

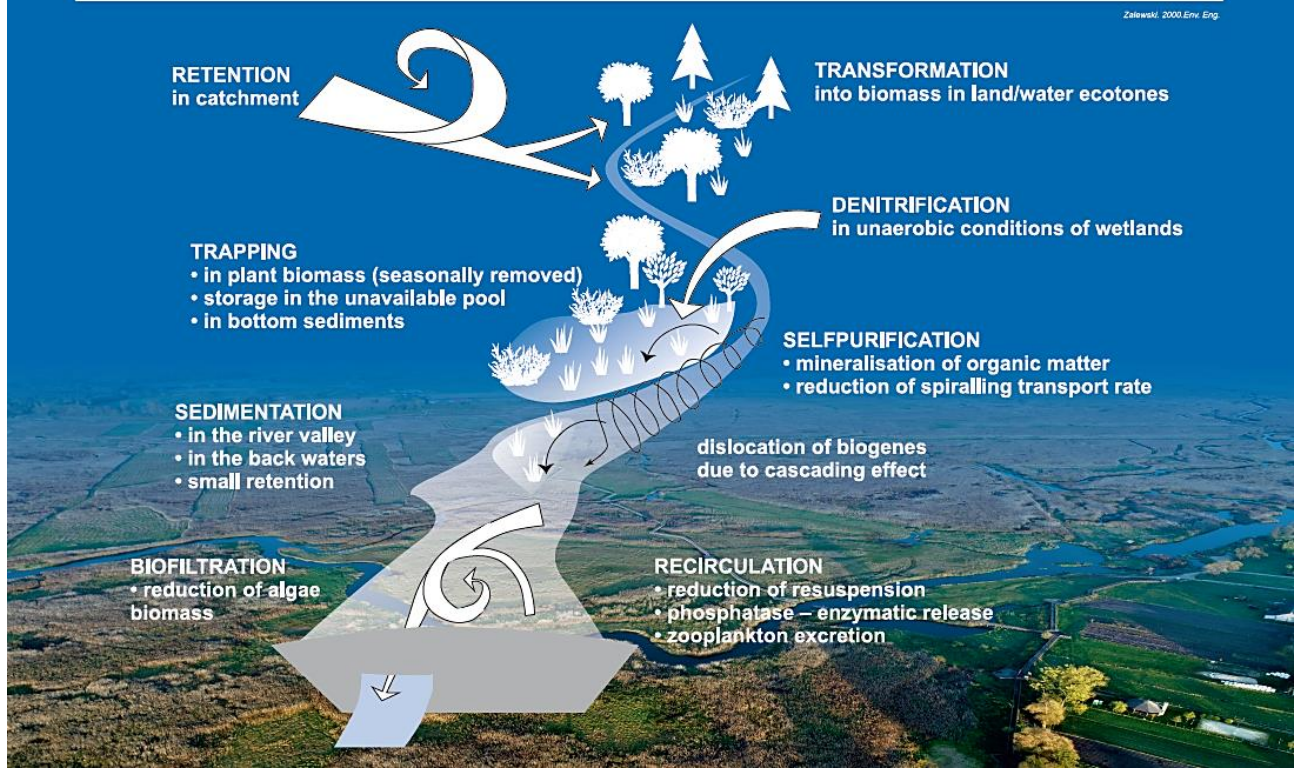
ECOHYDROLOGY FOR WATER SECURITY

5th International Symposium of Healthy Rivers and Sustainable Water Resources Management



ECOHYDROLOGY - systemic solution that uses ecosystem processes (Nature-based Solutions) as a management tool

Zalewski, 2000. Env. Eng.



