

Prof. dr hab. inż. Janusz Zawadzki

CONTACT

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SCIENCE

Science research:

Scientific research mainly related to wood chemistry,

- Analysis of wood and other lignocellulosic materials by classical and instrumental methods;
- Study of wood modification methods and its selected properties;
- Investigation of methods of pre-treatment of lignocellulosic raw materials and the process of enzymatic hydrolysis in the process of obtaining bioethanol.

Research projects:

a) in realization

- Technologies for the use of agricultural by-products"- PASZA PRO, POIR .1.1.1 Intelligent Development Operational Program, Priority I: Support for conducting R&D works by enterprises for the years 2019-2022 co-financed by the National Center for Research and Development
 - CROPTech „Intelligent systems for breeding and cultivation of wheat, maize and poplar for optimized biomass production, biofuels and modified wood” - research project in programme Biostrateg2 financed by National Centre of Research and Development (2016-2019).
 - WOODTECH Use of poplar lines with increased biomass growth potential and improved wood chemical composition in the technology of paper and biofuel production Grant No. 180606 project financed by the National Center for Research and Development (2013-2015)

IMPORTANT ORGANIZATIONAL FUNCTIONS

Head of the Wood Science Institution at the Department of Wood Science and Wood Protection 2005-2008

Head of the Department of Wood Science and Wood Protection 2009-2012, 2016-2020

Deputy Director of the Institute of Wood Sciences and Furniture since 2019

Member of the Central Commission for Degrees and Titles 2017-2020

Expert of the Polish Accreditation Commission since 2011

SELECTED SCIENCE PUBLICATIONS FROM LAST 7 YEARS:

ORCID: 0000-0003-1431-4388

2022

Bytner O., Drożdżek M., Laskowska A., Zawadzki J. 2022: „Temperature, Time, and Interactions between Them in Relation to Colour Parameters of Black Poplar (*Populus nigra* L.) Thermally Modified in Nitrogen Atmosphere”, *Materials* 15: 824. DOI:10.3390/ma15030824

Bytner O., Laskowska A., Drożdżek M., Zawadzki J., 2022: „ Influence of thermal modification in nitrogen atmosphere on the gloss of black poplar (*Populus nigra* L.)” , *Annals of Warsaw University of Life Sciences – SGGW, Forestry and Wood Technology*, 117: 89-96. DOI:10.5604/01.3001.0016.0191

Bytner O., Drożdżek M., Laskowska A., Zawadzki J., 2022: „Influence of Thermal Modification in Nitrogen Atmosphere on the Selected Mechanical Properties of Black Poplar Wood (*Populus nigra* L.)”, *Materials* 15: 7949. DOI:10.3390/ma15227949

Grześkiewicz M., Zawadzki J., Drożdżek M., Kozakiewicz P., Laskowska A., Radomski A., Gawron J., Bytner O., 2022: „Sposób modyfikacji drewna”: Pat.242309

2021

Szadkowska D., Zawadzki J., Kozakiewicz P., Radomski A., 2021: „Identification of Extractives from Various Poplar Species”, *Forests* 12, 647. <https://doi.org/10.3390/f12050647>

Bytner O., Laskowska A., Drożdżek M., Zawadzki J., 2021: „Evaluation of the Dimensional Stability of Black Poplar Wood Modified Thermally in Nitrogen Atmosphere”, *Materials*, 14, 6, 1-18, DOI:10.3390/ma14061491 IF 3.057

Krutul D., Radomski A., Antczak A., Drożdżek M., Kłosińska T., Szadkowska D., Zawadzki J., 2021: „Influence of the environmental pollution on the distribution and polymerization degree of cellulose in bark and wood from scots pine(*pinus sylvestris* L.) stem” , *Wood Research*, 2, 66, 203-210. DOI:10.37763/wr.1336-4561/66.2.203210

Akus-Szylberg F., Antczak A., Zawadzki J., 2021: „Effects of Soaking Aqueous Ammonia Pretreatment on Selected Properties and Enzymatic Hydrolysis of Poplar (*Populus trichocarpa*)” , *Wood, Bioresources*, 16, 3, 5618-5627. DOI:10.15376/biores.16.3.5618-5627

Betlej I., Boruszewski P., Dubis D., Wilkowski J., Krajewski K. J., Zawadzki J., 2021: „Influence of SCOBY microorganisms’ cultivation conditions on the synthesis efficiency and selected qualities of bacterial cellulose,” *BioResources* 16(3), 6147-6158.

