



Programme

2013
17-19th September
ŁÓDŹ
POLAND

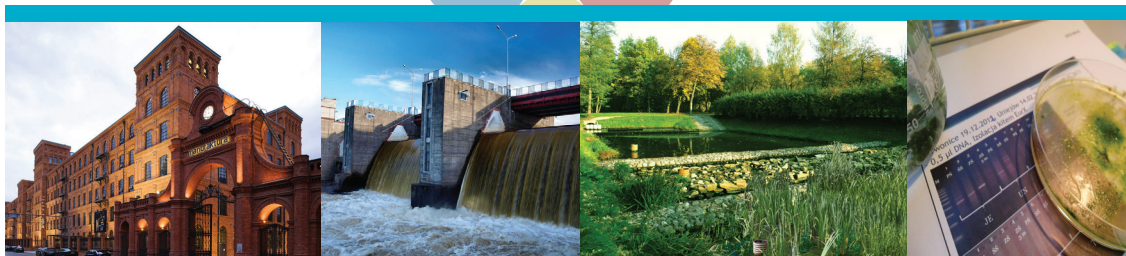
International Symposium Ecohydrology, Biotechnology & Engineering:

Towards Harmony between the Biogeosphere and Society
on the basis of Long-Term Ecosystem Research

Symposium organised within
The United Nations International Year of Water Cooperation 2013
The International Week of Bioeconomy in the Łódźkie Region

International Inauguration of
the Green Future Programme

Environmental Biotechnologies for
Development of Intelligent
Specialisation of the Region



www.ecohydrologyengineeringsociety2013.org

Honorary auspices:



Ministry of Science
and Higher Education
Republic of Poland



- International Hydrological Programme of UNESCO (UNESCO-IHP)
- Ministry of Science and Higher Education of the Republic of Poland
- Polish Academy of Sciences
- Mayor of the City of Łódź Hanna Zdanowska

Organisers:



Uniwersytet
ŁÓDZKI



- European Regional Centre for Ecohydrology of the Polish Academy of Sciences, under the auspices of UNESCO (ERCE PAN u/a UNESCO), Poland
- University of Łódź, Poland
- Project Life+ EnvEurope, Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring (LIFE08 ENV/IT/000399)
- Marshal's Office of the Łódź Region, Poland

Co-Organisers:



- U.S. Army Corps of Engineers - Institute for Water Resources (USACE-IWR), USA
- The Chartered Institution of Water and Environmental Management (CIWEM), Rivers & Coastal Group, U.K.
- International Society of Limnology (SIL)
- International Centre for Coastal Ecohydrology u/a UNESCO (ICCE), University of Algarve, Portugal
- Łódź Infrastructural Company, Poland
- Municipal Company of Water and Sewage System in Łódź, Poland
- Wastewater Treatment Plant in Łódź, Poland

Supported by:



- LTER-Europe Network (European Long-Term Ecosystem Research)
- Project POIG "Innovative recourses and effective methods of safety improvement and durability of buildings and transport infrastructure in the sustainable development" financed by the European Union from the European Fund of Regional Development based on the Operational Program of the Innovative Economy".
- Project Life+ ECOROB, Ecotones for reducing diffuse pollution (EKOROB LIFE08 ENV/PL/000519)
- Project Life+ EH-REK, Ecohydrologic rehabilitation of recreational reservoirs "Arturówek" (Łódź) as a model approach to rehabilitation of urban reservoirs (LIFE08 ENV/PL/000517)
- Erasmus Mundus Master of Science on Ecohydrology



PROGRAM
REGIONALNY
NARODOWA STRATEGIA SPÓJNOŚCI



The project co-financed by the European Union from the European Regional Development Fund and the regional budget of the Łódźkie Region. European Funds for development of the Łódźkie Region.

Why did UN choose Ecohydrology as a new paradigm?

In the Anthropocene Era, the period in which we live, almost 70% of the Earth's surface has been highly modified by humans, leading to the emergence of "novel ecosystems". Now, as humanity approaches the limits of global carrying capacity, and experiences the parallel phenomena of a degradation of the global environment and population growth, aggravated by climate change, perhaps destined to conclude with yet another "tragedy of the commons", the future of human life lies with a paradigm shift towards more sustainable management of natural resources.

Water has always been the key driver of the biogeochemical evolution of the biosphere and civilisation development. Against the background of escalating global climate change, it is, and will continue to be, the limiting factor in achieving sustainable development and peaceful coexistence in many areas of the world. Current activities seem to neglect the fact that our existence on Earth inevitably depends on our ability to profoundly understand, maintain and re-establish fundamental long-term climatic, hydrological and ecological processes across scales. In prioritizing short-term management, we risk greater uncertainty within both the ecological and the social systems.

In 1997, the International Hydrological Programme of UNESCO adopted Ecohydrology as the foundation of a new scientific approach and paradigm in integrated water management for sustainability. As a management paradigm, Ecohydrology extends the perspective from environmental protection and the control of environmental hazards towards identification of the hierarchy of regulatory processes, with a special emphasis on the interplay between water and biota. As an environmental science, Ecohydrology strongly relates to Engineering emphasising its ability to increase the efficiency of resource use, prolong product life cycles and lower emissions, and integrates it with the capacity of ecosystems. In the current phase, it attempts to involve long-term socio-ecological research in defining the areas for possible augmentation of natural capital, to find a compromise between lifestyle and sustainability, and better engage Engineering in maintaining ecological functions.

Environmental sciences have now progressed far enough to develop a dialogue on integrating the efforts of ecohydrologists, engineers, and social and economic scientists, to move towards ecologically sound solutions, towards harmony between the biogeosphere and humanity. We hope that the symposium will a leverage to boost this dialog.

The Symposium is organised within the framework of the UN International Year of Water Cooperation 2013.

The Symposium will provide a transdisciplinary, international floor to further drive discussion on the conclusions of the 4th International EcoSummit (Columbus, Ohio, USA, 2012), presented in the "Columbus Declaration: Harmonization of Societal Needs with the EcoSphere in the Anthropocene Era".

The Symposium is organised within the Green Future Program, integrating the research potential of the Łódź Region for Bioeconomy – an intelligent specialization using biotechnologies for sustainable development and environmental management.

Goals of the Symposium

The Symposium will provide a transdisciplinary, international forum to contribute to ecologically sound solutions in the water management sector to drive a greater commitment in achieving and maintaining harmony between the biogeosphere and humanity. It will contribute to the sustainability targets of the European Commission, particularly achieving the goals of the Water Framework Directive (2000/60/EC), Habitats Directive (92/43/EEC), Nitrates Directive (91/676/EEC), Bathing Water Directive (2006/7/EC) and the Thematic Strategy on the Urban Environment (COM (2005) 718).

Symposium programme

SESSIONS:

- Session 1:** Integration of environmental knowledge and engineering for identification of key challenges and potential solutions for sustainability
- Session 2:** Analysing long-term ecological trends and forecasting ecosystem status in the face of global change
- Session 3:** The perspective of integrating Ecohydrology and biotechnologies with engineering approaches
- Session 4:** Urban Ecohydrology - towards sustainable cities
- Session 5:** Harmonizing ecosystem potential with societal needs on the basis of mapping human impact and ecosystem services
- Session 6:** The necessity & opportunities for the enhancement of resilience of socio-ecological systems under conditions of increasing uncertainty
- Session 7:** Systemic solutions and modeling in river basin assessment & management
- Poster session**
- Summary and conclusions**

FORUM:

- F1: Action Plan for African Ecohydrology Initiatives
- F2: Ecosummit Forum

WORKSHOPS:

- W1: Urban Ecohydrology Workshop
- W2: Workshop on Long-Term Ecosystem Research (ILTER)
- W3: Polish IHP National Committee workshop (working lunch)

TRIPS:

- Introductory Technical Trip: Date: 16 September 2013, 9:00 – 18:00
 - *Ecohydrological biotechnologies demonstration sites at the Pilica River basin.*
- Mid-symposium field trip (Urban Ecohydrology): Date: 18 September 2013, 17:00
 - *Ecohydrological innovations in stormwater retention and purification for rehabilitation of a municipal river*
 - *Ecohydrological rehabilitation of recreational reservoirs "Arturówek" (Łódź) as a model approach to rehabilitation of urban reservoirs*
 - *Sustainable sewage system management: phytotechnology for sewage sludge utilization and bioenergy production*
- Post conference trips:
 - *Seminar and Cultural Trip to the West Polesie LTSEr (EnvEurope monitoring and research site). Date: 20-22 September 2013*
 - *2-DAY CITY-BREAK in Cracow (depending on the minimum number of interested participants). Date: 20-21 September 2013*

More details on: www.ecohydrologyengineeringsociety2013.org



Overall Timetables of sessions and side events

SYMPOSIUM SCHEDULE

Monday 16 th Sept.	Tuesday 17 th Sept.	Wednesday 18 th Sept.	Thursday 19 th Sept.	Friday - Sunday 20 th -22 nd Sept.
<div> <div> Introductory technical trip: <i>Ecohydrological biotechnologies demonstration sites at the Pilica River basin.</i> </div> <div> Parallel Sessions Andel's Hotel </div> </div>				
<div> <div> Opening and plenary lectures Poznański's Palace </div> <div> Parallel Sessions Andel's Hotel </div> </div>				
<div> <div> Opening 9⁰⁰ - 10³⁰ </div> <div> S1a Satin 1 8³⁰-10³⁰ </div> <div> S2 Cashmere 8³⁰-10³⁰ </div> <div> S3 Satin 2 8³⁰-10³⁰ </div> <div> S6 Satin 2 8³⁰-10³⁰ </div> <div> W1 Cashmere 8³⁰-10³⁰ </div> </div>				
<div> <div> Coffee break 10³⁰ - 11⁰⁰ </div> <div> Coffee break 10³⁰ - 11⁰⁰ </div> </div>				
<div> <div> Plenary lectures 11⁰⁰ - 13⁰⁰ </div> <div> S1b Satin 1 11⁰⁰-13⁰⁰ </div> <div> S4 Cashmere 11⁰⁰-13⁰⁰ </div> <div> S5 Satin 2 11⁰⁰-13⁰⁰ </div> <div> S7 Satin 2 11⁰⁰-13⁰⁰ </div> <div> W2 Cashmere 11⁰⁰-13⁰⁰ </div> </div>				
<div> <div> Welcome Lunch 13⁰⁰ - 14⁰⁰ </div> <div> Lunch break 13⁰⁰ - 14³⁰ </div> </div>				
<div> <div> Plenary lectures 14⁰⁰ - 16¹⁵ </div> <div> F1 Satin 2 14³⁰-16⁰⁰ </div> <div> Poster Session Foyer 14³⁰-16⁰⁰ </div> <div> F2 Satin 2 14³⁰-16⁰⁰ </div> </div>				
<div> <div> Coffee break 16¹⁵ - 16⁴⁵ </div> <div> Coffee break 16⁰⁰ - 16³⁰ </div> </div>				
<div> <div> Plenary lectures 16⁴⁵ - 18⁴⁵ </div> <div> Mid-symposium field trip (Urban Ecohydrology) 17⁰⁰ </div> </div>				
<div> <div> Drafting Committee Meeting 18⁴⁵ - 19¹⁵ </div> <div> Summary and conclusions Satin 2 16³⁰-18³⁰ </div> </div>				
<div> <div> Symposium Dinner Ballroom, Hotel Andels, 19⁰⁰ </div> </div>				
<div> <div> Post symposium field trips: Office of the Łódź Region II International Congress of Bioeconomy organised by Marshal's Friday 20th Sept. </div> <div> Seminar and Cultural Trip to the West Polesie LTSEH (EnEurope monitoring and research site). - 2-DAY CITY-BREAK in Cracow (depending on the minimum number of interested participants). </div> </div>				

Detailed Symposium Programme

1st DAY: Tuesday, 17th September 2013

Registration (8:00-09:00)

Opening of the Symposium (09:00-10:30)

1. Opening Remarks by the Hosts:

- **Maciej Zalewski**, Chairman of the Symposium Steering Committee, Director of the European Regional Centre of the Polish Academy of Sciences for Ecohydrology u/a UNESCO and Department of Applied Ecology, University of Łódź, Poland
- **Representative** of the Ministry of Science and Higher Education of the Republic of Poland
- **Jarosław Szczepankiewicz**, Ministry of Foreign Affairs of the Republic of Poland
- **Sławomir Ratajski**, The Secretary-General of the UNESCO Polish Committee, Poland
- **Witold Sumiński**, President of National Water Management Authority, Poland
- **Leszek Bagiński**, Director of the Regional Water Management Authority in Warsaw, Poland
- **Representative** of the Marshal's Office of the Łódź Region, Poland
- **Radosław Stępień**, Vice-President of the City of Łódź Office, Poland
- **Włodzisław Nykiel**, Rector of the University of Łódź, Poland
- **Zofia Wysokińska**, Pro-Rector in Charge of International Affairs of the University of Łódź, Poland

2. Opening Remarks by the Distinguished Guests:

- **Alemayehu Tegenu**, Minister of Water and Energy of the Federal Democratic Republic of Ethiopia, Ethiopia
- **Alessandra Pugnetti**, EnvEurope Coordinator, National Research Council (CNR), Italy

3. Concert by the Students of the Music Academy of Łódź

- John Thomas - "The Minstrel's Adieu to his native land"
- Felix Godefroid - Concert Etude *es-mol*

Artist: **Anna Maria Kłos** - harp

- F. Chopin - Polonaise *As-dur*
- A. Skriabin - Two Preludes

Artist: **Andrzej Zawadzki** - piano

4. Opening Lectures

Hosted by: The Office of the Łódź City, Poland

- **Blanca Jimenez-Cisneros**, Director of the Division of Water Sciences and Secretary of the International Hydrological Programme (UNESCO-IHP), *Water Security*.
- **Giovanni Bidoglio**, Head of the Water Resources Unit, Institute for Environment and Sustainability, Joint Research Centre, European Commission, *Building a blue and green infrastructure for Europe: Reconcile interests of people, nature and decision makers in water management*.

