

**Edyta Kiedrzyńska, Dr hab.,
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Place of employment:

- Professor ERCE PAS, Deputy Director - European Regional Centre for Ecohydrology of the Polish Academy of Sciences
- Associate Professor - University of Lodz, Faculty of Biology and Environmental Protection, Department of Applied Ecology

Education:

- Prof. ERCE PAS – 2016
- Habilitation – 2016
- PhD – 2007
- MSc – 2001

Main research areas:

- Ecohydrology
- Catchment processes
- River hydrology and nutrient transportation
- Flood sedimentation processes on the river floodplain
- River floodplain hydrology, ecology and management
- Phosphorus cycle in the ecosystem of the river valley
- Modelling of river valley processes
- Point source pollution of nutrients
- Eutrophication of the Baltic Sea

Professional experience:

- Member of the Editorial Board:

Ecohydrology & Hydrobiology. Elsevier imprint. Journal established in the framework of UNESCO International Hydrological Programme.

- Member of the Scientific Committee of the International Conference:

“2nd African International Symposium – Ecohydrology for water, biodiversity, ecosystem services and resilience in Africa”. Organizers: Ministry of Water, Irrigation and Electricity in Ethiopia, **Co-organizers:** UNESCO International Programme, Ecohydrology Program in France. European Regional Centre for Ecohydrology of the Polish Academy of Sciences. **Date and Place:** 7-11.11.2016, **Addis Ababa, Ethiopia**

- Member of the Scientific Committee of the International Conference:

International Conference “Ecohydrology 2015 - Measuring, Modelling and Managing of the natural processes related to water flows. Social values of the linked ecosystem services”. **Organizers:** IRSTEA - Institut National de Recherche en Sciences et Technologies pour l'Environnement et l'Agriculture, Lyon, France – Dr Pascal Breil (scientific secretary), Lyon, France. **Co-organizers:** CNRS (Le Centre National de la Recherche Scientifique, Lyon, France), Institut des Sciences Analytiques (Université de Lyon, UCB Lyon1, Villeurbanne, France), Microbial Ecology Centre (Université Claude Bernard Lyon 1, Villeurbanne, France). Honorary patronage: UNESCO IHP VIII. **Date and Place:** 21-23.09.2015, **Lyon, France.**

- Scientific Secretary and organizer of the international conference:

International Floodplain Conference “Ecohydrological Processes and Sustainable Floodplain Management: Opportunities and Concepts for Water Hazard Mitigation, and Ecological and Socioeconomic Sustainability in the Face of Global Changes”. **Organizer:** European Regional Centre for Ecohydrology under the auspices of UNESCO, Lodz, Poland. **Co-organizers:** Department of Applied Ecology (University of Lodz, Poland), US Corps of Engineers (USA), International Centre for Water Hazard and Risk Management u/a of UNESCO (Tsukuba, Japan), UNESCO-IHE (The Netherlands), Joint Research Centre (European Commission, Ispra, Italy), University of Algarve (Portugal), Tours University (France).

Patronage: International Hydrological Programme UNESCO and InterAcademy Panel Water Programme.
Honorary patronage: Ministry of Science and Higher Education, Ministry of Environment, President of the Lodz City, Ramsar Convention on Wetlands. **Date and Place:** 19 – 23.05.2008, **Łódź, Poland.**

- Scientific Secretary and organizer of the international conference:

Opening Symposium the European Regional Centre for Ecohydrology under the auspices of UNESCO, connected with International Workshop on INTEGRATION 4 WATER (EU RTD 6 FP project).

