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ACADEMIC AND RESEARCH CAREER

The course of scientific work		
<i>organization</i>	<i>position</i>	<i>duration of scientific work</i>
Agricultural University of Poznań Department of Hydraulic Engineering	Assistant	1991-2000
Poznań University of Life Sciences Department of Hydraulic and Sanitary Engineering	Research Assistant	2000 - 2011
Poznań University of Life Sciences Department of Hydraulic and Sanitary Engineering	Assistant Professor	2011 - 2017
Poznań University of Life Sciences Department of Hydraulic and Sanitary Engineering	Associate Professor	Since 2017

Date of obtaining the degree of professional title or degree		
<i>degree</i>	<i>date of obtaining the degree</i>	<i>organization</i>
Master of Engineering, water reclamation	1991	Agricultural University of Poznań Faculty of Land Reclamation and Environmental Engineering
PhD in agricultural sciences, area: environmental engineering	2000	Agricultural University of Poznań Faculty of Land Reclamation and Environmental Engineering
Post-doctoral degree in agricultural sciences, area: environmental engineering, specializing in water engineering, hydraulics of open channels	2011	Poznań University of Life Sciences Faculty of Environmental Engineering and Spatial Management

RESEARCH INTERESTS

- Flow Resistance of Floodplain
- Scale Model Studies
- Experimental Methods and Instrumentation
- Interaction Flow-Vegetation
- Water Resources Management
- River Engineering
- Water Resources Engineering

RESEARCH FELLOWSHIPS

- Technische Universität Braunschweig, Leichtweiß-Institut für Wasserbau, Germany, visiting researcher in the project TEMPUS SJEP 7862/94 1995 (2 weeks)
- Lehrstuhl und Institut für Wasserbau und Wasserwirtschaft Rheinisch-Westfälische Technische Hochschule Aachen, Germany scholarship DAAD 1996 (6 months)
- Institut für Landschaftsplanung und Landschaftsökologie, Universität Rostock, Germany, visiting researcher in the project TEMPUS SJEP 7862/98 1998 (2 weeks)
- Lehrstuhl und Institut für Wasserbau und Wasserwirtschaft Rheinisch-Westfälische Technische Hochschule Aachen, Germany scholarship DAAD 2002 (2 months)
- Weiterbildendes Studium Wasser und Umwelt, Leibniz Universität Hannover. Germany. 7 scholarship from 2007 to 2014 roku. DAAD (together 2 months).

EXTERNAL RESPONSIBILITIES

- Associate Editor: Acta Scientiarum Polonorum Formatio Circumiectus
- Member of Scientific Committee for various conferences
- Reviewer for more than 10 journals

ACTIVITIES FOR SCIENCE OUTSIDE THE UNIVERSITY

- Member of the Water Management Committee of the Polish Academy of Sciences, 2015-2018.
- Member of the Water Physics Section of the Water Management Committee of the Polish Academy of Sciences, 2015-2018.
- Member of the Hydrotechnical Structures Section, Department IV of Technical Sciences, Committee of Civil and Water Engineering of the Polish Academy of Sciences, 2016-2020 and 2020-2023.
- Member of the Geosciences Commission of the Polish Academy of Sciences, Poznań branch, 2015-2018 and 2019-2022.
- Member of the Committee on Environmental Engineering of the Polish Academy of Sciences, 2020-2023.