Coffee break (10:30 - 11:00)

Plenary Lectures – I (11:00 – 13:00)

Hosted by: Marshal's Office of the Łódź Region, Poland

Chairperson: **Robert A. Pietrowsky**, Director of US Army Corps of Engineers (USACE), Institute for Water Resources, U.S.A

- **William J. Mitsch**, Chair of the 4th International EcoSummit (Ohio, USA, 2012), U.S.A, *Ecological engineering: Opportunities and challenges for transdisciplinary integration*
- **Hans Herren**, Millenium Institute, Washington D.C., U.S.A. *Food and nutrition security challenges in a changing world: What actions are needed?*
- **Brian Moss**, Director of the International Society of Limnology (SIL), U.K. *Saving human civilisation: with restored biomes of excellence, or failing anthromes of multiple-use mediocrity?*
- **Johannes Cullmann**, Chair of the Intergovernmental Council of the International Hydrology Programme (IHP) of UNESCO, Germany. *UNESCO IHP – Water security.*

Lunch (13:00-14:00)

Plenary Lectures – II (14:00 – 16:15)

Hosted by: Łódź Infrastructural Company, Poland

Chairperson: **Martin Whiting**, Immediate Past Chairman of The Chartered Institution of Water and Environmental Management (CIWEM), Rivers and Coastal Group U.K.

- **Graham Piper**, The Chartered Institution of Water and Environmental Management (CIWEM), Rivers and Coastal Group, U.K.; Environment Agency, South East Region, U.K. *Balancing flood risk and development in the flood plain: the Lower Thames Flood Risk Management Strategy.*
- **Robert A. Pietrowsky**, Director of US Army Corps of Engineers (USACE), Institute for Water Resources, U.S.A., *Evaluation Ecosystem Services within an IWRM Contest: U.S. Practices.*
- **Patrick S. Bourgeron**, Head of the International Long-Term Ecological Research (ILTER) Science Strategy Committee (Colorado University, U.S.A.) *The wicked problem of the land - water - energy nexus: causes and consequences.*
- **Holger Robrecht**, Deputy Regional Director, ICLEI European Secretariat, Freiburg, Germany, *Water for people – water for nature: The role of local governments to reconcile social, economic and ecological demands on water in an urban context.*

Technical presentation

- **Ewa Kittel-Prejs**, Journals Publishing Director, Eastern Europe, Elsevier Urban & Partners Sp. z o.o. *Publishing in the 21st Century What's changed: History and future of scholarly communication - Challenges and Perspectives.*

Coffee break (16:15 - 16:45)

Plenary Lectures – III (16:45 – 18:45)

Hosted by: University of Łódź and Polish Academy of Sciences

Chairperson: **Jun Xia**, The Research Institute for Water Security (RIWS), Wuhan University, & IGSNRR, Chinese Academy of Sciences, China

- **Michael Mirtl**, Chair of European Long-Term Ecosystem Research Network, Head of the Department for Ecosystem Research and Monitoring Environment Agency Austria, Austria. *Long-term Ecosystem Research in Europe: LTER as a multifunctional research infrastructure.*
- **Enrique Playán**, Water Joint Programming Initiative – The Ministry of Economy and Competitiveness of the Government of Spain, Spain. *The Joint Programming Initiative "Water Challenges for a Changing World".*
- **Joanna Mankiewicz-Boczek**, European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences, Poland. *How genetic studies stimulate development of ecohydrological biotechnology.*
- **Jakub Kronenberg**, University of Łódź, Faculty of Economics and Sociology, Sendzimir Foundation, Poland. *Translating science into decision making through education and capacity building: experience of the Sendzimir Foundation.*

Drafting Committee Meeting (18:45 – 19:15)

2nd DAY: Wednesday, 18th September 2013

Morning Session (08:30-10:30): parallel sessions 1, 2 and 3

Session 1a (room Satin 1):

Integration of environmental knowledge and engineering for identification of key challenges and solutions for sustainability

Hosted by: Municipal Company of Water and Sewage System in Łódź, Poland

Chairperson: **Anna Rogut**, Director of the Centre of Excellence in the Knowledge-based Economy KNOWBASE, Poland and **Johannes Cullmann**, Chair of the Intergovernmental Council of the International Hydrology Programme (IHP) of UNESCO, Germany

Presenters:

- 1.1. Eutrophication: The major threat to water bodies.
Seyed Saeid Eslamian (Water Engineering Department, Isfahan University of Technology, Iran), Mohammad Hadi Bazrkar, Rokhsareh Ziaei
- 1.2. Lake restoration – selecting theories and methods that play in concert.
Ryszard Wiśniewski (Laboratory of Applied Hydrobiology, Faculty of Biology and Environment Protection, N. Copernicus University, Poland)
- 1.3. Riverscapes as support for discussions between engineers and biologists: how to improve their formulations on a catchment with varied contexts and varied human impacts.
Pascal Breil (National Institute for Environmental and Agricultural Science and Research, Hydrology-Hydraulic Research Unit, France), Poulard Christine
- 1.4. Harmonization of ecohydrological biotechnologies with the existing water management efforts in Ethiopia.
Yohannes Zerihun (Ministry of Water and Energy of Ethiopia, Ethiopia), Alayu Yalew, Magdalena Urbaniak, Maciej Zalewski
- 1.5. The Integrated Land Management System (ILMS) as a tool to reach sustainable reservoir basin management.
Sawczak Mateusz (AGH University of Science and Technology, Poland), Drzewiecki Wojciech, Tomasz Bergier, Wolfgang Flugel, Manfred Fink, Björn Pfenning
- 1.6. Hydrodynamic and ecohydrological conditions in two catchments in the Gorce Mountains: the Jaszczce and Jamne streams - Polish Carpathians.
Artur Radecki-Pawlik (Department of Water Engineering, Agricultural University of Krakow, Poland), Anna Bucala, Karol Plesiński
- 1.7. Revitalization of the Channel Galijas on the Great War Island at the confluence of the river Sava and the Danube River.
Jovan Despotovic (Faculty of Civil Engineering, University of Belgrade, International Research and Training Centre for Urban Drainage UNESCO Center, Serbia), Aleksandar Djukic, Ljiljana Jankovic
- 1.8. The impact of anthropogenic point sources of nutrient pollution on river water quality and the development of ecohydrological biotechnologies for the purification of wastewater.
Edyta Kiedrzyńska (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland), Magdalena Urbaniak, Marcin Kiedrzyński, Anna Wyrwicka, Artur Magnuszewski, Maciej Zalewski

Morning Session (08:30-10:30): parallel sessions 1, 2 and 3

Session 2 (room Cashmere):

Analysing long-term ecological trends and forecasting ecosystem status in the face of global change

Hosted by: Project Life+ EnvEurope (LIFE08 ENV/IT/000399) and LTER-Europe Network (European Long-Term Ecosystem Research)

Chairperson: **Alessandra Pugnetti**, EnvEurope Coordinator, National Research Council (CNR), Italy and **Michael Mirtl**, Chair of European Long-Term Ecosystem Research Network, Head of the Department for Ecosystem Research and Monitoring Environment Agency, Austria

Presenters:

- 2.1. Ecological marine regime shifts around the world: analogies, impacts, significance.
Alessandra Conversi (The Sir Alister Hardy Foundation for Ocean Science, UK, and National research Council-Institute of Marine Sciences, Italy)
- 2.2. Long-Term Ecosystem Research: Best examples from the science-policy interface
Michael Mirtl (Long Term Ecological Research Network - Europe, Environment Agency, Austria)
- 2.3. An analysis of the phenological trends based on the aquatic environments of the European Long Term Ecosystem Network (LTER).
Alessandro Oggioni (Institute for Electromagnetic Sensing of the Environment, National research Council-Institute of Marine Sciences, Italy), I. Bertani, C. Tortora, M. Adamescu, A. Campanaro, C. Cindolo, C. Cociuffa, P. Colangelo, F.B. Aubry, M. Bastianini, M. Cabrini, E. Camatti, B. Cataletto, M. Coci, P. Focaccia, I. Georgieva, G. Hiebaum, V. Karamfilov, K. Palfy, M. Lipizer, A. Lugliè, F. Margiotta, G. Morabito, M.B. Padedda, A. Palomäki, M. Ravaoli, F. Riminucci, M. Rogora, G. Rossetti, K. Tolonen, A. Zingone, R. Díaz-Delgado, M. Á. Bravo, C. Cazacu, P. Rönnback, Y. Yang, K. Pettersson, U. Grandin, A. Pugnetti
- 2.4. Nitrogen deposition affects forest floor vegetation across Europe - evidence from long-term monitoring.
Tomasz Staszewski (Instytut Ekologii Terenów Uprzemysłowych, Poland), Thomas Dirnböck, Ulf Grandin, Markus Bernhar d-Römermann, Burkhardt Beudert, Roberto Canullo, Martin Forsius, Maria-Theresia Grabner, Maria Holmberg, Sirpa Kleemola, Lars Lundin, Michael Mirtl, Markus Neumann, Maija Salemaa, Franz Starlinger, Aldona Katarzyna Uziębło
- 2.5. A risk assessment of the acidification of surface water at the LTER Petrohan site, based on long term ecological research.
Nadka Ignatova (Department of Plant Pathology and Chemistry, University of Forestry, Bulgaria), Maria Bogomilova, Sonya Damyanova, Radka Fikova
- 2.6. Long-term decrease of the vendace population of Lake Pluszne (Poland) – result of global warming, eutrophication or both?
Małgorzata Godlewska (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland), Lech Doroszczyk, Bronisław Długoszewski, Ewa Kanigowska
- 2.7. Global Climate Change and the Biological Invasions of Alien Aquatic Species: Potential Consequences for Water Quality.
Pavlov Dmitry (I. D. Papanin Institute of the Biology of Inland Waters, Russian Academy of Sciences) Ludmila G. Korneva, Natalya A. Nebesihina
- 2.8. The responses of desert plants to rainfall pulses in temperate desert regions, Northwestern China.
Wenzhi Zhao (Cold and Arid Regions, Environmental and Engineering Research Institute, Chinese Academy of Sciences, China)

Morning Session (08:30-10:30): parallel sessions 1, 2 and 3

Session 3 (room Satin 2):

The perspective of integrating Ecohydrology and biotechnologies with engineering approaches

Hosted by: Project EKOROB: Ecotones for reducing diffusion pollution. LIFE08 ENV/PL/000519.

Chairperson: **Ryszard Chróst**, Head of the Microbial Ecology Department, University of Warsaw and **Robert Pietrowsky**, Director of Institute of Water Resources (IWR), U.S. Army Corps of Engineers (USACE), U.S.A.