Organizer: Polish Academy of Sciences, University of Lodz

Honorary patronage: UNESCO IHP, Ministry of Science and Higher Education, Ministry of Environment, President of the Lodz City. **Date and Place:** 30-31.05.2006, **Łódź, Poland.**

International Research projects:

- **Polish – French Project “Sustainable development and management of river catchments at the example of Rhone and Loire river in France”.** Project granted by Ambassade de France en Pologne and Institut Francais en Polone for scientific research in the Rhone and the Loire catchments in France. Project realised as a part of a scientific and research internship (Scientific Research Stay Scholarship, SSHN), which I was a laureate. Project co-funded by the Government of the Republic of France. Project realised within the period **08-30.08.2015**. Function: **Principal Investigator.**
- **EnvEurope – “Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring”.** Project funded by the European Community under the financial instrument LIFE+, component "Policy and Management in the Field of Environment" (LIFE08 ENV/IT/000399). Project realised within the period **2010-2013**. Function: **Investigator.**
- **Polish – French Cooperation Project “Enhancement of river ecosystem tolerance to human impact and harmonization with cultural heritage space in the condition of global change”.** The project was financed by the Ministry of Foreign Affairs of the Government of France and the Embassy of France in Warsaw. The project was realized in cooperation with the University François Rabelais in Tours (France). Project realised within the period **2007-2008**. Function: **Main Investigator.**
- **SWITCH – “Sustainable Water Management Improves Tomorrow’s Cities’ Health”.** The project was financed by the European Community within the 6th Framework Programme (EC – 018530-22006-2011). Project realised within the period **2006-2011**. Function: **Leader of working group** no. 6 and contractor of the project.
- **Pilica River Demonstration Project - “Application of Ecohydrology and Phytotechnologies for Water Resources Management and Sustainable Development”.** Demonstration project funded and implemented under the auspices of UNESCO and UNEP-DTIE-IETC. Project realised within the period **2003-2006**. Function: **Investigator.**
- **United State - Poland Technology Transfer Project: “Immobilizing of phosphorus and sediments loads in a lowland river floodplain” (USPTTP08).** Project realized in cooperation with the National Center for Computational Hydroscience and Engineering, University of Mississippi (USA), the Institute of Geophysics Polish Academy of Sciences and the University of Warsaw. Project realised within the period **2003-2004**. Function: contractor of the project and the person responsible for the realization of the project in the Department of Applied Ecology, University of Lodz. Function: **Investigator.**

National projects:

- **Neuron - “Use of artificial neural networks and methods in the field of pattern recognition for a complex catchment analysis of the impact of anthropogenic chemical and microbiological pollution on water resources”.** Project financed by the National Science Centre, Poland (2015/19/B/ST10/02167). Project realised within the period **2016-2019**. Function: **Principal Investigator.**
- **Tango 2 - “Development and implementation of innovative biotechnological products for agriculture and wastewater management in order to reduce water pollution”.** Project financed by the National Centre for Research and Development, Poland. Project realised within the period **2017-2019**. Function: **Main Investigator.**
- **“Diagnosis of the state of existing ecological processes and the hydrological conditions of the direct catchment of the planned water reservoir “Łask” on the Pisia river in Łask”.** Project financed by the Łask Municipal Office. Project realised in **2015**. Function: **Main Investigator.**
- **“Analysis of point sources pollution of nutrients, dioxins and dioxin-like compounds in the Pilica River catchment and draw up of reclamation methods”.** Project of the Ministry of Science and Higher Education, Poland (NN305 365758). Project realised within the period **2010-2013**. Function: **Principal Investigator.**

- **Project in the Program BRIDGE by Foundation for Polish Science - support for pregnant women pursuing research project** (No. 16/2010). The project implemented under the EU Programme Innovative Economy. Project realised in **2010**. Function: **Principal Investigator**.
- **“Application of methods of mathematical statistics and statistical pattern recognition theory to shaping of a lowland Pilica river floodplain for reduction of eutrophication of the Sulejów Reservoir and bioenergy production”**. Project of the Ministry of Science and Higher Education, the Committee for Scientific Research - 2 PO4F 053 28. Project realised within the period **2005-2007**. Function: **Main Investigator** of the project and the person responsible for the financial side of the project.
- **“Intensification of mineral and organic matter sedimentation and nutrients retention on a lowland river floodplain for the reduction of the nutrients load transported to the Sulejów Reservoir”**. Project of the the Ministry of Science and Higher Education, the Committee for Scientific Research – young scientist project (3 PO4 F 08523). Project realised within the period **2002-2005**. Function: **Principal Investigator**.

