

Second announcement & call for papers

ISEHCNC/2017



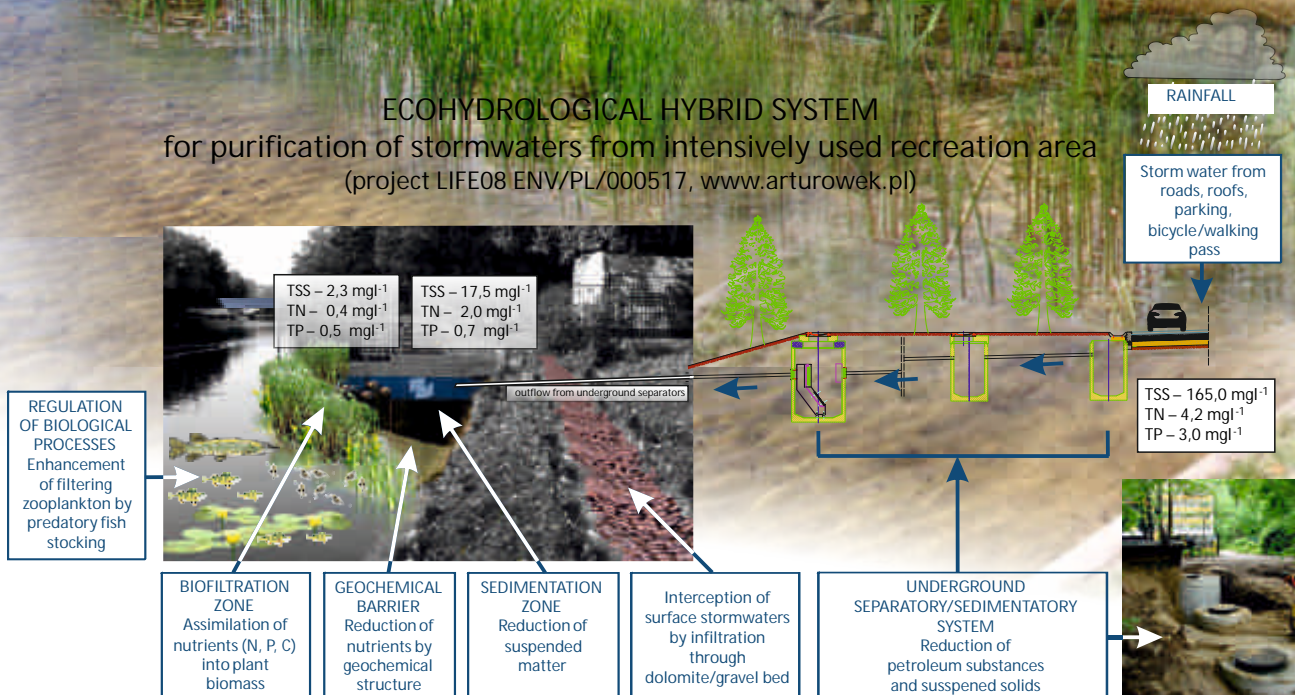
International Symposium

**ECOHYDROLOGY**

for the **Circular Economy**  
and **Nature-Based Solutions**  
towards mitigation/adaptation  
to **Climate Change**

26 – 28 September 2017  
LODZ, POLAND

ECOHYDROLOGICAL HYBRID SYSTEM  
for purification of stormwaters from intensively used recreation area  
(project LIFE08 ENV/PL/000517, [www.arturowek.pl](http://www.arturowek.pl))





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United Nations  
Educational, Scientific and  
Cultural Organization



International  
Hydrological  
Programme



ecohydrology  
programme



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The Water Network

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## RATIONALE

In the face of global degradation of water-related ecosystems, climate instability and growing anthropogenic impacts, there is an urgent need to integrate the existing knowledge from different environmental sciences as a key for the development of problem-solving, sustainability science. Ecohydrology, as transdisciplinary science, has been postulating ecosystem processes as management tools for sustainability by defining multidimensional goals for catchment management - WBSRC (Water, Biodiversity, Ecosystem Services for Society, Resilience to climatic changes and Cultural heritage).

Since water is a major driver of biogeochemical evolution and hence of biodiversity and biological productivity, regulation of ecohydrological processes becomes the first and fundamental step towards achieving sustainability in the catchment, particularly in human-modified and degraded systems. Since its formulation under UNESCO's International Hydrological Programme, the implementation of WBSRC strategy is creating synergy between nature-based solutions and circular economy model with constant development and increasing efficiency.