ECOHYDROLOGY FOR WATER SECURITY

5th International Symposium of Healthy Rivers
and Sustainable Water Resources Management



Programme

ECOHYDROLOGY FOR WATER SECURITY

5th International Symposium on Healthy Rivers and Sustainable Water

WEDNESDAY 8th June

8.30 – 09:30

Registration

9:30 – 10:30

Opening Remarks and welcome speech

- **Paweł Rowiński, professor**, Vice-President of the Polish Academy of Sciences
- **Maciej Zalewski, professor** ERCE PAN u/a UNESCO, Poland / **Jinsong Guo, professor**, Chongqing University, China (as Chairs of the Symposium)
- **Abou Amani**, Director of the Division of Water Sciences and Secretary of the Intergovernmental Hydrological Programme (IHP), UNESCO
- **Monika Niemiec-Butryn**, Director, Department of Water Management and Inland Navigation, Ministry of Infrastructure, Poland
- **Olivier Bouc** – European Partnership “Water4All - Water Security for the Planet”, Programme Coordinator
- **Michał Kleiber, professor**, Polish Committee for UNESCO

Session I

UNESCO SPECIAL SESSION – DEVELOPMENT AND EVOLUTION OF IHP TOWARDS IHP-IX WATER FOR SUSTAINABILITY AND SECURITY (*ONLY INVITED SPEAKERS*) CHAIRS: PROF. PAWEŁ ROWIŃSKI, PROF. ANDRÁS SZÖLLŐSI-NAGY

10:30 – 10:45

KEYNOTE LECTURE:

ANDRÁS SZÖLLŐSI-NAGY, PROFESSOR, DEPARTMENT OF WATER AND ENVIRONMENTAL POLICY, FACULTY OF WATER SCIENCES, NATIONAL UNIVERSITY OF PUBLIC SERVICE-BUDAPEST, HUNGARY



Sustainable development goals – urgent need for acceleration

- 10:45 – 11:00** GIUSEPPE ARDUINO, UNESCO CHAIR ON ECOHYDROLOGY UNIVERSITY OF ALGARVE, PORTUGAL
Ecohydrology at UNESCO: an evolutionary program from descriptive to solution-oriented science
- 11:00 – 11:15** ELFITHRI RAHMAH, PHD, CHIEF OF SECTION CAPACITY DEVELOPMENT AND WATER FAMILY COORDINATION (CDW) DIVISION OF WATER SCIENCES INTERGOVERNMENTAL HYDROLOGICAL PROGRAMME (IHP) UNESCO
Ecohydrology in the Intergovernmental Hydrological Programme IX 2022-2029
- 11:15 – 11:30** SHAHBAZ KHAN, PROFESSOR, DIRECTOR UNESCO OFFICE BEIJING, CHINA
Ecohydrology and Nature Based Solutions – state of the art in UNESCO Asia and Pacific Region (online)
- 11:30 – 11:45** ZHE LI, PROFESSOR, CHONGQING INSTITUTE OF GREEN AND INTELLIGENT TECHNOLOGY, CHINESE ACADEMY OF SCIENCES, CHINA
Carbon Emissions: A new dimension in Ecohydrology (online)
- 11:45 – 12:00** MARIO MENDIONDO, PROFESSOR, WATER RESOURCES ENGINEERING, SAO CARLOS SCHOOL OF ENGINEERING, UNIVERSITY OF SAO PAULO, BRAZIL
Ecohydrology for Water Security in the Global South: Cooperative Solutions for Transboundary Challenges (online)
- 12:00 – 12:15** COFFEE BREAK AND POSTER SESSION
- Session II** **ECOHYDROLOGY – ENHANCEMENT OF CATCHMENT SUSTAINABILITY POTENTIAL (WBSRCE: WATER, BIODIVERSITY, ECOLOGICAL SERVICES, RESILIENCE, CULTURE AND EDUCATION).**
CO-CHAIRS: PROF. EDYTA KIEDRZYŃSKA, PROF. PATRIC MEIRE
- 12:15–12:30** **KEYNOTE LECTURE:**
KARL MATTHIAS WANTZEN, PROFESSOR, UNESCO CHAIR RIVER CULTURE – CNRS UMRS CITERES (TOURS) AND LIVE (STRASBOURG), FRANCE
Water-ecosystem-food-energy nexus
- 12:30 – 12:45** EDYTA KIEDRZYŃSKA, PROFESSOR, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND
Ecohydrological approach to water resources health analysis and anthropogenic pollution from global to river catchment scale
- 12:45 – 13:00** TATIANA SOLOVEY, PROFESSOR, POLISH GEOLOGICAL INSTITUTE – NATIONAL RESEARCH INSTITUTE, WARSAW, POLAND
Principles of development of a Polish-Ukrainian transboundary groundwater monitoring network
- 13:00 – 13:15** YOHANNES ZERIHUN NEGUSSIE, PHD, AFRICAN REGIONAL CENTER FOR ECOHYDROLOGY U/A OF UNESCO, ETHIOPIA
Ecohydrological Nature Based solution for Harmonization of Lake Tana shore Ecosystem and Societal needs, Bahir Dar, Ethiopia (online)