Key Publications:

1. Urbaniak M., **Kiedrzyńska E.**, Grochowalski A., **2017**. The variability of PCDD/F concentrations in the effluent of wastewater treatment plants with regard to their hydrological environment. **Environmental Monitoring and Assessment**. 189:90. DOI 10.1007/s10661-017-5794-9
2. Kiedrzyński M., Kurowski J.K., **Kiedrzyńska E.**, Maciejewski P., **2016**. Exceptionally Tall Individuals in a Relict Population of *Actaea europaea* (Schipcz.) J. Compton Against the Species of the Euro-Asiatic *Cimicifuga* Section. **Pol. J. Environ. Stud.** 25(2): 889-893. (IF = 0.79; A 15 pkt.).
3. **Kiedrzyńska E.**, Kiedrzyński M., Zalewski M., **2015**. Sustainable floodplain management for flood prevention and water quality improvement. **Natural Hazards** 76:955–977.
<http://link.springer.com/article/10.1007%2Fs11069-014-1529-1>
4. Urbaniak M. and **Kiedrzyńska E.** 2015. Concentrations and Toxic Equivalency of Polychlorinated Biphenyls in Polish Wastewater Treatment Plant Effluents. **Bulletin of Environmental Contamination and Toxicology** 95:530–535.
5. Urbaniak M., **Kiedrzyńska E.**, Kiedrzyński M., Zieliński M., Grochowalski A., 2015. The Role of Hydrology in the Polychlorinated Dibenzo-*p*-dioxin and Dibenzofuran Distributions in a Lowland River. **Journal of Environmental Quality** 44:4, 1171-1182.
6. Kiedrzyński M., Zielińska K.M. **Kiedrzyńska E.**, Jakubowska-Gabara J. 2015. Regional climate and geology affecting habitat availability for a relict plant in a flat landscape: the case of *Festuca amethystina* L. in Poland. **Plant Ecology & Diversity** 8: 3, 331–341.
7. **Kiedrzyńska E.**, Józwick A., Kiedrzyński M., Zalewski M., **2014**. Hierarchy of factors exerting an impact on the nutrient load of the Baltic Sea and sustainable management of its drainage basin. **Marine Pollution Bulletin** 88: 162-173. <http://dx.doi.org/10.1016/j.marpolbul.2014.09.010>
8. **Kiedrzyńska E.**, Kiedrzyński M., Urbaniak M., Magnuszewski A., Skłodowski M., Wyrwicka A., Zalewski M. **2014**. Point sources of nutrient pollution in the lowland river catchment in the context of the Baltic Sea eutrophication.. **Ecological Engineering** 70: 337-348. <http://dx.doi.org/10.1016/j.ecoleng.2014.06.010>
9. Skłodowski M., **Kiedrzyńska E.**, Kiedrzyński M., Urbaniak M., Zielińska K.M., Kurowski, J.K., Zalewski M., **2014**. The role of riparian willow communities in phosphorus accumulation and dioxin control for water quality improvement in a lowland river. **Ecological Engineering** 70: 1-10.
<http://dx.doi.org/10.1016/j.ecoleng.2014.03.088>.
10. Urbaniak M., **Kiedrzyńska E.**, Zieliński M., Tołoczko W., Zalewski M. **2014**. Spatial distribution of PCDDs/PCDFs and reduction of TEQ concentrations along three large Polish reservoirs. DOI: 10.1007/s11356-013-2401-7. **Environmental Science and Pollution Research** 21(6):4441-52.
11. Urbaniak, **Kiedrzyńska E.**, Kiedrzyński M., Mendra M., Grochowalski A. **2014**. The impact of point sources of pollution on the transport of micropollutants along the river continuum. **Hydrology Research** 45.3. 391-410.
12. Kiedrzyński M., Zielińska K.M. **Kiedrzyńska E.**, Jakubowska-Gabara J. **2014**. Regional climate and geology affecting habitat availability for a relict plant in a flat landscape: the case of *Festuca amethystina* L. in Poland. **Plant Ecology & Diversity**. <http://dx.doi.org/10.1080/17550874.2014.904951>.