INVOLVEMENT IN RESEARCH PROJECTS

<i>the subject of the project</i>	<i>type, number and place of implementation</i>	<i>participation characteristics</i>	<i>duration</i>
The influence of natural factors on channel capacity during flood	own research in KBW UP in Poznań no 88/M/62/W	project head	2001-2009
Modelling of spate wave transformation in long section of lowland river, taking into consideration complex cross-section channels and reservoirs adjacent to the river periodically filled with water	own research project MNiSW, grant no 2 P06S 078 28	main author	2005-2007
Analysis of the influence of morphodynamic and vegetative factors on the formation of hydraulic conditions in the backdraw part of lowland part of water reservoirs	own research project MNiSW, grant no 2 P06S 034 30	author	2005-2008
The use of Lidar photographs to assessment of the density of bushes in aspects of assessment of roughness of floodplains	research project MNiSW, grant no N305 078 32/2740	project head	2007-2009
Verification of methods of determination of active part of cross-section in one-dimensional models of undetermined flow	research project no N N523 450236	main author	2009-2011
Experimental studies of fish ladders with biological facilities	research project no N N523 5676 38	main author	2010-2012
Analysis of assessment of ecological potential of artificial and considerably changed parts of water flows and reservoirs on the basis of macrophyte indicators	research project no N N305 145839	author	2010-2013
Modelling and analysis of performance of the initial deposition part in small lowland water reservoirs	research project no N N305 296740	main author	2011-2014
Analysis of the phenomenon of transport and deposit of small plant debris within the river bed.	research project NCN no 2011/01/B/ST10/06959	project head	2011-2014.
Baltic Landscape in change – innovative approaches towards sustainable forested landscapes	EU Project: CCI2007CB163PO020	main author	2011-2013
Technological innovations and a system for monitoring, forecasting and operational planning of drainage activities for precise water management at the scale of a drainage facility. The INOMEL project under the BIOSTRATEG program, competition III	NCBiR BIOSTRATEG3/347837/11/NCBR/2017	author	2017-2020