Presenters:

- 3.1. Molecular genetics in monitoring microbial diversity in water reservoirs.
Paweł Parniewski (Institute of Medical Biology of the Polish Academy of Sciences in Łódź, Poland)
- 3.2. Thirty-five years of experience in the management and development of constructed wetlands for the treatment of petrochemical waste waters in Hungary.
Gyula Lakatos (Department of Ecology, Debrecen University, Hungary), Zoltán Veres, János Kundrát, Ilona Mészáros
- 3.3. Leachate runoff and pollutant load from municipal waste landfills and a new technological proposal for denitrification.
Kohji Michioku (Department of Civil Engineering, Kobe University, Japan), Kenji Tanaka, Hiroya Tanaka, Kohsuke Inoue, Masahiro Yagi, Tamihito Nakamichi
- 3.4. An optimum flooding approach to restoring the reed population in the Yellow River Delta.
Xuehong Wang (Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, China)
Junbao Yu, Shouzheng Tong, Huan Meng
- 3.5. Denitrification ditches – biotechnology for the removal of nitrogen pollution and ground water protection in areas of intensive farming.
Agnieszka Bednarek (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland)
Sebastian Szklarek, Katarzyna Dziedziczak, Bogusław Kowalski, Jan Wojtysiak, Maciej Zalewski, Joanna Mankiewicz-Boczek
- 3.6. Microbial ecophysiology of pelagic, trophogenic layer of the Great Mazurian Lakes - “the story: how millions of small microbes have giant power in water cosmos?”
Ryszard Chróst (Microbial Ecology Department, University of Warsaw, Poland), Iwona Jasser, Bartosz Kiersztyn, Waldemar Siuda, Tomasz Adamczewski, Aleksandra Bukowska, Katarzyna Jakubiec, Tomasz Kaliński and Adriana Królicka
- 3.7. Utilization of Biogas as a Power Plant.
Moch Rizqi Akbar Firdaos (Mechanical Engineering, State Polytechnic of Jakarta, Indonesia) Angga Bagus Asrianto, Yogi Alam Prajana
- 3.8. Enhanced land-water buffer zones for the reduction of diffuse pollution from the landscape.
Katarzyna Izdorczyk (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland)
Wojtek Frątczak, Maciej Zalewski

Coffee break (10:30 - 11:00)

Midday Session (11:00-13:00): parallel sessions 1b, 4 and 5

Session 1b (room Satin 1):

Integration of environmental knowledge and engineering for the identification of key challenges for sustainability and their solutions

Hosted by: Wastewater Treatment Plant in Łódź, Poland

Chairperson: **Jun Xia**, Past President of International Water Resources Association (IWRA); Chair Professor & Dean, The Research Institute for Water Security (RIWS); Wuhan University, & Distinguished Professor, Chinese Academy of Sciences, China and **Giuseppe Arduino**, Programme Specialist, Division of Water Sciences, International Hydrological Programme (IHP), UNESCO

Presenters:

- 1.9. Evidence-based evaluation: Synthesizing the cumulative effects of river floodplain restoration.
Heida L. Diefenderfer (Pacific Northwest National Laboratory, Marine Sciences Laboratory), Gary E. Johnson, Ronald M. Thom
- 1.10. The sustainable restoration of lakes - towards the challenges of the WFD.
*Ryszard Goldyn (Department of Water Protection, Adam Mickiewicz University in Poznań, Poland)
Stanisław Podsiadłowski, Renata Dondajewska*
- 1.11. Linked ecosystems of the Brahmaputra Basin: land use land cover changes and its impact on flood plain lakes.
Sanchita Boruah (Dibrugarh Hanumanbax Surajmall Kanoi College, Dibrugarh University, India)
- 1.12. Tracing the pollution load in the Pilica River lowland catchment and Sulejow Reservoir by the indirect approach.
Artur Magnuszewski (Hydrology Department, University of Warsaw, Poland), Edyta Kiedrzyńska, Marcin Kiedrzyński
- 1.13. Spatial variability of canopy interception in a spruce forest of the semiarid mountain region of China.
*He Zhibin (Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China) ,
Jun Du, Shengchun Xiao, Junjun Yang*
- 1.14. Riverscapes as support for alleviating the drawbacks of river training: preliminary studies on the Upper Raba River catchment.
Marta Łapuszek (Institute of Water Engineering and Water Management, Poland) Anna Lenar-Matyas
- 1.15. A preliminary assessment of the response of aquatic ecosystems to river restoration – a case study of the Jędrzonia river restoration project.
*Mateusz Grygoruk (Department of Hydraulic Engineering, Warsaw University of Life Sciences, Poland)
Dorota Mirosław-Świątek, Michael Schabuss, Horst Zoring, Stefan Ignar*
- 1.16. Dependence of canopy water storage capacity on raindrop size in revegetated desert shrubs.
*Xinping Wang (Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China)
Yafeng Zhang, Rui Hu, Yanxia Pan, Hao Zhang, Ronny Berndtsson*

Midday Session (11:00-13:00): parallel sessions 1b, 4 and 5

Session 4 (room Cashmere):

Urban Ecohydrology - towards sustainable cities

Hosted by Project POIG "Innovative recourses and effective methods of safety improvement and durability of buildings and transport infrastructure in the sustainable development" financed by the European Union from the European Fund of Regional Development based on the Operational Program of the Innovative Economy" and the Technical University of Łódź, Poland

Chairperson: **Robrecht Holger**, Deputy Regional Director, ICLEI European Secretariat, Germany and **Iwona Wagner**, Symposium Convenor, European Regional Centre for Ecohydrology of the Polish Academy of Sciences u/a UNESCO and Department of Applied Ecology, University of Łódź, Poland

Presenters:

- 4.1. Ecohydrology for resilient cities of the future. The Łódź case.
Iwona Wagner (European Regional Centre for Ecohydrology of the Polish Academy of Sciences u/a UNESCO and Department of Applied Ecology, University of Łódź, Poland), Kinga Krauze, Tomasz Jurczak, Bartosz Zimny
- 4.2. Ecohydrology to reduce the impact of combined sewer overflows on small streams.
Pascal Breil (National Institute for Environmental and Agricultural Science and Research, Hydrology-Hydraulic Research Unit, France), Philippe Namour
- 4.3. The impact of stormwater drainage on urban rivers and ways of mitigation.
Heiko Sieker (Ingenieurgesellschaft Prof. Dr. Sieker mbH, Germany)
- 4.4. Opportunities for sustainable management of rainwater: the example of the city of Łódź.
Marek Zawilski (Department of Civil Engineering, Architecture and Environmental Engineering, Technical University of Łódź, Poland), Grażyna Sakson, Agnieszka Brzezińska
- 4.5. From valuation to governance: using a choice experiment to value street trees in Łódź, Poland.
Marek Giergiczny (Faculty of Economic Sciences, University of Warsaw, Poland), Jakub Kronenberg
- 4.6. Resilient Landscapes. From spontaneous adaptation to post-industrial planned multi-scalar resilience.
Alberto Verde (EPFL - Ecole Polytechnique Fédérale de Lausanne, Switzerland), Elena Cogato Lanza
- 4.7. Green Infrastructure and water quality in Urban Ethiopia: Interrogating the rhetoric.
Joseph Binala (Department of Urban and Regional Planning, University of Venda, South Africa), Tendayi Gondo
- 4.8. Extensive urbanization - a trigger of asthma and allergy
Izabela Kupryś-Lipińska (Department of Internal Medicine, Asthma and Allergy, Norbert Barlicki Memorial University Hospital No 1 in Łódź, Medical University of Łódź), Piotr Kuna

Midday Session (11:00-13:00): parallel sessions 1b, 4 and 5

Session 5 (room Satin 2): Harmonizing ecosystem potential with societal needs on the basis of mapping human impact and ecosystem services

Hosted by: Project Life+ EnvEurope (LIFE08 ENV/IT/000399), LTER-Europe Network (European Long-Term Ecosystem Research) and ALTER-Net

Chairperson: **Giovanni Bidoglio**, Head of the Water Resources Unit, Institute for Environment and Sustainability, Joint Research Centre, European Commission, Italy and **Daniel Orenstein**, Co-chair of Long-term socio-ecological research Expert Panel of LTER Europe, Faculty of Architecture and Town Planning, Technion - Israel Institute of Technology, Israel

Presenters:

- 4.1. The value of ecosystem services related to water quantity and water quality.
Stephen Polasky (Department of Applied Economics, University of Minnesota, U.S.A.)
- 4.2. Water management in cooperation – an example from a catchment area in south Sweden.
Justyna Czemiel-Berndtsson (Sydvatten AB, Ideon Science Park, Sweden)
- 4.3. Intensification of wetland agriculture - challenges to sustainable development in Tanzania.
Silvia Materu (Faculty of Life Sciences, Hamburg University of Applied Sciences, Germany), Brigitte Urban, Susanne Heise
- 4.4. Relationship Between Flow Regularization And Ecology In The Upper Paraná River Floodplain: A Mental Model.
Cristhiane Okawa (UEM - Estadual University of Maringá, Brasil), Edvard Elias de Souza Filho, Fernando Oliveira de Andrade, Paulo Fernando Soares, Juliane Vier Vieira, Marcelo Marques, Elaine Patricia Arantes Vital, Osni Pereira
- 4.5. The remediation of small and very small water bodies as a prerequisite for sustainable achievement of the Water Framework Directive objectives
Dieter Schuller (Arbeitsgruppe Regionale Struktur - und Umweltforschung GmbH, Oldenburg, Germany)
- 4.6. Restoration of Natural Wealth: Understanding Land Use Dynamics and Climate Change Impacts on Hydrological Flow.
Makarius Lalika (Department of Biology, Ecosystem Management Research Group, University of Antwerp, Belgium), Patrick Meire, Yonika M. Ngagac
- 4.7. Spatio-temporal assessments of Ecological Integrity and Ecosystem Services across different LTER Europe sites.
Mark Frenzel (Helmholtz Centre for Environmental Research, Germany), Mihai Adamescu, Cornelia Baessler, Constantin Cazacu, Ricardo Diaz-Delgado, Felix Müller, Stefan Stoll, Benjamin Burkhard
- 4.8. Multicultural Assessment of Ecosystem Services across an International Border: Lessons for Land Use Policy in Hyper-Arid Regions.
Daniel Orenstein (Faculty of Architecture and Town Planning, Technion - Israel Institute of Technology, Israel), Elli Groner

Lunch (13:00 - 14:30)

Afternoon Session (14:30-16:00): parallel Poster Session and Forum 1

Poster Session (Foyer):

There are over 50 posters registered for the Symposium. They will be available during the 2nd and 3rd day of the Symposium (18-19 September) in the Foyer of the Andels Hotel. Dedicated Poster Session will be chaired by the chairperson assigned to particular sessions as listed in the general programme.

Forum 1 (room Satine 2): Action Plan for African Ecohydrology Initiatives

Hosted by: Institute for Water Resources (IWR), U.S. Army Corps of Engineers (USACE)

Chairperson: **Robert Pietrowsky**, Director of Institute of Water Resources (IWR), U.S. Army Corps of Engineers (USACE) and UNESCO International Center for Integrated Water Resources Management (ICIWaRM), U.S.A

The speakers will focus on the regional needs for ecohydrologic initiatives and investments in Africa, and how they link to the IHP-VIII goals for Ecohydrology. The topic for discussion include:

- Role of UNESCO and Theme 5 of IHP-VIII Program: Ecohydrology, engineering harmony for a sustainable world
- Identification of threatened ecological resources, and areas for attention
- Identification specific technical areas for priority focus
- Identification of specialists and institutions for transfer of knowledge and implementation of ecohydrological, biotechnological and engineering innovation in Africa and other regions
- Defining other ongoing programs that UNESCO could partner with to support ecohydrology development in Africa

Strategic Plan of the Eighth Phase of UNESCO IHP (IHP-VIII, 2014-2021):
<http://unesdoc.unesco.org/images/0021/002164/216434e.pdf>

Eighth Phase of UNESCO
IHP document (IHP-VIII,
2014-2021)



Coffee break (16:00 - 16:30)

Mid-symposium field trip (17:00-19:30):

Mid-symposium field trip (Urban Ecohydrology):

- Ecohydrological innovations stormwater retention and purification in rehabilitation of a municipal river (*)
- Ecohydrologic rehabilitation of recreational reservoirs "Arturówek" (Łódź) as a model approach to rehabilitation of urban reservoirs (**).
- Sustainable sewage system management: phytotechnology for sewage sludge utilization and bioenergy production (*)

* Developed in projects: SWITCH 6FP EU Project, GOCE 018530 and „Innovative recourses and effective methods of safety improvement and durability of buildings and transport infrastructure in the sustainable development" financed by the European Union from the European Fund of Regional Development based on the Operational Program of the Innovative Economy;

** EH-REK, Project UE, LIFE+ Environment Policy and Governance Programme, LIFE08 ENV/PL/000517

Morning Session (08:30-10:30): parallel Session 6 and Workshop 1

Session 6 (room Satin 2):

The necessity & opportunities for the enhancement of resilience of socio-ecological systems under increasing uncertainty

Hosted by: Project Life+ EnvEurope (LIFE08 ENV/IT/000399) and LTER-Europe Network (European Long-Term Ecosystem Research)

Chairperson: **Patrick Bourgeron**, Head of International Long Term Ecological Research (ILTER) Science Strategy Committee (Colorado University, U.S.A.) and **Kinga Krauze**, European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland

Presenters:

- 6.1. Regional detection of environmental thresholds.
Mark Green (Center for the Environment, Plymouth State University)
- 6.2. Management towards sustainability of ecosystem services - a Braila Island case study.
Adamescu Mihai (Systems Ecology and Sustainable Development, University of Bucharest, Romania)
- 6.3. Understanding ecological, social and economic (un)reliabilities in integrated catchment management.
Kinga Krauze (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland)
- 6.4. Uncovering the social values of watershed stewardship to promote ecosystem resilience and climate change adaptation: Lessons learned from a case study in Nepal.
Carolyn J. Eining (Mountain Rivers Institute, U.S.A)
- 6.5. Reconciling ecosystem rehabilitation and public service reliability.
Emery Roe (Berkeley University California, U.S.A)
- 6.6. Flood Mapping and Flood Forecasting Modeling Techniques: Their Applications and Benefits to Nature and Society
Konstantin Vasilyev (Halcrow, a CH2M HILL company, Swindon, U.K.)