13:15 – 13:30	DENGHUA YAN, PROFESSOR, CHINA INSTITUTE OF WATER RESOURCES AND HYDROPOWER RESEARCH, CHINA Theory and technology application of natural and artificial coordinated regulation of watershed ecological functions (online)
13:30 – 13:45	WILLIAM MITSCH, PROFESSOR, THE OHIO STATE UNIVERSITY / EVERGLADES WETLAND RESEARCH PARK, AND JULIET C. SPROUL CHAIR FOR SOUTHWEST FLORIDA HABITAT RESTORATION. FLORIDA GULF COAST UNIVERSITY, USA Nature-Based Solutions and Ecological Engineering: Our best hopes for restoring lakes, rivers, and estuaries and protecting human health (online)
13:45 – 14:30	LUNCH BREAK
Session III	POLICY AND LAW FOR ACCELERATION OF SUSTAINABLE DEVELOPMENT GOALS AND GREEN DEAL. CO-CHAIRS: ANDREW ALLAN, OLIVIER BOUC
14:30 – 14:45	KEYNOTE LECTURE: ANDREW ALLAN, UNIVERSITY OF DUNDEE, SCOTLAND Legal framework for adaptation water management to global changes
14:45 – 15:00	MACIEJ RIEMER, DEPARTAMENT DIRECTOR FOR ECOLOGY AND CLIMATE, CITY OF LODZ, POLAND Green Deal - need for new legal framework
15:00 – 15:15	BARTOSZ WOJCIECHOWSKI, PROFESSOR, FACULTY OF LAW AND ADMINISTRATION UNIVERSITY OF LODZ Philosophy of law – framework for blue-green policy implementation
15:15 – 15:30	MONIKA ZALEWSKA - PHD, FACULTY OF LAW AND ADMINISTRATION UNIVERSITY OF LODZ Law and challenges of sustainability
15:30 – 15:45	WOJCIECH FRĄTCZAK, DYREKTOR OF THE DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT PROGRAMS, MARSHAL'S OFFICE OF THE ŁÓDŹ VOIVODESHIP, POLAND Green Deal and increasing global demand for food, creating climate resilient agricultural landscape
15:45 – 16:00	PIOTR KORZENIOWSKI, PROFESSOR FACULTY OF LAW AND ADMINISTRATION UNIVERSITY OF LODZ, POLAND Water Framework Directive Implementation in Poland - challenges and way forward
19:00 - 21:00	CONFERENCE DINNER

THURSDAY 9th June	
8.30 – 9:00	REGISTRATION
Session IV + V parrarel	RIVER SYSTEM PROCESSES, FROM MOLECULAR TO CATCHMENT SCALE, IN THE FACE OF CLIMATE CHANGE, ENVIRONMENTAL BEHAVIOR AND HEALTH EFFECTS OF POLLUTANTS IN RIVER ECOSYSTEMS