Selected, recent publications

1. Tomasz Kałuża, Mariusz Sojka, Rafał Wróżyński, Joanna Jaskuła, Stanisław Zaborowski, Mateusz Hämmerring (2020): Modeling of River Channel Shading as a Factor for Changes in Hydromorphological Conditions of Small Lowland Rivers. *Water* 2020, 12, 527; DOI:10.3390/w12020527 (IF 2,524)
2. Tomasz Kałuża, Mateusz Hämmerring (2020): Applicability of the Multiple-Criteria Decision-Making Method to Assess Potential for Watercourse Revitalisation in Urbanised Areas Based on the Wierzbak Watercourse. *Middle Pomeranian Scientific Society of the Environment Protection, Rocznik Ochrona Środowiska*, Volume 22. pp 400-416 (IF 0,804)
3. Ptak, M., Sojka, M., Nowak, B., Kałuża, T. (2020): Tendenzen der Veränderungen der Wassertemperatur von Seen in Nord-Ost-Polen (Lake water temperature changes in north-eastern Poland) *WasserWirtschaft*, 110(4), pp. 41–45
4. Ewelina Szałkiewicz, Tomasz Dysarz, Tomasz Kałuża, Albert Malinger, Artur Radecki-Pawlik (2019): Analysis of in-stream restoration structures impact on hydraulic condition and sedimentation in the Flinta River, Poland. *Carpathian Journal of Earth and Environmental Sciences*, August 2019, Vol. 14, No. 2, p. 275 - 286; DOI:10.26471/cjees/2019/014/079 (IF 0,907)
5. Mariusz Ptak, Mariusz Sojka, Tomasz Kałuża, Adam Choiński, Bogumił Nowak (2019): Long-term water temperature trends of the Warta River in the years 1960-2009. *Ecohydrology & Hydrobiology* Volume 19, Issue 3, s. 441-451 DOI: 10.1016/J.ECOHYD.2019.03.007 (IF 1.661)
6. Mariusz Sojka, Tomasz Kałuża, Marcin Siepak, Paweł Strzeliński (2019): Zawartość metali ciężkich w osadach dennych śródleśnych zbiorników wodnych. *Heavy metals concentration in the bottom sediments of the mid-forest reservoirs. Sylwan* 163(8), pp. 694-704; DOI: 10.26202/SYLWAN.2019038 (IF 0,691)
7. Jakub Nieć, Paweł Zawadzki, Tomasz Kałuża (2019): Numerical Simulation of Groundwater Level Changes: a Case Study of the Strużyna Reservoir. *Rocznik Ochrona Środowiska*, Volume 21. pp 400-416 (IF 0,804)
8. Ewelina Szałkiewicz, Tomasz Dysarz Tomasz Kałuża, Albert Malinger, Artur Radecki-Pawlik (2018): The Impact of Deflectors on Sediment Transport Processes on the Basis of Modelling and Simulations. In: Kalinowska M., Mrokowska M., Rowiński P. (eds) *Free Surface Flows and Transport Processes. GeoPlanet: Earth and Planetary Sciences*. Springer, Cham, pp. 455-464 DOI: 10.1007/978-3-319-70914-7_31
9. Tomasz Kałuża, Artur Radecki-Pawlik, Krzysztof Szoszkiewicz, Karol Plesiński, Bartosz Radecki-Pawlik, Ireneusz Laks (2018): Plant basket hydraulic structures (PBHS) as a new river restoration measure. *Science of the Total Environment* 627, pp. 245-255 (IF 5.589) DOI: 10.1016/J.SCITOTENV.2018.01.029
10. Natalia Walczak, Zbigniew Walczak, Tomasz Kałuża, Mateusz Hämmerring, Piotr Stachowski (2018): The Impact of Shrubby Floodplain Vegetation Growth on the Discharge Capacity of River Valleys. *Water* vol. 10, issue 5, s. 1-18, DOI: 10.3390/W10050556, (IF 2.069)
11. Ireneusz Laks, Tomasz Kałuża, Paweł Zawadzki (2018): Der Einfluss einer Deichbresche eines Flusspolders auf die Hochwasserwelle — eine Fallstudie Golina an der Warthe in Polen. *Impact of a weir damage located on a polder on flood wave transformation - a case study of the Golina polder/Poland. WasserWirtschaft* nr 5/2018, pp. 21-26 DOI: 10.1007/S35147-018-0051-X (IF 0,135)
12. Tomasz Kałuża, Mariusz Sojka, Paweł Strzeliński, Rafał Wróżyński (2018): Application of Terrestrial Laser Scanning to Tree Trunk Bark Structure Characteristics Evaluation and Analysis of Their Effect on the Flow Resistance Coefficient. *Water* 2018, 10(6), 753; <https://doi.org/10.3390/w10060753> (30 pkt., IF 2,069)
13. Mateusz Hämmerring, Tomasz Kałuża (2018): Analysis of Fish Migration Potential Through the Seminatural Fish Pass on an Example the Skórka Barrage on the Głomia River. *Rocznik Ochrona Środowiska*, Volume 20. No. 1, pp 574-587 (IF0.91)
14. Mateusz Hämmerring, Natalia Walczak, Tomasz Kałuża, Anna Oliskiewicz-Krzywicka (2018): Operational Problems of Selected Elements of the Dobrzyca Barrage on the Głomia River. *Rocznik Ochrona Środowiska*, Volume 20. No. 1, pp 163-183 (IF 0.91)
15. Tomasz Kałuża, Paweł Zawadzki, Tomasz Tyminski, Ireneusz Laks (2017): Hochwasserschutz in Posen (Poznań): Geschichte und heutige Anforderungen. *Flood protection in Pozan: History and todays demands. Wasserwirtschaft* no 9, pp. 47-52 (15 pkt., IF 0,194)
16. Mateusz Hämmerring, Tomasz Kałuża, Natalia Walczak (2017): Hydraulic conditions of water flow in seminatural fish pass, a case study of the Skórka barrage on the Głomia River. *Hydraulic conditions of water flow in seminatural fish pass, a case study of the Skórka barrage on the Głomia River Acta Sci. Pol. Formatio Circumietus* 16 (2) 2017, pp. 85–96 DOI: 10.15576/ASP.FC/2017.16.2.85