2020

Kozakiewicz P., Drożdżek M., Laskowska A., Grzeńkiewicz M., Bytner O., Radomski A., Mróz A., Betlej I., Zawadzki J. 2020: Chemical Composition as Factor Affecting the Mechanical Properties of Thermally Modified Black Poplar (*Populus nigra* L.), *Bioresources* 15, 2, 2020, 3915-3929,

Krutul D., Antczak A., Radomski A., Wójcik R., Drożdżek M. Zawadzki J. 2020: Porównanie składu chemicznego kory szybko rosnącej topoli z korą innych gatunków drzew liściastych, : *Sylwan*, 64, 9, 767-774, DOI:10.26202/sylwan.2019136

Akus-Szylberg F., Antczak A., Zawadzki J. 2020: Hydrothermal pretreatment of poplar (*Populus trichocarpa*) wood and its impact on chemical composition and enzymatic hydrolysis yield, : *Drewno*, 63, 206, 5-18, DOI:10.12841/wood.1644-3985.367.09

2019

Kozakiewicz P., Drożdżek M., Laskowska A., Grzeńkiewicz M., Bytner O., Radomski A., Zawadzki J., 2019: Effects of Thermal Modification on the Selected Physical Properties of Sapwood and Heartwood of Black Poplar (*Populus nigra* L.) *Bioresources* 14 (4), 8391-8404 <https://bioresources.cnr.ncsu.edu/issues/vol14-issue4/>

Antczak A., Świerkosz R., Szeniawski M., Marchwicka M., Akus-Szylberg F., Przybysz P., Zawadzki J., 2019: „The comparison of acid and enzymatic hydrolysis of pulp obtained from poplar wood (*Populus* sp.) by the Kraft method”. *Drewno*, 63(203), 1-14)

2018

Krutul D., Zielenkiewicz T., Gawron J., Radomski A., Antczak A., Drożdżek M., Zawadzki J., 2018: „Wpływ zanieczyszczeń komunikacyjnych na zawartość wybranych substancji w drewnie i korze morwy białej (*Morus alba* L.)”. *Przemysł Chemiczny*, 97(7), 1102-1108

Krutul D., Zielenkiewicz T., Zawadzki J., Radomski A., Antczak A., Drożdżek M., 2018: „Influence of urban agglomeration environmental pollution on content of chosen metals in bark, roots and wood of Norway maple (*Acer platanoides* L.)”. *Wood Research*, 63(5), 741-754

Akus-Szylberg F., Antczak A., Bytner O., Radomski A., Krajewski K., Zawadzki J., 2018: „Wpływ wstępnej obróbki słomy kukurydzianej gorącą wodą na jej skład chemiczny i hydrolizę enzymatyczną”. *Przemysł Chemiczny*, 97(11), 1866-1869

Antczak A., Marchwicka M., Szadkowski J., Drożdżek M., Gawron J., Radomski A., Zawadzki J., 2018: „Sugars yield obtained after acid and enzymatic hydrolysis of fast-growing poplar wood species”. *BioResources*, 13(4), 8629-8645

2017

Krutul D., Zielenkiewicz T., Radomski A., Zawadzki J., Antczak A., Drożdżek M., Makowski T., 2017: „Metals accumulation in scots pine (*Pinus sylvestris* L.) wood and bark affected with environmental pollution” *Wood Research* ,62, 93, 353-364

Zawadzki J., Akus-Szylberg F., Bytner O., Drożdżek M.,2017: „ Lignin content in the black liquor from kraft pulping of a select poplar line” *Annals of Warsaw University of Life Sciences - SGGW. Forestry and Wood Technology* 99, 51-54

Krutul D., Zielenkiewicz T., Radomski A., Antczak A., Drożdżek M., Makowski T., Zawadzki J., 2017: „Influence of the environmental pollution degree on the chemical composition of wood and bark of Scots pine (*Pinus sylvestris* L.)” *Annals of Warsaw University of Life Sciences - SGGW. Forestry and Wood Technology* 97, 5-12

Krutul D., Zielenkiewicz T., Zawadzki J., Radomski A., Antczak A., Drożdżek M., Gawron J., 2017: „ The content of chemicals substances in bark and wood of trunk, branches and main Root of single-seeded hawthorn (*Crataegus monogyna* Jacq” *Annals of Warsaw University of Life Sciences - SGGW. Forestry and Wood Technology* 99, 160-167

2016

Zielenkiewicz T., Szadkowski J., Drożdżek M., Zielenkiewicz A., Kłosińska T., Antczak A., Zawadzki J., Gawron J., 2016: „Application of x-ray fluorescence technique for determination of heavy metals uptake by different species of poplar”. *Drewno*, 59(197), 113-126

Zawadzki J., Gawron J., Antczak A., Kłosińska T., Radomski A., 2016: „The influence of heat treatment on the physico-chemical properties of pinewood (*Pinus sylvestris* L.)”. *Drewno*, 59(196), 49-57

Antczak A., Radomski A., Drożdżek M., Zawadzki J., Zielenkiewicz T., 2016: „Thermal ageing of cellulose with natural and synthetic antioxidants under various conditions”. *Drewno*, 59(196), 139-152

Antczak A., Ziętek K., Marchwicka M., Tylko B., Gawkowski A., Gawron J., Drożdżek M., Zawadzki J., 2016: „Cukry wyodrębnione z biomasy szybko rosnących topoli (*Populus* sp.) jako surowiec do otrzymywania bioetanolu”. *Przemysł Chemiczny*, 95(9), 1770-1773

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