, Indonesia

ROOM 2

Collection and analysis of historical data for empirically assessing water pollution risks of Walloon catchments - Elise Verstraeten & Marnik Vanclooster (UCLouvain)

Environmental Risk Assessment of Emerging Organic Contaminants: Treatment of Wastewater with Constructed Wetlands - Huma Ilyas (IPGP France; WTM Consult), Ilyas Masih (IHE Delft; WTM Consult) & Eric D. van Hullebusch (IPGP France)

Polder2C's project: breaching of earthen embankments - field tests and numerical simulations - Masoumeh Ebrahimi (UCLouvain)

Spatializing rainwater practices across Belgian territories: building a common asset - Thais Delefortrie (UCLouvain)

Strategies for community-based water-management alliances in the informal settlement of the valley of Selembao, Kinshasa (RDC) - Pietro Manaresi (UCLouvain)

Supporting the Belgian Development Cooperation in the design and implementation of an effective water strategy - Alice Alonso (UCLouvain)

50 years of groundwater management and observations in Louvain-la-Neuve - Ridley S, Vanclooster M, Fripiat C, Morize A, Couly B, Thyron M, Francois S (UCLouvain)

Using convergent cross mapping method and fuzzy analytic hierarchy process to explore causes of streamflow alteration: A case study - Mokrane Kadir & Marnik Vanclooster (UCLouvain)

**17:00 - 18:00 -
Business session**

Open business session to draw a roadmap for interdisciplinary research in the water science domain within the realm of Circle U.

Publication and diffusion

The proceedings of the meeting, including abstracts of keynote lectures and posters will be distributed virtually, through the Louvain4water website.

Organising committee

The meeting is organised by the scientific committee of the [Louvain4Water](#) platform and will be hosted by UCLouvain.