09:00 – 09:15	<p>CO-CHAIRS – PROF. IWONA WAGNER; PROF. ARTUR MAGNUSZEWSKI</p> <p>KEYNOTE LECTURE:</p> <p>ARTUR MAGNUSZEWSKI, PROFESSOR, WARSAW UNIVERSITY, POLAND</p> <p>Vistula river sedimentation transfer dynamics in the perspective of river valley evolution</p>	<p>CO-CHAIRS: PROF. JOANNA MANKIEWICZ-BOCZEK, PROF. IWONA JASSER</p> <p>KEYNOTE LECTURE:</p> <p>JOANNA MANKIEWICZ-BOCZEK, PROFESSOR, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND</p> <p>Temporal interaction between pelagic bacteria and microcystin-producing cyanobacteria as important aspect in water quality assessment</p>
09:15 – 09:30	<p>TOMASZ OKRUSZKO, PROFESSOR, VICE-PRESIDENT of the WARSAW UNIVERSITY OF LIFE SCIENCE, POLAND</p> <p>Nature-based Solutions – chances and constrains from river basin perspective</p>	<p>IWONA JASSER, PROFESSOR, INSTITUTE OF ENVIRONMENTAL BIOLOGY, WARSAW UNIVERSITY, POLAND</p> <p>Are cyanobacteria a real threat to surface waters in cold, arid environment?</p>
09:30 – 09:45	<p>PIOTR PARASIEWICZ, PROFESSOR, HEAD OF RIVER FISHERIES DEPARTMENT, S. SAKOWICZ INLAND FISHERIES INSTITUTE, POLAND</p> <p>Assessment of habitat around barriers with habitat model MesoHABSIM or selection of management alternatives</p>	<p>SEBASTIAN SZKLAREK, PHD, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND</p> <p>Road salt (salinization) – a year-round threat to aquatic ecosystems</p>
09:45 – 10:00	<p>MAŁGORZATA GODLEWSKA, PROFESSOR, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND,</p> <p>A novel methodology for rapid in situ assessment of the high-resolution spatial and temporal distribution of cyanobacterial blooms using fishery echosounder</p>	<p>EMILIA BĄCZKOWSKA, GDANSK UNIVERSITY OF TECHNOLOGY, POLAND</p> <p>Microbial and chemical quality assessment of the small rivers entering the Baltic Sea</p>
10:00 – 10:15	<p>ARNOLDO FONT-NAJERA, PHD, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND</p> <p>Elucidating the biotechnological application of nitrogen-transforming bacteria for the future improvement of nature-based solutions</p>	<p>YANPENG CAI, PROFESSOR, GUANGDONG UNIVERSITY OF TECHNOLOGY. ASSOCIATE EDITOR OF ECOLOGICAL ENGINEERING. CHINA</p> <p>Simulation of emerging pollutants in typical rivers and lakes in the Greater Bay Area, China (online)</p>
10:15 – 10:30	<p>STEFANO FAZI, PHD, WATER RESEARCH INSTITUTE, NATIONAL RESEARCH COUNCIL OF ITALY (IRSA-CNR) ITALY</p> <p>Molecular approach to infer self-purification potentialities of river system (online)</p>	<p>YING SHAO, PHD, COLLEGE OF ENVIRONMENT AND ECOLOGY, CHONGQING UNIVERSITY, CHINA</p> <p>Effects-based techniques for river health assessment and key toxicants identification (online)</p>
10:30 – 10:45	<p>TADANOBU NAKAYAMA, PROFESSOR, NATIONAL INSTITUTE FOR ENVIRONMENTAL STUDIES (NIES), TSUKUBA, JAPAN,</p> <p>Impact of anthropogenic disturbances on water availability in Mongolian urban and mining hubs towards effective utilization of water resources (online)</p>	<p>LEI CHEN, PROFESSOR, SCHOOL OF ENVIRONMENT, BEIJING NORMAL UNIVERSITY, CHINA</p> <p>Unexpected Nitrogen Flow and Water Quality Change due to Varying Atmospheric Deposition (online)</p>
10:45 – 11:00		