17. Ireneusz Laks, Krzysztof Szoszkiewicz, Tomasz Kałuża (2017): Analysis of in situ water velocity distributions in the lowland river floodplain covered by grassland and reed marsh habitats - a case study of the bypass channel of Warta River (Western Poland). *Journal of Hydrology and Hydromechanics* Vol. 65, No. 4, pp. 325-332 DOI: 10.1515/johh-2017-0021 (IF 1,654)
18. Tomasz Kałuża, Paweł Zawadzki, Jacek Mądrawski, Rafał Stasik (2017): Analiza wpływu modernizacji zbiornika struzyna na stany wód gruntowych. Analysis of Impact of Struzyna Reservoir Modernization on Groundwater Level. *Acta Sci. Pol. Formatio Circumiectus* 16 (3) 2017, pp. 153-169, DOI:10.15576/ASP.FC/2017.16.3.153
19. Tomasz Kałuża, Krzysztof Szoszkiewicz, Artur Radecki-Pawlik, Natalia Walczak, Karol Plesiński (2016): Impact of River Restoration on Hydromorphological Processes: The River Flinta as a Case Study. *GeoPlanet: Earth and Planetary Sciences. Hydrodynamic and Mass Transport at Freshwater Aquatic Interfaces. 34th International School of Hydraulics*. pp. 183-196. DOI: 10.1007/978-3-319-27750-9_15
20. Tomasz Kałuża, Krzysztof Szoszkiewicz, Ewelina Szałkiewicz (2016): Hydromorphological effect of introducing small water structures in river restoration – the example of PBHS implementation. *Journal of Ecological Engineering*, Volume 17, Issue 2, pp. 90-96. DOI: 10.12911/22998993/62295
21. Robert Mazur, Tomasz Kałuża, Joanna Chmist, Natalia Walczak, Ireneusz Laks, Paweł Strzeliński (2015): Influence of deposition of fine plant debris in river floodplain shrubs on flood flow conditions – The Warta River case study. *Physics and Chemistry of the Earth. Vol. 94*, pp. 106-113, DOI: 10.1016/J.PCE.2015.12.002 (IF 1.477)
22. Tomasz Kałuża, Artur Radecki-Pawlik, Karol Plesiński, Natalia Walczak, Krzysztof Szoszkiewicz (2015): Changes in local channel morphology and its hydraulic and hydrodynamic consequences following the introduction of plant basket hydraulic structures (PBHS) – the Flinta River example. 2nd International Workshop on Hydraulic Structures: Data Validation. Organizator Hydraulic Structures Technical Committee of the International Association for Hydro-Environment Engineering and Research (IAHR). 7-9.05.2015 r. Coimbra, Portugalia. pp. 137-148.
23. Tomasz Kałuża, Eslamian Saeid (2014): Impact of the Development of Vegetation on Flow Conditions and Flood Hazards. *Handbook of Engineering Hydrology. Modeling, Climate Change, and Variability. Book II*. pp. 415-449.
24. Tomasz Kałuża, Karol Pietruczuk, Krzysztof Szoszkiewicz, Tomasz Tymiński (2014): Bewertung und Klassifizierung der Oberflächengewässer in Polen gemäß den WRRL-Anforderungen. *WasserWirtschaft* 12, pp. 24-29.
25. Tomasz Kałuża, Paweł Zawadzki (2013): Flow Capacity Coefficient of Strainers. *GeoPlanet: Earth and Planetary Sciences. Experimental and Computational Solutions of Hydraulic Problems. 32nd International School of Hydarlics*. Springer-Verlag. Berlin. pp. 159-170 DOI: 10.1007/978-3-642-30209-1_10
26. Ireneusz Laks, Tomasz Kałuża, Mariusz Sojka, Zbigniew Walczak, Rafał Wróżyński (2013): Problems with Modelling Water Distribution in Open Channels with Hydraulic Engineering Structures. *Annual Set The Environment Protection. Rocznik Ochrona Środowiska t. 15*, pp. 245-257
27. Tomasz Tymiński, Tomasz Kałuża (2013): Effect of Vegetation on Flow Conditions in the “Nature-like” Fishways. *Annual Set The Environment Protection. Rocznik Ochrona Środowiska t. 15*, pp. 348-360
28. Tomasz Kałuża, Przemysław Tymków, Paweł Strzeliński (2012): Use of Remote Sensing for Investigating Riparian Shrub Structures. *Polish Journal of Environmental Studies*, vol. 21, No. 1, pp. 115-122
29. Tomasz Tymiński, Tomasz Kałuża T. (2012): Investigation of Mechanical Properties and Flow Resistance of Flexible Riverbank Vegetation. *Polish Journal of Environmental Studies*, vol. 21, No. 1, pp. 201-207
30. Tomasz Kałuża (2010): Application of a 2-D flow model to the analysis of forest stability in the Vistula Valley. In: *Environmental Engineering III* Edited by: Lucjan Pawłowski, Marzena R. Dudzińska i Artur Pawłowski, Taylor and Francis Group, London 2010, pp. 385-390
31. Tomasz Kałuża T., Leśny J. (2009): An analysis of tree stand stability relative to Institute of Meteorology and Water Management (IMGW) classification of maximum wind velocities. *Journal of Water and Land Development* No. 13a, pp. 103-113
32. Tomasz Kałuża, Ireneusz Laks, Paweł Zawadzki (2009): Hydraulic factors conditioning the reconstruction of the Chwaliszewo meander in the Poznań waterways system. In: *Water in the Townscape*, Edited by: Januchta-Szostak, Wydawnictwo Politechniki Poznańskiej, vol. 2, 87-96.