13. Kiedrzyński M., **Kiedrzyńska E.**, Witosławski P., Urbaniak M., Kurowski J.K. **2014**. Historical land use, actual vegetation and the hemeroby levels in ecological evaluation of an urban river valley in perspective of its rehabilitation plan. **Polish Journal of Environmental Studies** 23: 1, 109-117.
14. Magnuszewski A., **Kiedrzyńska E.**, Kiedrzyński M., Moran S., **2014**. GIS approach to estimation of the total phosphorous transfer in the Pilica River lowland catchment. **Quaestiones Geographicae** 33(3), 101-110.
15. Urbaniak M., Wyrwicka A., **Kiedrzyńska E.**, Staniak S., Gałązka A., Tołoczko W., Siebielec G., **2014**. Problematyka przyrodniczego wykorzystania komunalnych osadów ściekowych. **Acta Innovations** 12: 35-48.
16. **Kiedrzyńska E.** and Zalewski M. **2012**. Water Quality Improvement Through an Integrated Approach to Point and Non-Point Sources Pollution and Management of River Floodplain Wetlands. In: Voudouris K, Voutsas D. (eds). Ecological Water Quality – Water Treatment and Reuse. INTECH Open Access 325-342.
17. Urbaniak M., **Kiedrzyńska E.**, Zalewski M., **2012**. The role of a lowland reservoir in the transport of micropollutants, nutrients and the suspended particulate matter along the river continuum. **Hydrology Research** 43.4, 400-411.
18. **Kiedrzyńska, E.** and Zalewski, M. **2012**. River floodplain as purification system. In: Zalewski M. and Urbaniak M. (eds.) Adaptation of ecohydrological system solutions and biotechnologies for Africa. pp.117. ISBN:978-83-928245-0-3
19. **Kiedrzyńska E.**, Urbaniak M., Kiedrzyński M., Skłodowski M., Zalewski M. **2012**. Punktowe źródła zanieczyszczeń jako zagrożenie dla jakości wód Pilicy (in polish) [Point sources pollution as a threat for Pilica water quality]. *Gaz, Woda i Technika Sanitarna* 6. 254-256.
20. **Kiedrzyńska E.**, Macherzyński, A., Skłodowski, M., Kiedrzyński, M., Zalewski M. **2010**. Analiza punktowych źródeł zanieczyszczeń związkami biogennymi w zlewni Pilicy oraz wykorzystanie podejścia ekohydrologicznego dla ich redukcji (in polish). [Analysis of point sources of pollution of nutrients in the Pilica River catchment and use of ecohydrological approach for their reduction] W: A. Magnuszewski, (Red.), *Hydrologia w ochronie i kształtowaniu środowiska. Monografia Komitetu Środowiska PAN, [Hydrology in Environmental Protection and Management. Monograph of the Committee for Environmental Sciences PAS]* 69, 285 – 295.
21. Zalewski, M. and **Kiedrzyńska E.** **2010**. System approach to sustainable management of inland floodplains – declaration on sustainable floodplain management. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 5, No. 056, 1-8.
22. Wagner I., Izydorczyk K., **Kiedrzyńska E.**, Mankiewicz-Boczek J., Jurczak T., Bednarek A., Wojtal-Frankiewicz A., Frankiewicz P., Ratajski S., Kaczkowski Z., Zalewski M. **2009**. Ecohydrological system solution for enhancement of ecosystem services: the Pilica River Demonstration Project. **Ecohydrology & Hydrobiology** Vol. 9. No 1, 13-39.
23. **Kiedrzyńska E.**, Wagner I., Zalewski M. **2008**. Quantification of phosphorus retention efficiency by floodplain vegetation and a management strategy for a eutrophic reservoir restoration. [doi:10.1016/j.ecoleng.2007.10.010](https://doi.org/10.1016/j.ecoleng.2007.10.010) **Ecological Engineering**, 33 (1): 15-25.
24. **Kiedrzyńska E.**, Kiedrzyński M., Zalewski M. **2008**. Characteristics and quantification of flood sediment deposition and phosphorus retention in a lowland river floodplain for water quality improvement and reduction of reservoir eutrophication. **Ecohydrology & Hydrobiology** Vol. 8. No 2-4, 281-289.
25. Magnuszewski A., **Kiedrzyńska E.**, Wagner-Łotkowska I., Zalewski M. **2007**. Numerical modeling of material fluxes on the floodplain wetland of the Pilica River, Poland. In: Okruszko T., Szatyłowicz J., Mirosław – Świątek D., Kotowski W., Maltby E. (Eds). *Wetlands: Monitoring, Modeling and Management*. A.A. Balkema Publishers – Taylor & Francis Group.
26. Sumorok B. and **Kiedrzyńska E.** **2007**. Mycorrhizal status of native willow species at the Pilica River floodplain along moist gradient. In: Okruszko T., Szatyłowicz J., Mirosław – Świątek D., Kotowski W., Maltby E. (Eds). *Wetlands: Monitoring, Modeling and Management*. A.A. Balkema Publishers – Taylor & Francis Group. p.281-286.
27. **Kiedrzyńska E.** & Józwiak, A. **2006**. A. Application of statistical methods for analysing of the dependencies between the Pilica river discharge characteristic and suspended sediment transport. *Infrastructure and Ecology of Rural Areas* 3/4: 45-53.