The symposium will bring together top experts from scientific institutions and international organizations and will provide an open floor for the discussion about integration of ecohydrological biotechnologies and systemic solutions with a circular economy development towards mitigation/adaptation to climate instability.

Every successful strategy must be founded with two elements: amplification of opportunities and elimination of risks. Circular economy, the rising issue of our times, focuses on "closing the loop" approach, contributes to increasing resources productivity (and decreasing of disposals), efficiency of energy use and reduction of pollution emissions. To achieve the sustainability with adaptation to climate change it is necessary to implement the second element of the strategy, which is the enhancement of catchment carrying capacity (sustainability potential) with profound understanding of ecosystem processes and their dynamics. Ecohydrology, based on change from mechanistic to evolutionary approach, creates a potential for the synergy effect between circular economy and nature-based solutions.

The previous International Symposium on Ecohydrology, Biotechnology & Engineering, took place in Lodz (September 2013) and gathered over 210 experts and scientists from 31 countries.

## AIM OF THE SYMPOSIUM

The symposium will bring together top experts, leaders and young scientists from scientific institutions and international organizations and provide an open floor for the discussion and cross disciplinary cooperation in the integration of ecohydrology and nature-based solutions with a circular economy development towards mitigation/adaptation to climate change.





## CALL FOR ABSTRACTS AND PAPERS

The International Scientific Committee of the Symposium welcomes the submissions in accordance with the following general topics:

Ecohydrology  
Circular Economy  
Bioeconomy  
Nature-based solutions  
Climate change adaptation, mitigation and resilience  
Ecohydrological biotechnologies

Based on the reviewing process authors will be invited to make an oral/poster presentation, and to submit a full paper for a special symposium issue to be published by **Ecohydrology & Hydrobiology (ELSEVIER)** journal after the symposium.

The abstracts and papers must be written in English.

To submit your abstract please use the template attached to the registration form to be found on

[www.isehcnc.com](http://www.isehcnc.com)



**ECOHYDROLOGY  
&  
HYDROBIOLOGY**



Editor-in-Chief: Maciej Zabłocki



[www.journals.elsevier.com/ecohydrology-and-hydrobiology](http://www.journals.elsevier.com/ecohydrology-and-hydrobiology)

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for more details about the cooperation opportunities available at ISEHCNC 2017 please contact

[info.ehcnc@erce.unesco.lodz.pl](mailto:info.ehcnc@erce.unesco.lodz.pl)





## IMPORTANT DATES

registration	01 March - 20 June 2017
early registration closes	30 May 2017
abstract submission closes	20 June 2017

## SYMPOSIUM FEES

		SIL members
early registration	300,-euro	200,-euro
standard registration	400,-euro	300,-euro
student early registration	150,-euro	
student standard registration	200,-euro	

It is possible to pay participation fee on desk upon arrival but organizers should be informed in advance. On-site payment is available for an additional 60 euro. Limited financial support will be available to assist participants from developing countries and young scientists. The registration fee will include symposium proceedings and printed materials, coffee breaks, lunches, side events participation and social programme.

## REGISTRATION PROCEDURE

You can register ONLINE by visiting the symposium website: [www.isehcnc.com](http://www.isehcnc.com)

You will be requested to submit your contact details and to indicate special requirements.

You will receive an automated confirmation of your registration by e-mail.

We recommend you to upload your abstract during the registration process. Otherwise you should send your abstract directly to the [ehcnc@erce.unesco.lodz.pl](mailto:ehcnc@erce.unesco.lodz.pl) before 20<sup>th</sup> of June 2017.

## Letters of Invitation

Organizing Committee will provide letters of invitation upon request to registrants. Request is submitted in registration form.

## Technical Trips

If you are interested to attend one of the technical trips:

Biebrza River Floodplain,  
Tatra Mountains,  
Sulejow Reservoir

please  
send e-mail to  
the Symposium  
Secretariat at  
[ehcnc@erce.unesco.lodz.pl](mailto:ehcnc@erce.unesco.lodz.pl).

Number of participants  
is limited. Trips will  
take time from  
28<sup>th</sup> September  
to 01<sup>st</sup> October  
2017.