11:00 – 11:15	<p>ERIC WOLANSKI, PROFESSOR, COLLEGE OF SCIENCE AND ENGINEERING, JAMES COOK UNIVERSITY, AUSTRALIA The use of ecohydrology to solve the threat from climate change and dams to the Burdekin River delta and coast, Great Barrier Reef, Australia (online)</p>	<p>C. NTISLIDOU, DEPARTMENT OF ZOOLOGY, SCHOOL OF BIOLOGY, ARISTOTLE UNIVERSITY OF THESSALONIKI, THESSALONIKI, GREECE Assessment of hydrological barriers effect in river benthic fauna coupled with eDNA metabarcoding monitoring (online)</p>
11:15 – 11:30	<p>ROSEMARY MASIKINI, LAKE VICTORIA BASIN WATER BOARD, MINISTRY OF WATER, TANZANIA The Role of River Health Assessment in Water Resources Management: A case Study of Ruvu and Simiyu River Catchments in Tanzania. (online)</p>	<p>PRIYANKA HALDER MALLICK, ASSOCIATE PROFESSOR, DEPARTMENT OF ZOOLOGY, VIDYASAGAR UNIVERSITY, INDIA Assessing water quality of ponds in lateritic tracts of eastern India across a rural-urban gradation using multivariate approach (online)</p>
11:30 – 11:45	<p>EMILIAN KIHWELE, PHD, TANZANIA NATIONAL PARKS, ARUSHA, TANZANIA Sustainable management of National Parks requires inclusion of river catchments Upstream (online)</p>	<p>YONGHONG BI, PROFESSOR INSTITUTE OF HYDROBIOLOGY (IHB), CHINESE ACADEMY OF SCIENCES, CHINA Algal diversity in the cascade reservoirs from the upper Yangtze River (online)</p>
11:30 – 11:45	<p>YUQIN LIN/QIUWEN CHEN, PROFESSORS, NANJING HYDRAULIC RESEARCH INSTITUTE (NHRI), CHINA Impact of cascade dams on fish habitats and alleviation measures in upper Yangtze River (online)</p>	<p>SHIMING DING, PROFESSOR, NANJING INSTITUTE OF GEOGRAPHY AND LIMNOLOGY, CHINESE ACADEMY OF SCIENCES, CHINA Advanced micro-scale imaging methods for revealing biogeochemical processes in soils and sediments (online)</p>
11:45 – 12:00	<p>COFFEE BREAK AND POSTER SESSION</p>	
Session VI + VII	<p>SMART BLUE-GREEN CITY - ADAPTATION TO CLIMATE CHANGE IN THE CITIES OF FUTURE CHAIRS: DR. PASCAL BREIL, PROF. TOMASZ JURCZAK</p>	<p>THE FUTURE OF ECOHYDROLOGY CHAIRS: PROF. LUIS CHICHARO, DR PAWEŁ JAROSIEWICZ</p>
12:00 – 12:15	<p>KEYNOTE LECTURE: PASCAL BREIL, PHD, RIVERLY UNIT, INRAE, VILLEURBANNE, FRANCE Upscaling an ecohydrological solution: case of Lyon demosite</p>	<p>LUIS CHICHARO, PROFESSOR, DEPARTMENT OF BIOLOGICAL SCIENCES AND BIOENGINEERING, CENTRE FOR MARINE AND ENVIRONMENTAL RESEARCH, UNIVERSITY OF ALGARVE, PORTUGAL Mobilizing and educating young ecohydrologists</p>
12:15 – 12:30	<p>TOMASZ JURCZAK, PROFESSOR, UNESCO CHAIR ON ECOHYDROLOGY AND APPLIED ECOLOGY, UNIVERSITY OF LODZ, POLAND Ecohydrological biotechnologies for water quality, quantity and security in adaptation of cities to climate change</p>	<p>PAWEŁ JAROSIEWICZ, PHD, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND Development of innovative solutions for the enhancement of ecohydrological nature-based solutions</p>
12:30 – 12:45	<p>ANNA WIERZBICKA, DEPARTMENT DIRECTOR FOR ENVIRONMENTAL MANAGEMENT, CITY OF LODZ, POLAND Green Deal and the Climate Neutral, Intelligent Blue-Green City of Lodz.</p>	<p>JESUS MORÓN-LÓPEZ, PHD, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND</p>