Workshop 1 (room Cashmere): Urban Ecohydrology Workshop

Chairperson: **Iwona Wagner**, Symposium Convenor, European Regional Centre for Ecohydrology of the Polish Academy of Sciences and Department of Applied Ecology, University of Łódź, Poland

Based on the plenary lecture presenting the conclusions of the ICLEI Resilient Cities Congress (Bonn, 2013) and the results of the session 4, the participants will discuss the emerging areas for implementation of ecohydrology in cities, and its potential role in the policy drivers for creating more resilient cities.

Coffee break (10:30 - 11:00)

Midday Session (11:00-13:00): parallel Session 7 and Workshop 2

Session 7 (room Satin 2): Systemic solutions and modeling in river basin assessment & management

Hosted by: Project EH-REK: Ecohydrological rehabilitation of Arturowek recreational reservoirs (in Łódź) as a model approach to the rehabilitation of urban reservoirs. EH-REK LIFE08 ENV/PL/000517

Chairperson: **Pascal Breil**, Member of National Institute for Environmental and Agricultural Science and Research (IRSTEA), France and **Artur Magnuszewski**, Hydrology Department, University of Warsaw, Poland

Presenters:

- 7.1. Systemic solutions and modelling on eco-water and its allocation applied to urban river restoration: A Case Study in Beijing, China.
Xia Jun (The Research Institute for Water Security, Wuhan University, China)
- 7.2. Water Management and a Water Supply Restoration Design for the Zhalong Wetlands.
Shouzhong Tong (Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, China), Xianguo Lu, Bo Cao, Yunlong Yao
- 7.3. The use of quantitative habitat models for establishing performance metrics in water resources use planning.
Piotr Parasiewicz (S. Sakowicz Inland Fisheries Institute Department of River Fisheries, Poland), Kathleen Ryan, Paolo Vezza, Claudio Comoglio, Thomas Ballesterio, Joseph N. Rogers
- 7.4. Changing riparian vegetation management with a bottom-up approach.
Michael Trepel (Ministry of Energy, Agriculture, the Environment and Rural Areas, Germany), Torsten Boysen, Anne Holm, Gabriele Stiller
- 7.5. The perspective of the use of Ecohydrology for the reduction of the transport and accumulation of selected micropollutants in the river ecosystem.
*Magdalena Urbaniak (European Regional Centre for Ecohydrology of the Polish Academy of Sciences, Poland)
Edyta Kiedrzyńska, Marek Zieliński, Maciej Zalewski*
- 7.6. 3D CFD modelling of hydrodynamics and water quality in the Sulejow Reservoir.
*Aleksandra Ziemińska-Stolarska (Faculty of Process and Environmental Engineering, Łódź University of Technology, Poland)
Andrzej Polańczyk, Ireneusz Zbiciński*
- 7.7. Flow regime alteration due to anthropogenic and climatic changes.
Neha Mittal (Department of Agricultural and Food Engineering, Indian Institute of Technology Kharagpur, India)

Workshop 2 (room Cashmere): Workshop on Long-Term Ecosystem Research (ILTER)

Chairperson: **Daniel Orenstein**, Co-chair of Long-term socio-ecological research Expert Panel of LTER Europe, and **Patrick Bourgeron**, Head of International Long Term Ecological Research (ILTER) Science Strategy Committee (Colorado University, U.S.A.)

Goal: To define the status, scientific programme and infrastructure / monitoring / networking needs for LTER network on a basis of following bullet points:

- the emerging areas for long-term research that consider needs of management and decision making, biotechnology, ecohydrology and engineering;
- possible areas of contribution of LTER to development of ecohydrological approach and enhancing catchment resilience under uncertainty;
- indicators that can serve as early warning signals of decreasing resilience of complex systems (socio-ecological);
- the type of parameters that should monitor in order to efficiently trace dynamics of coupled socio-ecological system and move from observation towards problem solving at catchment scale.

Possible outcomes: a report for Life + EnvEurope project, the synthesis paper on the role of LTER in engineering harmony between humans and biogeosphere, and a draft programme of action for LTER Executive Committee.

Lunch break (13:00-14:30) and Polish IHP National Committee workshop (working lunch)

Afternoon Session (14:30-18:00): Forum 2 and Symposium Summary

Forum 2 (room Cashmere): EcoSummit Forum

Discussion Leader: **Professor William J. Mitsch**, Eminent Scholar and Director, Everglades Wetland Research Park, Juliet C. Sproul Chair for Southwest Florida Habitat Restoration and Management, Florida Gulf Coast University, Professor Emeritus, The Ohio State University

EcoSummit 2012, the fourth such EcoSummit since the first one was held in Copenhagen in 1996, hosted 1622 delegates from 73 countries in Columbus, Ohio, USA. There were 1329 papers presented at this conference in 7 keynote plenaries, more 50 organized symposia, and countless general sessions. Continuing the custom of previous EcoSummits, several special issues of scientific journals are in the works in international journals including Ecohydrology & Hydrobiology, Ecological Engineering, and International Journal for Biodiversity Science, Ecosystem Services & Management among others. The success of EcoSummit 2012 solidifies the history of previous EcoSummits held in Copenhagen (1996), Halifax (2000), and Beijing (2007), all of which made tangible marks on increased communication among the world's ecologists, environmental scientists, and environmental policy makers. The history will continue when EcoSummit 2016 will be held in Montpellier, France on August 26 – September 2, 2016. That conference will continue to focus on the repairing of the planet including an emphasis on fragile ecosystems that are susceptible to climate change. Information on proposing symposia and other organized sessions at EcoSummit 2016 will be presented.

Detailed programme available at the Symposium webpage and provided in hand-outs.

Coffee break (16:00-16:30)

Summary and conclusions (16.30 – 18.00)

Summary and conclusions from all the Symposium sessions will be presented by the Session Chairpersons. The session will also be the opportunity for presenting and discussing the draft Concluding Document of the Symposium, being prepared by the Drafting Committee.

Symposium dinner (19:00, Ballroom, Andel's Hotel)

Symposium Chairs:

- **Maciej Zalewski**, Chairman of the Steering Committee, Director of the European Regional Centre for Ecohydrology of the Polish Academy of Sciences u/a UNESCO, Poland
- **Graham Piper**, co-Chairman of the Steering Committee, Chairman of The Chartered Institution of Water and Environmental Management (CIWEM), Rivers & Coastal Group, U.K.
- **Robert A. Pietrowsky**, co-Chairman of the Steering Committee, Director of Institute of Water Resources (IWR), U.S. Army Corps of Engineers (USACE), U.S.A.

Organizing Committee:

- **Włodzimierz Nykiel**, Rector of the University of Łódź, Poland
- **Witold Stępień**, Marshal of the Łódź Region, Poland
- **Eugene Z. Stakhiv**, Member of U.S. Army Corps of Engineers (USACE), Institute of Water Resources (IWR), U.S.A.
- **Michael Mirtl**, Chair of LTER - Europe, Environment Agency, Austria
- **Alessandra Pugnetti**, EnvEurope Coordinator, National Research Council (CNR), Italy
- **Shahbaz Khan**, Deputy Director, Asia and the Pacific Regional Science Bureau of UNESCO based at Jakarta, Indonesia
- **William J. Mitsch**, Chair of the 4th International Ecosummit (Ohio, USA, 2012); Distinguished Professor of Environment and Natural Resources, Florida Gulf Coast University, US
- **Brian Moss**, Director of International Society of Limnology (SIL), U.K.
- **Luis Chicharo**, International Centre for Coastal Ecohydrology u/a UNESCO (ICCE), University of Algarve, Portugal
- **Mieczysław S. Ostojski**, Director of the Institute of Meteorology and Water Management - National Research Institute (IMGW-PIB), Poland
- **Anna Rogut**, Director of the Centre of Excellence in Knowledge-based Economy KNOWBASE, Poland
- **Tomasz Bergier and Jakub Kronenber**, Sendzimir Foundation Board, NGO, Poland
- **Radosław Łuczak**, President of the Łódź Infrastructure Company
- **Kinga Krauze**, Co-Chair of LTER - European Network, European Regional Centre for Ecohydrology u/a UNESCO, Poland
- **Iwona Wagner**, Convenor of the Symposium, European Regional Centre for Ecohydrology u/a UNESCO, Poland
- **Ilona Gagała**, Secretary of the Symposium, European Regional Centre for Ecohydrology u/a UNESCO, Poland

Scientific Committee:

- **Blanca Jimenez-Cisneros**, Chairman of the Scientific Committee, Director of the Division of Water Sciences, Secretary of the International Hydrological Programme (IHP)
- **Stanisław Bielecki**, Rector of the Technical University of Łódź, Poland
- **Patrick S. Bourgeron**, ILTER Science and Programs Committee, ILTER Project coordinator, NSTAAR - An Earth and Environmental Systems Institute, CU-Boulder, Colorado, USA
- **Leon Braat**, Chair of Management Board, ALTER-Net, Senior Researcher International Biodiversity Policy, Alterra, Wageningen-UR, The Netherlands
- **Pascal Breil**, Member of National Institute for Environmental and Agricultural Science and Research (IRSTEA), France
- **Johannes Cullmann**, Chair of the Intergovernmental Council of the International Hydrology Programme (IHP) of UNESCO, Germany
- **Iwona Jasser**, Vice-President of the Polish Hydrobiological Society, Poland
- **Stanisław Kaniszewski**, Manager of Vegetable Cultivation and Fertilization Department, Research Institute of Horticulture in Skierniewice, Poland
- **Zbigniew Kundzewicz**, Chairman of the Committee for Research on Water-related Risks, Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Poland
- **Basant Maheshwari**, Member of American society of Agricultural and Biological Engineers, University of Western Sydney, Australia
- **Lech Michalczyk**, Deputy Director for Scientific Affairs, Research Institute of Horticulture in Skierniewice, Poland
- **Michael Mirtl**, Chair of European Long-Term Ecosystem Research Network, Head of the Department for Ecosystem Research and Monitoring Environment Agency Austria, Austria
- **Tomasz Okruszko**, Head of the Department of Hydraulic Engineering, Warsaw University of Life Sciences (SGGW), Poland
- **Sławomir Ratajski**, The Secretary-General of the UNESCO Polish Committee, Poland
- **Azime Tezer**, Urban and Regional Planning faculty member at Istanbul Technical University, Istanbul Technical University, Turkey
- **Jose G. Tundisi**, Director of the International Institute of Ecology in Sao Carlos, Brazil
- **Wojciech Wąsowicz**, Head of the Department of Toxicology and carcinogenesis, Nofer Institute of Occupational Medicine, Poland
- **Martin Whiting**, Immediate Past Chairman, CIWEM Rivers & Coastal Group, Haskoning UK Ltd., UK
- **Jun Xia**, Past President of International Water Resources Association (IWRA); Chair Professor & Dean, The Research Institute for Water Security (RIWS); Wuhan University, & Distinguished Professor, Chinese Academy of Sciences, China