# SESSIONS

## 1. Water and Environment as a critical components of Circular Economy

Chairs: Giovanni Bidoglio, Andrzej Siemaszko

Circular Economy is a rapidly developing strategy that promotes greater resource productivity and reduces waste production and emission of pollutants. It becomes the successor of the traditional linear model which is currently recognized as "take, make and dispose" approach, where negative impacts have been exponentially growing. Circular Economy is a critical compound of sustainable development, that cannot be completely achieved without responsible economic model. Water is one of a major drivers that are shaping energy flow in natural ecosystems, therefore it is fundamental to connect the strategy of Circular Economy with Ecohydrology, not only at the level of water reuse and effective usage, as its postulated so far. Ecohydrology as a holistic and integrative science, through its models, provides the solution that could stimulate the development of Circular Economy and increase resilience of ecosystems to climatic instabilities. To ensure sustainable future we need to enhance the ecosystem potential, especially in face of Climate Change and growing Water Scarcity. Understanding of water, organic matter and nutrients interplay may lead to innovative solutions and to transfer available carbon more effectively into non-available pool. This session is devoted to the integration of knowledge and frameworks of Circular Economy and Ecohydrology. The special invitation is given to the representatives of governmental and decision makers and to the private sector (industry and business).

## 2. SIL SESSION: Limnology and Ecohydrology for Nature-Based Solutions



Chairs: Adrianna Wojtal-Frankiewicz, Ryszard Goldyn and Patrick Meire

Limnology is closely related to aquatic ecology and hydrobiology, by studying life histories of organisms and their interactions in the food webs with respect to physical, chemical, and biological properties of the environment. The increased degradation of water resources has induced the limnological studies to focus on identifying and understanding the symptoms of human manipulations and disturbances in water ecosystems. Thus, limnology has become the basis for the development of ecohydrology and then for the elaboration of nature-based solutions of environmental problems. Integration of limnological knowledge with ecohydrological models and principles provides the scientific background for regulating the processes and interactions for enhancing water resources, restoring and maintaining biodiversity, providing ecosystem services for societies and building resilience to climatic and anthropogenic impacts. The aim of this session is the discussion on integration of ecohydrological biotechnologies with enhancement of sustainable potential towards mitigation and/or adaptation to climate changes. We want to pay a special attention to the role of environmental monitoring and assessment of its quality, as well as efficiency of ecohydrological solutions and ecosystem biotechnologies for solving existing problems in aquatic ecosystems.

## 3. AMBER - the role of dams in river ecosystems (pros & cons)

Chairs: Carlos Garcia De Leaniz and Piotr Frankiewicz



The AMBER project (funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 689682) stands for Adaptive Management of Barriers in European Rivers. The AMBER project seeks to apply adaptive management to the operation of dams and barriers in European rivers to achieve a more efficient restoration of stream connectivity, and address impacts caused by river fragmentation. More on: [www.amber.international](http://www.amber.international) AMBER will apply adaptive barrier management to help reconnect Europe's rivers, the smart way.

Main AMBER Goals:

- 1/Create- the first global assessment of stream connectivity across Europe which will serve to highlight the areas where restoration is most needed.
- 2/Make- the first application of eDNA for river restoration, and will provide an essential management tool for the prioritization of areas for conservation and barrier management.
- 3/Develop- a comprehensive socio-economic and hydro-ecological framework for guiding the restoration of local river ecosystems and the ecological, genetic and analytical tools for its implementation.
- 4/Provide- unparalleled opportunities for real time monitoring by turning citizens into stewards of the river's natural capital using citizen science. To participate in this session we would like to invite experts and researchers working in above mentioned topics. Discussion will focus on the importance and meaning of dams and barriers in river systems.