12:45 – 13:00	IWONA WAGNER, PROFESSOR, UNESCO CHAIR ON ECOHYDROLOGY AND APPLIED ECOLOGY, UNIVERSITY OF LODZ, FPP ENVIRO LTD, POLAND Blue-Green Infrastructure for enabling environment in cities adaptation to climate change	Looking for algicidal and microcystin-degrading bacteria to enhance the WBSR+CE approach in ecohydrological restoration of water ecosystems
13:00 – 13:15	DOROTA MICHALAK, PHD, FACULTY OF ECONOMICS AND SOCIOLOGY, UNIVERSITY OF LODZ, POLAND Mitigating of Urban Sprawl by creating a Smart Blue-Green City	ALEKSANDRA CHAMERSKA, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND Students Association for Ecohydrology – Learning By Doing
13:15 – 13:30	RENATA WŁODARCZYK-MARCINIAK, PHD EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND Water in the city – public preferences for blue infrastructure in Łódź	KATARZYNA KUBIAK-WÓJCICKA, PHD, DEPARTMENT OF HYDROLOGY AND WATER MANAGEMENT, NICOLAUS COPERNICUS UNIVERSITY, TORUŃ, POLAND Influence of hydrological conditions on navigation on the lower Vistula
13:30 – 13:45	KATARZYNA JANKOWSKA, DEPARTMENT OF EUROPEAN UNION FUNDS OF THE MUNICIPAL OFFICE IN RADOM, POLAND RADOMKLIMA – creation of Blue-Green City in Radom as implementation of Green Deal Strategy.	CLARA YONA MWASOTA, DEPARTMENT OF BIOSCIENCES, COLLEGE OF NATURAL AND APPLIED SCIENCES, SOKOINE UNIVERSITY OF AGRICULTURE, MOROGORO, TANZANIA The influence of physico-chemical parameters on fish and pelican mortalities in Lake Natron Ramsar Site (online)
13:45- 14:00	JINGMEI YAO, ASSOCIATE PROFESSOR, COLLEGE OF ENVIRONMENT AND ECOLOGY, CHONGQING UNIVERSITY, CHINA Assessing the impacts of urbanization on stream ecosystem functioning through investigating litter decomposition and nutrient uptake (online)	ANTIDIOUS RAPHAEL, UNESCO CHAIR ON ECOHYDROLOGY AND TRANSBOUNDARY WATER MANAGEMENT, MOROGORO, TANZANIA The future of ecohydrology in Africa: mobilizing youth for water resources management and ecohydrological transformation (online)
14:00 – 15:00	LUNCH	
	ECOHYDROLOGY SCIENTIFIC ADVISORY COMMISSION MEETING	
Session VIII	SUCCESS STORIES - IMPLEMENTATION OF ECOHYDROLOGY THROUGH THE UNESCO IHP DEMOSITES, CO-CHAIRS – DR. KINGA KRAUZE, DR. GIUSEPPE ARDUINO	
15:00 – 15:15	KEYNOTE LECTURE: KATARZYNA IZYDORCZY, PROFESSOR, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES / WOJCIECH FRĄTCZAK, DYREKTOR OF THE DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT PROGRAMS, MARSHAL'S OFFICE OF THE ŁÓDŹ VOIVODESHIP, POLAND Evolution of ecohydrology towards transdisciplinary systemic solutions	
15:15 – 15:30	KINGA KRAUZE, PHD, EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY OF THE POLISH ACADEMY OF SCIENCES, POLAND To Ally Technology, Nature and Society for successful urban water management	