Drafting Committee Invited Members

- **Zbigniew Kundzewicz**, Chairman of the Committee for Research on Water-related Risks, Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Poland
- **Robert A. Pietrowsky**, Director of US Army Corps of Engineers (USACE), Institute for Water Resources, U.S.A.
- **Graham Piper**, The Chartered Institution of Water and Environmental Management (CIWEM) Rivers and Coastal Group U.K.; Environment Agency South East Region UK.
- **William J. Mitsch**, Chair of the 4th International Ecosummit (Ohio, USA, 2012), U.S.A
- **Brian Moss**, Director of International Society of Limnology (SIL), U.K.
- **Jun Xia**, The Research Institute for Water Security (RIWS), Wuhan University, & IGSNRR, Chinese Academy of Sciences, China
- **Pascal Breil**, National Research Institute of Science and Technology for Environment and Agriculture, France
- **Seyed Saeid Eslamian**, Water Engineering Department, Isfahan University of Technology, Isfahan, Iran
- **Holger Robrecht**, Deputy Regional Director, ICLEI European Secretariat, Freiburg, Germany
- **Bogdan Piasecki**, Head of Department of Entrepreneurship and Industrial Policy, Faculty of Management, University of Łódź, Poland
- **Konrad Rydzyński**, Director General of the Nofer Institute of Occupational Medicine in Łódź, Poland
- **Piotr Kuna**, Head of the Department of Internal Medicine, Asthma and Allergy, Medical University of Łódź, Łódź, Poland
- **Sławomir Ratajski**, The Secretary-General of the UNESCO Polish Committee, Poland
- **Giovanni Bidoglio**, Head of the Water Resources Unit Institute for Environment and Sustainability Joint Research Centre European Commission in Łódź, Poland
- **Michael Mirtl**, Chair of European Long-Term Ecosystem Research Network, Head of the Department for Ecosystem Research and Monitoring Environment Agency Austria, Austria
- **Patrick S. Bourgeron**, Head of International Long Term Ecological Research (ILTER) Science Strategy Committee, Colorado University, U.S.A.
- **Daniel Orenstein**, Co-chair of LTSE Expert Panel, LTER-Israel, Faculty of Architecture and Town Planning, Technion - Israel Institute of Technology, Israel
- **Radosław Łuczak**, President of the Łódź Infrastructure Company, Poland
- **Maciej Borkowski**, President of the Collective Wastewater Treatment Plant in Łódź, Poland
- **Romuald Bosakowski**, President of the Municipal Company of Water and Sewage System
- **Maciej Zalewski**, Chairman of the Steering Committee, Director of the European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences and Department of Applied Ecology, University of Łódź, Łódź, Poland
- **Iwona Wagner**, European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences and Department of Applied Ecology, University of Łódź, Poland
- **Kinga Krauze**, European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences, Poland

Invited Guests

Honorary guests

His Excellency Ato Alemayehu Tegenu, Minister of Water and Energy of the Federal Democratic Republic of Ethiopia

His Excellency Ato Alemayehu Tegenu has a Masters in Mechanical Engineering from the University of Tashkent in Uzbekistan (former USSR).

After being awarded his Masters in Mechanical Engineering, he joined the Water Resource Development Authority in Addis Abba as a senior expert and served as head of the Oromiya Water Supply Department. He was a member of the Oromiya Regional Cabinet and is Chairman and Board member for several development Agencies in Ethiopia.

His Excellency Alemayehu Tegenu is a Member of Parliament. H.E. also served as The Minister of Mines and Energy from 2006 to August 2010 and has worked as The Minister of Water and Energy since September 2010.



Jun Xia, Past President of the International Water Resources Association (IWRA); Chair Professor & Dean, The Research Institute for Water Security (RIWS); Wuhan University, & Distinguished Professor, Chinese Academy of Sciences, China



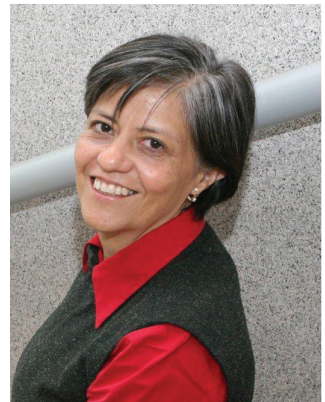
Prof. Jun Xia is the Chair Professor and Dean of the Research Institute for Water Security (RIWS), Wuhan University. He is also a Distinguished Professor of the Key Laboratory of Water Cycle and Related Land Surface Processes, Chinese Academy of Sciences (CAS). He has had ample experience of leading water resource research, managing and consulting jobs in China and international activities since 1987. He now serves as the President of International Water Resources Association (IWRA), Board Governor of World Water Council (WWC), and Co-Chair of the InterAcademy Council for Water Programme (IAC-WP), Co-Chair of the China-Australia Center on Water Resources Research, and is a member of the Scientific Steering Committee of the Global Water System Project (GWSP-SSC). Moreover he is Associate Editor of the Journal of Hydrologic Engineering, ASCE. He was awarded by "The International Prize for Outstanding Contributions to Water Management", given by The Third World Centre for Water Management in October 2011.

UNESCO and European Commission Representatives

Blanca Jimenez-Cisneros, Director of the Division of Water Sciences and Secretary of the International Hydrological Programme (UNESCO-IHP)

At the international level, Ms Jimenez is the Director of the Division of Water Sciences and the Secretary of the International hydrological Programme at UNESCO. She also holds membership of the Nominating Committee for the Stockholm Water Prize. She was a senior expert consultant to the Governments of Argentina, Ecuador, Guatemala, India, Mexico, Nicaragua, Spain and South Africa on wide range of issues including the formation of national wastewater treatment programmes, water re-use, and the evaluation of major projects and programmes. She also was a consultant to intergovernmental organizations including UNESCO, UNICEF and WHO, as well as to the Bill and Melinda Gates Foundation.

Ms Jimenez is the recipient of several prestigious scientific awards including the Mexican National Environmental Merit Award (2006), the National University Prize (2008) and the National Prize for Science (2009). She also is the recipient of the IWA's Global Water Award (2011) and was one of the scientists who shared the 2007 Nobel Peace Prize, which was awarded to the Intergovernmental Panel on Climate Change (IPCC).



Giovanni Bidoglio, Head of the Water Resources Unit, Joint Research Centre, EU

Giovanni Bidoglio is Head of the Water Resources Unit at the Joint Research Centre of the European Commission, where he provides science-based support to the implementation of EU Directives related to water resources and contributes to the integration of water resource-efficiency considerations into sectoral EU policy areas (agriculture, industry, energy, trade, environment, development cooperation). His research interests include the sustainable management of water resources, mapping of ecosystem services, modelling of bio-geochemical fates and hydrological processes of pollutants, environmental risk assessment and environmental monitoring. His previous work included research on soil and groundwater protection and greenhouse gas emissions from natural ecosystems, and assessments of impacts of agri-environmental and rural development measures. He is member of various advisory boards and has published widely in the scientific press.



Enrique Playán, Coordinator, Water Joint Programming Initiative - MINECO, Government of Spain

Enrique Playán is a Scientific Researcher of CSIC at the Aula Dei Experimental Station (Zaragoza, Spain). He holds a Bachelor's degree in Agricultural Engineering from the Polytechnic University of Catalonia (1989), and a PhD in Irrigation Engineering from Utah State University, Logan (1992). With his research interests concerning irrigation system analysis and design, irrigation districts and irrigation hydrology, Dr. Playán has performed research and development activities on a number of international and national research projects in the last twenty years, and published dozens of papers in irrigation journals. His technological contributions include the release of management software for irrigation districts and irrigation simulation models. He is coordinator of the EEAD-CSIC research group. He currently serves as President of the European Normalization Committee CEN/TC334 "Irrigation Techniques", and as Coordinator of the European Joint Programming Initiative "Water Challenges for a Changing World".





Bashir Dogara, UNESCO Regional Centre for Integrated River Basin Management National Water Resources Institute, Nigeria

Dr. Dogara Bashir is a deputy director at the National Water Resources Institute, Kaduna, Nigeria. He is responsible for planning and coordinating research activities and technical services offered by the Institute. He is also in charge of the development and maintenance of the National Water Resources Data Bank. He received both Bachelor's and Master's degrees in Agricultural Engineering from Ahmadu Bello University in Zaria, Nigeria and a Doctorate in Agricultural Engineering from the University of Wisconsin, in the United States. Dr. Bashir has published and presented numerous conference papers on a wide variety of agriculturally related topics, including the impact of windbreaks on wind erosion and crop yield; sustainable irrigation practices and effective water harnessing techniques in the arid/semi-arid northern Nigeria. He is a member of the Nigerian Society of Engineers, Nigerian Institute for Agricultural Engineers, Soil Science Society of Nigeria, Nigeria Geographical Association, Nigerian Statistical Association, and Sokoto Environmental Watch. Dr. Bashir is particularly interested in sustainable water resource management, desertification control, poverty alleviation and global cooperation.



Chrispine Omondi Juma, Vice Chair, UNESCO IHP Bureau, group Va-Africa, UNESCO Category 2 Centre on Groundwater Resources Education, Training and Research for Eastern Africa Ministry of Environment, Water and Natural Resources

Mr. Omondi Juma, the IHP Vice Chair for Africa hailed the creation of UNESCO Category II Regional Groundwater Training and Research Centre at the Kenya Water Institute. The centre will contribute to the achievement of IHP objectives, particularly those related to groundwater and as well as address the specific needs of the sub-Saharan Africa region.



Johannes Cullmann, Chair of the Intergovernmental Council of the International Hydrology Programme (IHP) of UNESCO

Mr Johannes Cullmann (PhD) developed his scientific career studying flood forecasting and mitigation and hydro at the Technical University of Dresden as well as Human Ecology, world population and nutrition, ecology and modern anthropology at German Broadcast College. In 1998, J. Cullmann worked as a Research Assistant in the Max Planck Institute of Limnology, Research Assistant, Manaus (Brazil). In 2000 – 2001 he coordinated the German Development Service (DED) workgroup, Concepcion-Chillán (Chile). During 2002 and 2003, he continued his research at Ruhr University Bochum (Germany), and between 2003 and 2007 – at the Technical University of Dresden (Germany). Since 2007, he has worked in the German International Hydrological Programme of UNESCO/ Hydrology and the Water Resources Programme of the WMO. In 2012, Dr. Johannes Cullmann, Director of the IHP Secretariat at the Federal Institute of Hydrology (BfG), Koblenz, was elected Chairman of the IC.

William J. Mitsch, Laureate of the Stockholm Water Prize, The Conference Chair of the 4th International Ecosummit

William J. Mitsch is Eminent Scholar and Director, Everglades Wetland Research Park, and Juliet C. Sproul Chair for Southwest Florida Habitat Restoration and Management at Florida Gulf Coast University, Naples Florida. He is also Professor Emeritus at The Ohio State University after a career there as Distinguished Professor and Director of the Olentangy River Wetland Research Park. He received his B.S. in engineering at the University of Notre Dame and a Ph.D. in systems ecology at the University of Florida. Professor Mitsch's research and teaching have focused on wetland ecology and biogeochemistry, wetland creation and restoration, ecological engineering and ecosystem restoration, and ecosystem modeling. His 20-ha Olentangy River Wetland Research Park at The Ohio State University, started in 1991, was declared the USA's 24th Ramsar Wetland of International Importance in 2008. He has served on four National Research Council panels related to wetlands and water resources (1991-2004), committees under the U.S. Environmental Protection Agency Science Advisory Board (SAB) (2001-2011), a review team for the Swedish MISTRA (Foundation for Strategic Environmental Research; 1996-2000), and several advisory panels for the Louisiana Delta and Florida Everglades restorations (1997-present). He is past president of the Society of Wetland Scientists and is founder and past president of the American Ecological Engineering Society. He was General Chair of the 1992 INTECOL Wetland Conference and General Chair of EcoSummit 2012, both held in Columbus, Ohio, USA. His awards include i.a. the U.S. EPA National Award for Wetland Research (1996), Theodore M. Sperry Career Award from the Society of Ecological Restoration International (2005), Lifetime Achievement Award from the Society of Wetland Scientists (2007), and an Einstein Professorship from the Chinese Academy of Sciences (2010). He has received honorary degrees/professorships from the University of Tartu, Estonia (2010), and Nanjing Forestry University (2011). He was awarded the 2004 Stockholm Water Prize for lifetime achievements in the modeling, management, and conservation of lakes and wetlands.