33. Rembeza L., Kałuża T. (2008): *Obliczenia hydrauliczne przepławki dla ryb i przepustowości budowli stopnia wodnego na rzece San w Przemyślu*, Monografia pod redakcją Mariana Mokwy i Wiesława Wiśniewolskiego „Ochrona ichtiofauny w rzekach z zabudową hydrotechniczną”, Dolnośląskie Wydawnictwo Edukacyjne Wrocław s. 91-101
34. Kałuża T. (2008): *Einfluss der Bewuchsentwicklung auf das Abflussverhalten in Fließgewässern*, Wasser und Umwelt, GWV Hannover, H.1/Jg.3, s.1-3.
35. Kałuża T., Laks I. (2008): *Analiza metod wyznaczania zasięgu aktywnej strefy przepływu w jednowymiarowych modelach przepływu nieustalonego*, monografia: "Modelowanie procesów hydrologicznych", praca zbiorowa pod redakcją Barbary Namysłowskiej-Wilczyńskiej, Oficyna wydawnicza Politechniki Wrocławskiej, Wrocław, s. 171-188.
36. Laks I., Kałuża T. (2007): *Analiza przejścia fali wezbraniowej z 1997 roku na odcinku od Jeziorska do Obornik w modelu obliczeniowym, uwzględniającym aktywną część przekroju*, 2007, Nauka Przyroda Technologie, t. 1, z. 2, seria: Melioracje i Inżynieria Środowiska, Wyd. AR im. A. Cieszkowskiego w Poznaniu, s. 191-197
37. Kałuża T. (2007): *Wykorzystanie dwuwymiarowego modelu przepływu do oceny stateczności drzewostanów łęgowych na przykładzie doliny Wisły w okolicy Puław*, Acta Scientiarum Polonorum, Architectura nr 6(2), SGGW Warszawa, s. 37-48
38. Kowalski R.L., Schröder P.M., Kałuża T. (2006): *Pflanzen in der 2D Simulation von Flüssen*, Institut für Wasserbau und Technische Hydromechanik, Dresdener Wasserbauliche Mitteilungen Heft 32, Drezno, s. 399-406
39. Kałuża T. (2006): *Wyznaczanie momentów krytycznych w obliczeniach stateczności drzewostanów terenów zalewowych*, Zeszyty Naukowe Akademii Rolniczej we Wrocławiu nr 534, Wrocław, s. 133-142
40. Kałuża T., Laks I. (2005): *Uwzględnienie aktywnej strefy przepływu w komputerowym systemie modelowania przepływu nieustalonego*, Gospodarka Wodna, nr 1, s. 24-28
41. Kałuża T., Kowalski R. (2005): *Modelowanie wpływu ekstremalnych warunków hydro-meteorologicznych na stateczność drzewostanów terenów zalewowych na przykładzie lasów łęgowych doliny Wisły*, Materiały XI Międzynarodowej Konferencji Technicznej Kontroli Zapór: wydawnictwo IMGW Warszawa, s. 121-128
42. Kałuża T. (2005): *Promień hydrauliczny terenów zalewowych pokrytych roślinnością krzewiastą*, Roczniki Akademii Rolniczej w Poznaniu CCCLXV, seria: Melior. Inż. Środ. 26, 2005 s. 171-180