28. Altınakar M., **Kiedrzyńska E.**, Magnuszewski A. **2006**. Modelling of inundation pattern at Pilica river floodplain, Poland. *Climate Variability and Change—Hydrological Impacts*. Proceedings of the Fifth FRIEND World Conference held at Havana, Cuba, November 2006. **IAHS Publ. 308**: 579-585.
29. Kaczorowski D., Sekulska-Nalewajko J., **Kiedrzyńska E.** **2006**. Three-dimensional model of flooding of the river floodplain - visualization of ecohydrological interactions. 2nd International Conference on Perspective Technologies and Methods in MEMS Design. 24 - 27 May 2006. Polyana, Ukraine.
30. Bieniecki W., **Kiedrzyńska E.** **2006**. The study of requirements for the system of automatic measurement of vegetation cover in river catchments. Proceedings of the International Conference TCSET'2006 Modern Problems of Radio Engineering, Telecommunication and Computer Science. 28 February – 4 March 2006, Lviv-Slavsko, Ukraine. p. 355-356.
31. Magnuszewski A., **Kiedrzyńska E.**, Wagner-Łotkowska I., Zalewski M. **2005**. Immobilising of Sediments in a Lowland River Floodplain. In: Altınakar M.S., Czernuszenko W., Rowiński P.M., Wang S.S.Y. (Eds.). *Computational Modeling for the Development of Sustainable Water-Resources Systems in Poland*. US-Poland Technology Transfer Program. Publications of the Institute of Geophysics Polish Academy of Sciences. Monographic Volume E-5 (387), p. 239-260.
32. **Kiedrzyńska E.**, Wagner-Łotkowska I., Zalewski M. **2004**. Ecohydrology and Phytotechnology concepts as a starting point for the research on the use the Pilica River floodplain as biofilter for flood waters. (in polish). Scientific Survey of the Faculty of Engineering and Environmental Science Warsaw Agricultural University: 294-308.
33. Wagner-Łotkowska I., **Kiedrzyńska E.**, Sumorok B. **2004**. Floodplains and natural wetlands: Reduction of nutrient transport. In: Zalewski M and Wagner-Łotkowska I. (Eds) *Integrated Watershed Management – Ecohydrology & Phytotechnology – Manual*.

Organizational memberships:

- Society of Landscape Protection

Main Awards and distinctions:

- **Scientific Award of the Ministry of Environmental Protection, Natural Resources and Forestry** for the second place in the national competition "The region where I live", Warsaw, 1992. The prize fund included a flight and a week's stay at 'International Ecological Workshop', 7-14.07.1992, Svendborg, Denmark.
- **Scientific Award of the President of Lodz City** for outstanding research and artistic works performed specifically to promote Łódź as a scientific and cultural center. Award for co-authorship of a series of publications relating to the formulation and application of the Ecohydrology concept to improve the quality of inland waters. 2006.