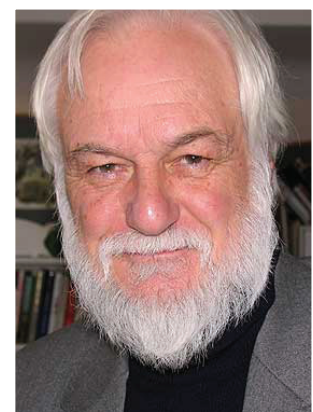
Hans R. Herren, Laureate of the World Food Prize, Kilby Award, Brandenberger Prize, Tyler Prize, One World Award

Hans Herren, an internationally recognized scientist, was appointed MI's president in May 2005. Hans earned his Ph.D. at the Federal Institute of Technology in Zurich, Switzerland, and holds numerous awards that recognize his distinguished and continuing achievements in original research. These include: Election to the U.S. National Academy of Sciences in 1999; Election to the Academy of Sciences of the Developing World (TWAS) in 2005, for his contribution to the development and support of sciences in Africa; Recipient of the 1995 World Food Prize, the highest award given to an individual for advancing human development; Recipient of the 1995 Kilby Award, for significant contributions to society through science, technology, innovation, invention, and education; Recipient of the 2002 Brandenberger Preis, for improving the living standards of Africa's rural population; Recipient of the 2003 Tyler Prize for Environmental Achievement, awarded to individuals whose contributions to environmental science, energy and medicine confer great benefit upon mankind; Recipient of the 1991 Sir and Lady Rank Prize for Nutrition, awarded by the former Prime Minister of Britain, Lady Margaret Thatcher. Hans serves on the boards of numerous organizations, including co-chairing the International Assessment of Agricultural Knowledge, Science & Technology, (IAASTD); chairman of BioVision, a Swiss foundation with a global mandate to alleviate poverty and improve the livelihoods of poor people while maintaining the precious natural resource base that sustains life; president of the International Association of the Plant Protection Sciences (IAPPS); and member, US Board of Agriculture and Natural Resources (BANR).



Brian Moss, Director of International Society of Limnology (SIL), UK

Brian Moss has a long and wide experience of limnology with studies on a tropical endorheic lake, and north temperate eutrophic lakes. He works with laboratory cultures of algae and experiments in lake mesocosms, controllably heated tanks and whole lakes. He is much interested in legislation on ecological quality and in global problems of politics and water. He has long had world-wide interests and has researched in North America, Africa and Europe and taught in three other continents. He strongly believes in the value of SIL as an international body which should foster work outside the axis of the developed world and has participated in the teaching of several courses to international groups of students in South America and Africa, widening his expertise to river systems in doing so. He holds a chair in the University of Liverpool, UK, but would not want to be seen as an establishment figure, rather as someone who thinks that major change in scientific culture, academic institutions and human societies is very urgent if the biosphere is to retain even the reduced values and services it currently provides. He has produced a widely-used text book, Ecology of Freshwaters, Man and Medium, Past to Future, now being rewritten in its fourth edition, and a book on a set of English lakes formed in man-made basins nearly a thousand years ago (The Broad: The Peoples' Wetland, Harper Collins, 2002). His current passions also include playing the double bass (though badly), painting and poetry.





Graham Piper, Immediate Past Chair, CIWEM Rivers and Coastal Group, Project Team Manager

Graham Piper has twenty one years' experience in river and flood defence engineering and is now employed by the Environment Agency in the UK, following time as both an independent consultant, and in international consultancy. Prior to this, he spent seven years in Uganda as a field director for a programme of community-based water and sanitation projects, having started his career as a chemical engineer employed by Shell UK Oil.

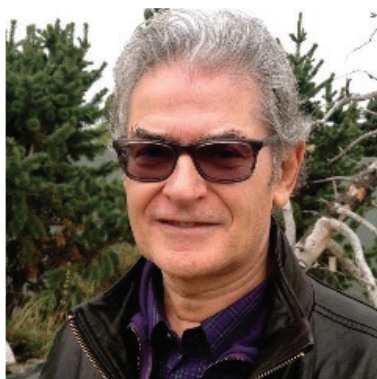
Graham is currently the Project Executive for a programme of projects arising from the Lower Thames Flood Risk Management Strategy (LTS). He has been responsible for leading and managing a large project team comprising a joint venture between Halcrow and Jacobs, with specialist input from the Flood Hazard Research Centre at Middlesex University.

He is also the Programming Executive to deliver a variety of different schemes under the umbrella of the Environment Agency's Environment & Business programme for the SE Region. In 2012 the programme was tasked with delivering approximately 240 projects, covering Water Framework Directive, Biodiversity, Fisheries, Water Resources, Waste and Process Industry Regulations.



Robert A. Pietrowsky, Director of the Institute for Water Resources, US Army Corps of Engineers (USACE), U.S.A.

As Director of the U.S. Army Corps of Engineers Institute for Water Resources (IWR), Robert (Bob) Pietrowsky oversees a \$130 million program of water resources planning, policy & decision-support model development, training and national / international interface with academia, professional societies and non-government organizations. Bob's 40-year career with the U.S. Army Corps of Engineers has afforded him with the opportunity to experience water resources issues through a wide range of perspectives. He began his career at the Corps New York District as a planning practitioner and later as a District planning/engineering field office Chief where he directed a \$3 billion water resources development program. Previously at the Institute, he served as Chief of the Navigation Division and as Director of the Federal Infrastructure Strategy Program. He's been recognized with numerous honors, including the Federal Executive Board's "Executive of the Year"; Commander's Award for Civilian Service; Meritorious Civilian Service Award; the North Atlantic Division's Planner of the Year (3 times) & Planning Team of the Year (also 3 times), and the USACE's National Planning Team award.



Patric S. Bourgeron, Head of ILTER Science Strategy Committee, Colorado University, USA

Patric S. Bourgeron (PhD) is an INSTAAR Affiliate at the Center for the American West, CU-Boulder. He specialises in integrated ecological assessments; conservation, ecosystem, landscape, and plant ecology; conservation and land use planning; ecosystem management; biogeography; statistical and numerical modeling; biological diversity; ecological classification and mapping; technology transfer; strategic planning for science and conservation programs; communication outreach; managing system and organizational change. Patric S. Bourgeron has also a wide research interests, including i.a. the recognition of the roles of local and regional processes on the structure of hierarchically organized ecosystems.

Holger Robrecht, Deputy Regional Director, ICLEI European Secretariat, Freiburg, Germany

Mr Robrecht graduated in spatial planning. He is currently Director at the Sustainability Management Department of ICLEI, an association of local, regional and national governments which are committed to sustainable development. He has over fifteen years of experience with local environmental governance, sustainability management and international sustainability policies and processes.

Before joining ICLEI in 1997, he led the programme Soil Contamination, Soil Protection and Land-use management at the Environmental Research Institute of the University of Dortmund. Mr Robrecht has been a member of several international expert panels, amongst them, the EU Expert Group for the Soil Thematic Strategy (2003) and the EU Work Group on Urban Environmental Management Plans and Systems (2004).



Joanna Mankiewicz-Boczek, European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences, Poland

Assoc. Prof. Joanna Mankiewicz-Boczek works at the European Regional Centre for Ecohydrology of the Polish Academy of Sciences in Łódź (Poland) and is the head of the Department of Molecular Ecohydrologies. Her main research areas are: water biomonitoring and ecotoxicology; the molecular monitoring of toxic cyanobacteria; the toxicity and genotoxicity of cyanobacteria and different cyanobacterial toxins - including health aspects; the interactions of cyanobacteria, other bacteria and cyanophages as well as the use of microorganisms in the biodegradation process (e.g. nutrient removal). She has a well-documented 15 years of experience. Her career began in 1997 by graduating with a Master's degree in a Biochemistry and Genetics specialization at the Faculty of Biology and Earth Science, University of Łódź, Poland. She defended her PhD in 2001 and obtained her habilitation in Ecotoxicology in 2008. Later, she was nominated as Associate Professor of ERCE PAS. She has been involved in 16 national and international projects as leader or investigator, and is currently working as a leader/investigator in 4 projects. She has been the co-author of 56 publications and 79 presentations at conferences (including 51 international conferences), and has organizational memberships of the Commission on Ethics, The Łódź Branch of the Polish Academy of Sciences, as well as the Science for Environmental Policy - Advisory Group newsletter. She is also an expert in the National Science Centre in Poland.



Michael Mirtl, ILTER - Co-Principal Investigator, Environment Agency, Austria

Michael Mirtl (M.Sc. in Environmental engineering, Ph.D. in Ecology) heads the Department for Ecosystem Research and Monitoring at the Environment Agency Austria. As focal point for the UNECE Integrated Monitoring of Air Pollution Effects on Ecosystems, his work focused at the monitoring and assessment of critical deposition loads, including the development of object-relational information systems and ontologies. He has undertaken conceptual work on the integration of ecological and socioeconomic research in LTSER since 2003 and is co-initiator of LTER-Austria (Chair since 2008) and the Eisenwurzen LTSER Platform, and goal lead for LTER in ALTER-Net. He is also the first chairman (since 2007) of LTER-Europe, with 400 sites in 21 countries.





Jakub Kronenberg, University of Łódź, Faculty of Economics and Sociology, Sendzimir Foundation, Poland

An Economist and Lecturer at the University of Łódź, Faculty of Economics and Sociology. The subject of his research is the connection between the economy, society and the environment, particularly from the perspective of ecological economics. His book „Ecological economics and industrial ecology” was completed in 2007, published by Routledge. He was also the Scientific Editor of the book „Challenges of Sustainable Development in Poland” and the series „Sustainable Development - Applications”. He has gained a wealth of international experience, working in France, Sweden, Switzerland, the UK and Kyrgyzstan. As a Trainer and lecturer, he galvanized the Foundation Summer Academy in 2002, and has led numerous training sessions for sustainable development in Poland and abroad. In his spare time, he enjoys birdwatching and travelling.



Maciej Zalewski, Chairman of the Symposium Steering Committee, Director of the European Regional Centre for Ecohydrology u/a UNESCO, Polish Academy of Sciences and Department of Applied Ecology, University of Łódź, Poland

Professor Maciej Zalewski, is Director of European Regional Centre for Ecohydrology based in Łódź, Poland, and Professor of Łódź University, Department of Applied Ecology, and one of the leading expert of the UNESCO International Hydrological Programme (IHP). His research interests evolved from fish bioenergetics towards river ecosystems ecology, where he proposed the “Abiotic-Biotic Regulatory Concept” that defines a hierarchy of factors determining structure of water communities along river continuum in different geographic zones. This concept formed a basis for EIFAC FAO “Habitat Modification and Freshwater Fisheries” programme, which research line was further developed during the coordination work of UNESCO „Man and Biosphere” programme (MAB), and laid down foundations for a new paradigm for environmental sciences enclosed in Ecohydrology. As the expert of UNESCO, Prof. Zalewski supported establishment of International Centres for Ecohydrology in Portugal, Indonesia, China and Argentina. In the period 1996-2006 he chaired the Steering Committee of the Ecohydrology Programme of UNESCO IHP-VII, and currently is engaged in the Strategic Planning activities of the eight phase of IHP programme for 2014-2021.



Iwona Wagner, Symposium Convenor, European Regional Centre for Ecohydrology of the Polish Academy of Sciences and Department of Applied Ecology, University of Łódź, Poland

Dr Iwona Wagner is assistant professor in the Department of Applied Ecology at the University of Łódź and in the European Regional Centre for Ecohydrology under the auspices of UNESCO of the Polish Academy of Sciences. For several years, she was the Scientific Secretary of the Ecohydrology Project of the UNESCO's International Hydrological Programme and liaison for the International Environmental Technology Centre of the United Nations Environment Programme. Ms Wagner holds a PhD and a Master of Science from the University of Łódź. Her research specialisation are: ecohydrology, urban ecohydrology, impact of global climate changes on ecological systems, nutrients dynamics in catchment-river-reservoir system, coordination and facilitation in multistakeholder platforms, management and implementation of innovative transdisciplinary national and international projects. Recently involved in development of theory of urban aspects of ecohydrology and its implementation.



ENVEUROPE COORDINATOR: Alessandra Pugnetti, ITALY, Italian National Research Council, Institute of Marine Sciences, enveurope@ismar.cnr.it

EnvEurope started and is being developed within the European Long-Term Ecosystem Research Network (LTER-Europe) which represents more than 400 sites across Europe. The long-term (multi-decadal) ecological study and monitoring of ecosystems need shared scientific knowledge, a common information management system and the harmonization of parameters and methods at European scale. This brings to a deeper understanding of ecosystem functioning, to an improved environmental management and to supporting the development of EU environmental policy and conservation planning through the integration of objectives, resources and disciplines.

The project contributes to the integration and coordination of long-term ecological research and monitoring initiatives at European level, focusing on understanding the status, changes and trends of ecosystems, with an integrated broad-scale and cross-domain (terrestrial, freshwater and marine ecosystems) strategy, combining the efforts of 11 countries and of at least 67 sites belonging to the LTER-Europe network.