## 4. Ecohydrology, Nature-Based Solutions and Circular Economy for the City of Future

Chairs: Pascal Breil, Stefan Ulhenbrook, Basant Maheshwari and Iwona Wagner

Urban systems are already under a pressure of more than a half of the world population and this rate is expected to continue increasing (UNEP). For that reason cities will have to process large and still increasing flux of nutrients and energy, and should be considered as hot spots of metabolism of the Anthropocene. The urban water and heat flows in cities are characterised with more variability and intensity than in natural conditions. Limited infiltration, increased runoff and pollution loads with organic and toxic substances, often lead to direct severe impacts on a range of ecosystem services. In particular, they limit self-purification capacity of urban rivers, groundwater refilling and cooling capacities, and biodiversity of both terrestrial and freshwater ecosystems. This is the result of ageing assets and old management practices generating waste of resources. A more integrated approach to the urban water cycle and natural capital management is necessary for the City of the Future, including cities in expansion or retrofitting. The objective is to limit the negative impact of urbanisation and climate change, and take benefit of the energy that surface runoff and sewage waters contains. We have already developed a range of nature-based solutions aiming at reducing the source of fast water transfer or using natural processes to metabolize organic matter and produce biomass or energy. Less used but of future interest is integration of the natural and engineered processes in cities revitalisation, such as the withdrawing of heat flow carried by sewer pipes to warm buildings, urban agriculture (Water, Food, Energy Nexus) and urban greening (Nature-Based Solutions and Blue-Green Infrastructure). The city of the future is aiming to make an efficient use of the energy flows that are related to water and biota, as to create economical and environmental benefits instead of losing energy. The ecohydrological concept brings an operational template to develop this approach and prevent future urban land uses from deterioration of natural carrying capacity. Abstracts addressing original works and (or) applications of the above mentioned thematic area are welcomed to this session.





# SPECIAL EVENT

Long-term cooperation between the Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Science and the European Regional Centre for Ecohydrology of the Polish Academy of Science

4th symposium of Healthy Rivers and Sustainable Water Resource Management: Reservoir carbon cycling and GHG fluxes: from the perspective of Ecohydrology for Mitigation and Adaptation to Climate Change

Chairs: Jinsong Guo, Zhe Li and Maciej Zalewski

Dam construction and reservoir creation are traditional water engineering approach to provide various services to human society, e.g. hydropower production, flood control, irrigation, navigation, fish farming, etc. However, the alteration of land-use and hydrology in regional or catchment scale by reservoir impoundments significantly impacts biogeochemical cycling of carbon, and regulates source- and -sink of greenhouse gases (GHG), mainly CH<sub>4</sub>, CO<sub>2</sub> and N<sub>2</sub>O, contributing to global climate change potentially.

The past decades witnessed growing worldwide concerns on reservoir GHG emissions. Monitoring, modelling, and assessment of reservoir GHG emissions have been widely carried out in worldwide reservoirs. Nevertheless, uncertainties regarding fate and transport of carbon in reservoir and how carbon influences ecosystem functioning through regulating other limnological components in the catchment persist. New data and technological research are required for novel insights.

Ecohydrology allows controlling stocks and fluxes of water and nutrients in catchment to maintain a sustainable biogeochemical cycling. From the perspective of reservoir GHG emissions, the concept of ecohydrology implies to mitigate reservoir GHG emissions, especially CH<sub>4</sub> emissions; to reduce the risk of unrelated anthropogenic sources; and to optimize reservoir operation and management strategies.

In this Symposium, following topics are encouraged:

- 1/ GHG emissions from different pathways in reservoir: spatio-temporal heterogeneity and upscaling in the face of global change.
- 2/ Fate and transport of carbon in river-reservoir continuum: from metabolisms of aquatic ecosystem to carbon fluxes in terrestrial-aquatic interface.
- 3/ The net effect of dam construction and reservoir creation: the importance of pre-impoundment GHG emissions and from unrelated anthropogenic sources.
- 4/ Mitigating excess GHG emissions from reservoirs in the concept of ecohydrology: state-of-the-art and future challenges.



Photos: Vistula River, Wloclawek dam (K.Suska)





# VENUE

Faculty of Law and Administration, University of Lodz  
8/12 Kopcinskiego str., 90-232 Lodz, POLAND



Photos: Faculty of Law and Administration

## Accommodation

Participants are expected to make their own arrangements for accommodations.

Below you will find a list of recommended hotels. Some of them will offer a special discount for symposium participants.

Use the password 'ecohydrology' and make sure that the reception desk realizes you are the symposium attendee.

Bus service will be provided in the morning from these hotels to the symposium venue.

### Approximate fees per room for one night:

	Single room	Distance from the venue
IBIS Lodz Centrum	45 euro	4 km
Novotel-Centrum	50 euro	4 km
Campanile	35 euro	4 km
Ambassador Lodz Centrum	65 euro	4 km
Hilton	80 euro	6 km
Andel's	100 euro	4 km
Villa Masoneria (without bus service) e-mail: villamasoneria@gmail.com	30 euro	1 km
Student House (without bus service, limited number of places, to reserve send e-mail to info.ehcnc@erce.unesco.lodz.pl)	15 euro (only double rooms)	1 km

## Contact Information

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