- 15:30 – 15:45** PATRICK MEIRE, PROFESSOR, DEPARTMENT OF BIOLOGY, UNIVERSITY OF ANTWERP, BELGIUM
Conversion of post-industrial landscape into nature recreation areas in Antwerp
- 15:45 – 16:00** IGNASIUS SUTAPA, PROFESSOR, DIRECTOR OF ASIA PACIFIC CENTRE FOR ECOHYDROLOGY (APCE), INDONESIA
Ecohydrological nature-based solutions for broad scope of sustainability problems in Indonesia (online)
- 16:00 – 16:15** MARCO ALBARRACIN, PHD, FUNDACIÓN ECOHIDROLÓGICA, QUITO, ECUADOR
Ecohydrological approach to restore ancestral “cochas and tajamares” of Pisaca Hill: water sowing and harvesting in Catacocha, Loja, Ecuador (online)
- 16:30 – 16:45** SANI DAUDA AHMED, PHD, NATIONAL WATER RESOURCES INSTITUTE, KADUNA, NIGERIA
Performance evaluation of a model constructed river diversion wetland for improving quality of water of an inland river in Kumasi, Ghana (online)
- 16:45 – 17:00** ALAYEW WONDIE MELESE, PHD, DEPARTMENT OF AQUATIC AND WETLAND MANAGEMENT, COLLEGE OF AGRICULTURE AND ENVIRONMENTAL SCIENCES, BAHIR DAR UNIVERSITY, ETHIOPIA
Ecosystem based approach as a priority to save Lake Tana (online)
- 17:00 – 17:15** AMINA S. KIBOLA, NATIONAL ENVIRONMENTAL MANAGEMENT COUNCIL, NIGERIA
Analyzing ecohydrology as paradigm shift in conservation for sustainable flow of ecosystem services along Kihansi River catchment, Tanzania (online)

Summary and Conclusions by Chairs of the Symposium Sessions

17:30 – 18:00

SYMPOSIUM CO-CHAIRS: Prof. Maciej Zalewski and Prof. Jinsong Guo

Session I: PROF. PAWEŁ ROWIŃSKI, PROF. ANDRAS SZOLLOSI-NAGY

Session II: PROF. EDYTA KIEDRZYŃSKA

Session III: ANDREW ALLAN

Session IV: PROF. IWONA WAGNER, PROF. ARTUR MAGNUSZEWSKI

Session V: DR. PASCAL BREIL, PROF. TOMASZ JURCZAK

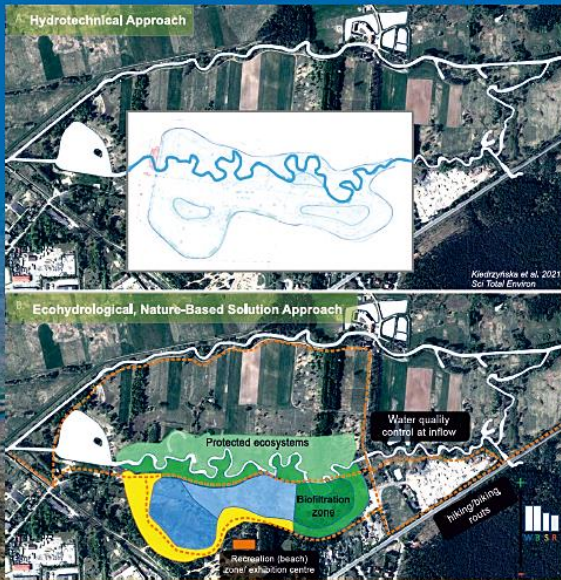
Session VI: DR. KINGA KRAUZE, PROF. PATRICK MEIRE

Session VII: PROF. JOANNA MANKIEWICZ-BOCZEK, PROF. IWONA JASSER

Session VIII: PROF. LUIS CHICHARO, DR PAWEŁ JAROSIEWICZ



LATERAL RESERVOIR for purifying river from pollutants (e.g. protecting against toxic algal blooms) and providing WBSRC potential (W - water, B - biodiversity, S - ecosystem services, R - resilience, C - cultural heritage)



SEQUENTIAL SEDIMENTATION - BIOFILTRATION SYSTEM for purifying river from pollutants (e.g. nitrogen and phosphorus)



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