One of the starting point is the unifying concept of ecosystem integrity and self-organization, whose focal components are ecosystem structure and processes: based on this theoretical framework the parameters accessible within the network are be integrated into common indicator system.

EnvEurope has been conceived and structured also to play a role in the conceptual and operative context of the Shared Environmental Information System (SEIS) and in the development of some components of the Global Monitoring for Environment and Security (GMES).

Project Life + EnvEurope is one of the main organizers of the Symposium and hosts 4 sessions:

- Analysing of long-term ecological trends and forecasting ecosystem status in the face of global change (*Session 2*);
- Harmonizing ecosystem potential with societal needs on the basis of mapping of human impact and ecosystem services (*Session 5*);
- The necessity & opportunities for enhancement of resilience of socio-ecological systems under increasing uncertainty (*Session 6*);
- Emerging topics in the area of society-biogeosphere interactions, scientific approaches, monitoring and data requirements and research infrastructure to facilitate science and implementation (*Workshop 2*).

ENVEUROPE PARTNERS: Federal Environment Agency (AUSTRIA); Institute of Biodiversity and Ecosystem Research (BULGARIA); University of Jyväskylä (FINLAND); Senckenberg Research Institute and Natural History Museum (GERMANY); Helmholtz Centre for Environmental Research (GERMANY); University of Debrecen (HUNGARY); Hungarian Academy of Sciences (HUNGARY); Italian National Research Council (ITALY); Italian National Forest Service (ITALY); Lithuanian University of Agriculture (LITHUANIA); European Regional Centre for Ecohydrology U/A Unesco - International Institute of Polish Academy of Sciences (POLAND); Institute for Ecology of Industrial Areas (POLAND); University of Bucharest - Department of Ecology and Forest Research (ROMANIA); Management Institute (ROMANIA); Spanish National Research Council (SPAIN); Swedish University of Agricultural Sciences (SWEDEN).



Marshal's Office of the Łódź Region, Poland

Łódź Voivodeship is a region rich in the investments oriented towards biotechnology and the broader bio-business. The education is particularly developed in this field. Among the State higher education institutions - and it is worth noting, that approximately 100 thousand of students study in Łódzkie Voivodeship - three leading fields of study are directly related to biotechnology.

At the Biotechnology faculty of Łódź University, the education is aimed at: medical, microbial and plant biotechnology. Students are prepared to work in companies that use bioprocesses, especially in pharmaceutical, food and chemical establishments, academic institutions, entities related to environmental and health protection centres, plant and animal breeding, biological and biotechnological research and control laboratories.

Medical University, using many years of experience in the basic and clinical research, educates biotechnologists in the two-stage studies in the field of molecular medicine, imaging and radiotherapy.

Technical University of Łódź, namely the Faculty of Biotechnology and Nutrition Sciences conducts two-stage studies in the field of biotechnology. Graduates specialize in molecular biotechnology, technology biochemistry, fermentation technology and technical microbiology and food biotechnology.

BioNanoPark of Łódź is also an important centre for the development of biotechnology in the region. Its mission is - among others - optimum utilization of economic and intellectual resources of the region, increasing innovation and competitiveness of enterprises and the transfer of new technologies from science to industry.

BioNanoPark is a research centre unique in national and even European scale. The results of research conducted there are used in many industries. BioNanoPark is a place in which there are some of the best equipped bio- and nanotechnology laboratories in Poland, providing commercial services to many industries. This allows product evaluation study at the highest level at each stage of its development.

Using the experience gained in the efforts to promote biotechnology and nanotechnology, Łódzkie Voivodeship was involved in initiatives such as the Bio International Convention, cooperation with academic and scientific research institutions and organization of professional showrooms of bio and nanotechnology in subsequent editions of the European Economic Forum.

Łódzkie Voivodeship was the initiator of the Polish Bioregions Consortium creation. The concept is based on the involvement of the regions in the activities in the field of biotechnology and the creation of a formal framework for co-operation in order to strengthen their capacity, obtaining synergy of activities, exchange of experience and achieving mutual benefits. Horizontal target of the activities undertaken is to start the process of creating the Central European Bioregions Consortium.

The Bioenergy for the Region Cluster - an open cooperative initiative bringing together dozens of companies, universities and research institutes, local governments and business support organizations - is finally active in the voivodeship. The aim of the Cluster is to promote the sustainable bioenergetics development of the voivodeship in the context of an integrated package of the European Commission activities in the area of energy and climate changes for reducing the level of emissions in the twenty-first century.

Marshal's Office of the Łódź Region is one of the main organisers and hosts I Plenary Lectures Session during 1st day of the Symposium.

Marshal's Office of the Łódź Region

al. Piłsudskiego 8

90-051 Łódź

tel. 42 663 30 00

42 663 33 80

tel. kom. 695 356 594

www.lodzkie.pl

e-mail: info@lodzkie.pl



Łódzka Spółka Infrastrukturalna sp. z o.o.
ul. Piotrkowska 190
90-368 Łódź
Tel. +48 42 66 49 100
Fax +48 42 6649 102
www.lsi.net.pl
e-mail:sekretariat@lsi.net.pl

The Łódź Infrastructural Company

(Łódzka Spółka Infrastrukturalna)

The Łódź Infrastructural Company is a limited liability company with 100% shares owned by the city of Łódź.

The company owns the municipal water and sewage infrastructure, which is operated based on contracts by the Water and Sewage Company in Łódź and the Group Water Treatment Plant.

In 2010, the company completed the construction of one of the largest environmental Cohesion Fund Projects: „Water supply and sewage treatment plant in Łódź II”. It included the construction of 350 km of the water supply and sewage network, as well as the modernisation of over one kilometer of the downtown water supply network, as well as 3 water supply systems for Łódź.

This project has enabled several thousand households to connect their premises to the municipal sanitary sewage network.

ŁSI hosts II Plenary Lectures Session during 1st day of the Symposium.



Łódzka Spółka
Infrastrukturalna sp. z o.o.
ul. Piotrkowska 190
90-368 Łódź
Tel. +48 42 66 49 100
Fax +48 42 6649 102
www.lsi.net.pl
e-mail:sekretariat@lsi.net.pl

Municipal Company of Water and Sewage System in Łódź, Poland

(Zakład Wodociągów i Kanalizacji Sp. z o.o. w Łodzi – ZWiK)

One of the largest and most modern companies in the business. ZWiK has excellent staff and is equipped with specialist equipment. Furthermore, its workers are proud that the municipal water and sewage system is maintained in perfect condition. The company leads the field in using modern technologies. It has implemented the Integrated System for Quality and Environment Management – the company has achieved the ISO certificates ISO 9001:2008 and ISO 14001:2004, thereby demonstrating that it is run in accordance with world standards, it is not harmful to the environment, and its consumers are provided with services and supplied with water of ever better quality. Additionally, ZWiK is a multiple winner of the prestigious “FAIR PLAY Company” title. ZWiK provides some of the best and cheapest tap water in Poland. Łódź tap water is almost entirely sourced from 52 underground intakes (90%). The drilled wells, used by ZWiK, are located in Łódź and its immediate vicinity: in Bronisławów on the Zalew Sulejowski reservoir and in Rokiciny. The water is drawn from water-bearing strata, from a depth of several dozen to more than 900 meters (the Lower and Upper Cretaceous, the Jurassic, the Quaternary) – the deepest well sinks 901 meters. The water in 22 wells is of such good quality that it does not require purification. ZWiK - professionalism and reliability since 1925.

ZWiK-Łódź hosts session 1a: Integration of environmental knowledge and engineering for identification of key challenges and potential solutions for sustainability, during 2nd day of the Symposium.



Grupowa Oczyszczalnia Ścieków
w Łodzi Sp. z o.o

ul. Sanitariuszek 66,
93-469 Łódź,
Polska

phone: +48 42 640 47 80
<http://www.gos.lodz.pl/>

Group Wastewater Treatment Plant in Łódź, Poland

(Grupowa Oczyszczalnia Ścieków w Łodzi Sp. z o.o.).

Since its establishment, the company has been linked to the wastewater treatment plant for whose construction it served as a substitute investor during the period 1991-2000, on behalf of the City of Łódź. Under her supervision, key objects have been implemented, such as hall screens, grit chambers, the Polesie 15 collector, four lines of biological treatment, closed digesters, indoor blowers and more. At the end of 1994, after the construction of sewage collector VII, connecting GOŚ with the wastewater treatment plant in Lublinek, wastewater and sewage treatment was moved to GOŚ, and, after 64 years of service, the old WTP in Lublinek was closed. In 2000, the company was entrusted with the operation of the expanded plant. The years 2004 - 2009 were the most intense period of expansion and modernization of the plant. This period was also a challenge for the engineering services of the company, and their participation, inter alia, in the drafting of the tender specifications for EU-funded projects intended for the development and modernization of the wastewater treatment plant.

GOŚ-Łódź hosts session 1b: Integration of environmental knowledge and engineering for identification of key challenges and potential solutions for sustainability, during 2nd day of the Symposium.



The City of Łódź Office
104 Piotrkowska St.
90-926 Łódź
tel.: +48 (042) 638-40-00
fax: +48 (042) 638-40-04, 638-49-69
<http://en.uml.lodz.pl/>

The City of Łódź Office

Łódź is a city of beautiful, extraordinary and historical palaces, villas, textile factories and tenement houses, which is located in the center of Poland by the crossing of many roads and highways. Thanks to this arrival to the city is easy and even people from another towns or countries can come here without any problems. Łódź, which former was factory and industrial city, turned into the symbol of fashion, art, clubs and the best festivals throughout the country and even Europe. From many years it's a host of such events as Fashion Week Poland, festivals of movie and theatre, performances of the best world singers and many other attractive actions. Every year more and more tourists comes to our city to admire original architecture of Łódź which combine old, historical constructions with modern buildings. They also want to know more about multiculturalism of Łódź, it's history of cinematography and industrial background and urban legends. Tourists are attracted by numerous parks, art galleries, well-known Piotrkowska street, which is the heart of the city, and of course already famous shopping centre – Manufaktura. Łódź is also the best place for young, creative people who knows what they want and how to get it. Numerous universities, schools and courses brings them opportunity to build they future, whereas dozens of clubs give them chances to improves social life and enjoy their life and youth.

Taking under consideration everything above and unquotable climate of our city, it's not a surprise that so many people love Łódź and want to come back here as soon as it's possible!

GOŚ-Łódź hosts Opennin Session during 1st day of the Symposium.



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Ecohydrology & Hydrobiology

Is the official journal of the European Regional Centre for Ecohydrology, under the auspices of UNESCO, published jointly with Elsevier. The journal aims to advance Ecohydrology as the study of the interplay between ecological and hydrological processes from molecular to river basin scales, and to promote its implementation as an integrative management tool to harmonize societal needs with biosphere potential. The journal publishes high-quality scientific research aimed at increasing the understanding of the water – biota interplay and exploring how this knowledge can be used to regulate hydrological and biogeochemical processes to enhance the carrying capacity, especially of anthropogenically modified ecosystems.

<http://www.elsevier.com/journals/ecohydrology-and-hydrobiology/1642-3593>



HYDROPROJEKT Sp. z o.o.
ul. Dubois 9
00-182 Warszawa

Centrala:
Tel. +48 22 635 48 84

Sekretariat Zarządu:
Tel. +48 22 635 38 90
Tel. +48 22 635 38 91
Faks +48 22 635 00 20
e-mail: biuro@hydroprojekt.com.pl

DHV Hydroprojekt Sp. z o.o.

Originally Hydroprojekt was founded in 1951 as the „Hydroprojekt”: the state-owned Central Office of Studies and Designs for Hydraulic Engineering. Finally, in May 2008 the company, back under the name “Hydroprojekt”, joined forces with the DHV Group - Consultancy and Engineering. The DHV Group is a global provider of consulting services and engineering in the field of transport (including aviation), construction, industry, urban planning, environment and water sectors. Currently the group employs about 5,000 people worldwide and generates revenues of more than 400 million EUR (www.dhvgroup.com)

For over the more than 60 years of its existence, Hydroprojekt has been the author of the majority of studies and designs for the most significant water engineering structures in Poland, as well as studies, plans and programmes for water management in the country. Anticipating upcoming trends, Hydroprojekt Ltd. has chosen to meet the changing reality, and is one of the first design offices in Poland to implement the Integrated Quality and Environment Management System in accordance with ISO 9001 and ISO 14001. It redirected development of the company towards activities related to environmental protection, such as flood protection, rehabilitation of degraded areas, sewage treatment and waste management.

www.hydroprojekt.com.pl/en



Project Life+ EKOROB, Ecotones for reducing diffuse pollution, EKOROB LIFE08 ENV/PL/000519

Diffuse pollution, which currently constitutes 50% of runoff of nutrient compounds from the territory of Poland to the Baltic Sea, so far has not been sufficiently considered in water management plans. Thus, in order to achieve good ecological status as required by the Water Framework Directive 2000/60/EC, the European Regional Centre for Ecohydrology and the Regional Board of Water Management in Warsaw have decided to develop a consistent programme of innovative solutions using ecosystem biotechnologies based on the ecohydrological bases of watershed management in order to reduce diffuse pollution in the Pilica basin in a sustainable manner, which will contribute to achieving good ecological status of water in the Sulejów Reservoir. This goal will be accomplished under the project entitled “Ecotones for reducing diffuse pollution” (EKOROB) implemented under the LIFE+ Environment Policy and Governance Programme, LIFE08 ENV/PL/000519.
<http://en.ekorob.pl/>

Project Life + EKOROB hosts session 3: The perspective of integrating Ecohydrology and biotechnologies with engineering approaches, during 1st Day of the Symposium.



Project Life + EH-REK, Ecohydrologic rehabilitation of recreational reservoirs “Arturówek” (Łódź) as a model approach to rehabilitation of urban reservoirs; LIFE08 ENV/PL/000517

The area of Lagiewnicki Forest, which constitutes the northern border of the city of Łódź, is a site of a special importance due to its recreational potential and natural diversity of the region. Its recreational reservoirs located in the upper catchment of the Bzura River, near Arturówek, represent one of its major strengths. As with most water bodies within urban areas, these reservoirs also remain subject to significant anthropopressure, which affects water quality, thus limiting the usability of the area. Due to their limited nature, attempts to improve the quality of this water made in the past, such as the removal of bottom sediments, improved the situation only temporarily. Hence, an attempt to implement comprehensive rehabilitation solutions was taken. It aims at improving the quality of the Bzura and of the cascade of reservoirs located on this river, based on a systemic ecohydrological approach. This challenge was accepted under an EU LIFE+ Project: “Ecohydrological rehabilitation of the recreational Arturówek (Łódź) reservoirs as a model approach to rehabilitation of urban reservoirs”(LIFE08 ENV/PL/000517), which implements comprehensive measures based on the systemic approach using the concept of Ecohydrology to rehabilitate one of the key recreational sites for the city of Łódź. The EH-REK Project is implemented by the staff of the Department of Applied Ecology of the University of Łódź, in cooperation with the Łódź Infrastructural Company and the City of Łódź represented by the Municipal Centre of Sport and Recreation. The project is financed by the European Commission and the national Fund for Environmental Protection and Water Management. The project budget also includes a contribution from the project beneficiaries, which is co-financed by the Voivodship Fund for Environmental Protection and Water Management in Łódź.

Project Life + EHREK hosts session 7: Systemic solutions and modeling in river basin assessment & management, during 2nd Day of the Symposium.

The City of Łódź, Poland

Although Łódź has slipped from its status as the second largest city in Poland, it retains a big city feel while still affording a glimpse into a pre-industrial heritage. It is at once a Victorian textile centre, a post-war Communist workers' paradise and a modern Capitalist venture dotted with shopping centres, high rise blocks and sports buildings, which have sprung from its fortunes earned from the textile industry. Five hundred years ago, Łódź was little more than a village in western Poland, between the two small towns of Pabianice and Zgierz. It was granted city status in 1423, but took a further four centuries and the industrial revolution before it became what would now be regarded as a modern city. The Victorian era brought it a new identity – that of a promised land for the inhabitants of the region and a city of many cultures for people from all over Europe who came to achieve success together.



The last decade has seen great changes in the city, which have raised its profile from the national to the international level. Since the accession of Poland to the EU, considerable investment has poured into the city to the point which the high street is barely recognisable as that of the Łódź of the 1990s. New roads, tramways and railways have been developed from EU-funded projects, and the factory sirens which used to herald the start of the working day have been supplanted by the sounds of the domestic appliances produced in some of the recently-established production plants. Gillette, Dell and Zanussi are three of the major international companies which have chosen to take advantage of the pool of trained manufacturing labour, while others like Infosys and Fujitsu services ply their trade in the services sector.

While Łódź is home to over 700,000 people, it is also home to 100,000 students during semester time, and this is what arguably gives the city its character as a young, rather bohemian city. The students can be seen studying at one of the twenty universities and higher education centres in the city during the day and maybe discussing work with their friends in the trendy bars and restaurants along Piotrkowska street in the evenings, giving the city its unofficial title as the City of Hipsters. Others might choose to take part in the evening classes, sports or pastimes offered by innumerable schools and clubs throughout the city. Alternatively, they might decide to relax and hang out with friends in one of the city's many parks or Łagiewniki forest, walk the dog or do some shopping. Of course, they might also take part in some of the festivals planned each year: the burgeoning schedule stamping the new brand of "Festival Łódź" on the city.

What of the future? The premium housing development of Księży Młyn, the area around Schleibler's old factory, rivalling those taking place in Warsaw, was a harbinger of future trends. Property prices have risen and the area is increasingly attractive for developers. The Manufaktura centre is but one example: the old ŁKS stadium is now home to one of Poland's largest sports and recreation event centres, Schleibler's old factory complex is one of the most attractive housing developments in Poland and the forthcoming EC-1 development, the conversion of the old power station into a modern Arts centre, is one of the key challenges facing the city. The new express link under construction to Warsaw and the new motorways running close by will bring closer links with the capital and thus cement the city's position as one of the most vibrant, international and unique cities in Poland.

The opening and the first day of the symposium (September the 17th)



Poznański's Palace is one of the most iconic buildings in Łódź and arguably the whole of Poland. Its architectural style is as much the fruit of an eclectic mix of styles as Łódź is a city based on a mix of cultures. It was rumoured that Poznański, when asked about the which style to choose for the palace, declared that he was so rich that he wanted all styles! The essence of the palace's design is a mixture of French neo- renaissance and neo-baroque, with many idiosyncratic twists which can be noted by the careful observer, such as copulas, pinnacles, garlands of fruit and the small shields on the wall monogrammed with a P. Next door to the Palace is the Manufaktura complex, which was originally Poznański's factory, first bought for a few hundred roubles but a few decades later was worth millions, supplying textiles to the whole of Europe and beyond. The factory complex included the factory itself, a school, hospital and fire service, as

well as its own railway station used to transport cotton from the Middle East.

No visit to Łódź would be complete without visiting the Palace and the factory complex, now a major shopping centre and hotel. Be sure to visit the garden, the city museum in the Palace, and if you have time, to visit the Factory Museum in the Manufaktura centre to get an idea of what life was like 100 years ago.

The second and third day of the symposium (September the 18th and 19th)



Arguably, the jewel of Maufaktura's crown is the four-star Andels Hotel. The hotel was opened in 2009 after a long renovation of Izrael Poznański's textile factory made famous in the Andrzej Wajda film, *The Promised Land*. Now the building boasts over 200 rooms in the centre of the city, as well as all the attractions of a modern prestige hotel and the largest ballroom in Łódź, with a capacity of over 800 people. The design of the rooms and facilities is clean and modern, but with many accents that serve to recall the building's history as a centre of commerce and heavy industry. There are some touches of decadence, such as the rooftop covered infinity pool and the exclusive SPA centre, not to mention the world-class bars and restaurants, but the overall feeling is practical and efficient. No wonder that this new face of Łódź has won so many national and international awards.

Contents

Symposium Rationale & Goals	3
Symposium Programme	4
Detailed Symposium Programme	6
Symposium Chairs, Organizing Committee, Scientific Committee	18
Drafting Committee Invited Members	19
Invited Guests	20
Sponsors & Exhibitors	27
Symposium Venue	33



NOTES

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II Międzynarodowy Kongres Bioekonomii
Łódź, 20 września 2013 r.
www.bioekonomia.lodzkie.pl



Projekt współfinansowany przez Unię Europejską z Europejskiego Funduszu Rozwoju Regionalnego oraz z budżetu samorządu województwa łódzkiego. Fundusze Europejskie dla rozwoju regionu łódzkiego



Nie minął jeszcze rok od sukcesu jakim okazał się I Międzynarodowy Kongres Bioekonomii, a już mamy okazję zaprosić Państwa na drugą edycję Kongresu, który w tym roku odbędzie się w ramach Bioeconomy Week, w dniu 20 września br. w andel's Hotel Łódź, ul. Ogrodowa 17.

Jako pierwsi w Polsce podjęliśmy na tak wielką skalę dyskusję dotyczącą rozwoju ekogospodarki, problemów związanych z rozwojem cywilizacyjnym oraz innowacyjnych rozwiązań technologicznych i organizacyjnych chroniących środowisko naturalne. Wszystkie wystąpienia na żywo śledziło ponad 400 uczestników reprezentujących każdą sferę gospodarki.

W tym roku nasza dyskusja skupi się na optymalizacji wykorzystania osadów pościekowych czy racjonalnym wykorzystywaniu zasobów ludzkich przyczyniających się do efektywnego i zrównoważonego rozwoju społecznego. Ponadto razem z Państwem podejmiemy się próby wypracowania efektywnego modelu wspierania ekogospodarki dla polskich regionów.

Program Kongresu przewiduje sesję plenarną, trzy panele dyskusyjne z udziałem ekspertów oraz sesję podsumowującą wydarzenie. Udział w Kongresie jest BEZPŁATNY.

Rejestracji można dokonać poprzez stronę internetową:

www.bioekonomia.lodzkie.pl



serdecznie zapraszamy do udziału w wydarzeniach organizowanych w ramach bioeconomy week, które odbędą się w łodzi w dniach **16-20 września 2013**
www.bioekonomia.lodzkie.pl

17-19 września międzynarodowe sympozjum:
Ecology, Biotechnology & Engineering Towards the Harmony between Biosphere and Society on the basis of Long Term Ecosystem Research
Organizatorem jest: Europejskie Regionalne Centrum Ekohydrologii PAN
Więcej informacji: www.ecohydrologyengineeringociety2013.org

16-19 września międzynarodowa konferencja:
Międzynarodowa Konferencja Polskiego Towarzystwa Biologii Eksperymentalnej Roslin "PTBER Łódź 2013"
Organizatorem jest: Polska Towarzystwo Biologii Eksperymentalnej Roslin
Więcej informacji: <http://ptber.org.pl/default/>

17-20 września III ogólnopolskie warsztaty mikrobiot
Mikrobiologia w Ochronie Zdrowia i Środowiska
Organizatorem jest: Instytut Mikrobiologii, Biotechnologii i Immunologii, Wydział Biologii i Ochrony Środowiska, Uniwersytet Łódzki
Więcej informacji: www.mikrobiot.com.pl

18 września warsztaty tematyczne
Ścieżki rozwoju biotechnologii dla potrzeb łódzkiego wskaźnika
Organizatorem jest: EEDRI - Instytut Badań nad Przedsiębiorczością i Rozwojem Ekonomicznym
Więcej informacji: www.eedri.pl

19 września konferencja
Biotechnologie przemysłowe - kluczowy element biogospodarki
Energetyczne Wykorzystanie Biogazu w Województwie Łódzkim
Organizatorem jest: Politechnika Łódźska
Więcej informacji: <http://tinyurl.com/biotech-poland>

warsztaty tematyczne
„Biotechnologie przemysłowe - kluczowy element biogospodarki
Pokonywanie barier dla innowacji w biotechnologii przemysłowej
Organizatorem jest: Politechnika Łódźska
Więcej informacji: <http://tinyurl.com/biotech-poland>

„Budowanie modelu wsparcia ekogospodarki na bazie doświadczeń klastra Eco World Styria”
Organizatorem jest: Wita Centrum Energii Wiatrowej
Urząd Marszałkowski Województwa Łódzkiego
Więcej informacji: www.bioekonomia.lodzkie.pl

20 września II międzynarodowy kongres bioekonomii
Organizatorem jest: Urząd Marszałkowski Województwa Łódzkiego
Więcej informacji: www.bioekonomia.lodzkie.pl

partnerzy honorowi:

partnerzy merytoryczni:

partnerzy medialni:

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Symposium Secretariat

ERCE PAN u/a UNESCO - European Regional Centre for Ecohydrology u/a UNESCO,

Polish Academy of Sciences

ul. Tylina 3, 90-364 Łódź

Tel: +48 (42) 681 70 07

Fax: +48 (42) 681 30 69

E-mail: symposium2013@erce.unesco.lodz.pl

<http://www.ecohydrologyengineeringssociety2013.org/>