



Ph.D., D.Sc. Piotr Boruszewski, associate professor

CONTACT

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EDUCATION

Occupational titles and science degrees	Date (year)	Institution
Master engineer of Wood technology	2003	Faculty of Wood Technology Warsaw University of Life Sciences - SGGW
Master engineer of Wood technology in the field of conservation of wood	2006	Faculty of Wood Technology Warsaw University of Life Sciences - SGGW & Faculty of Conservation and Restoration of Works of Art Academy of Fine Arts in Warsaw
Doctor of forest sciences in field of wood technology	2008	Faculty of Wood Technology Warsaw University of Life Sciences - SGGW
Doctor (habilitation) of forest sciences in field of wood technology	2018	Faculty of Wood Technology Warsaw University of Life Sciences - SGGW

PROFESIONAL COMPETENCE – over 15 Years

Position	Date (year)	Institution
Tutor	2007	Department of Technology and Entrepreneurship in Wood Industry Faculty of Wood Technology Warsaw University of Life Sciences - SGGW
Assistant professor	2008	
Assistant professor (with habilitation)	2018	Department of Technology and Entrepreneurship in Wood Industry Institute of Wood Sciences and Furniture Warsaw University of Life Sciences - SGGW
Associate professor	2020	

Also:

- in years 2017 - 2019 Head of the Department of Technology and Entrepreneurship in Wood Industry, Faculty of Wood Technology, Warsaw University of Life Sciences - SGGW
- since October 2019 Head of the Department of Technology and Entrepreneurship in Wood Industry, Institute of Wood Sciences and Furniture, Warsaw University of Life Sciences – SGGW
- since January 2023 Head of the Didactic Excellence Office, Warsaw University of Life Sciences – SGGW

SELECTED CURRENT FUNCTIONS

- Rector's Plenipotentiary for Quality Assurance of Education
- member of the Forest Science Discipline Council at Warsaw University of Life Sciences - SGGW
- member of the Program Council of the Faculty of Wood Technology at Warsaw University of Life Sciences - SGGW
- coordinator of the Director of the Institute of Wood Sciences and Furniture for for graduate occupational fate monitoring
- member of the Rector's Commission for Education Quality
- member of the Rector's Committee for Economy and Investment
- member of the Wood Based Panels Manufacturers Association in Poland
- member of the Top 500 Innovators Association
- member of the Polish Society for Production Management
- member of the Association of Forestry and Wood Engineers and Technicians
- member of the Scientific Council of the Bulletin of the Research and Development Center of the Wood-Based Panel Industry in Czarna Woda
- representative of a member of the Warsaw University of Life Sciences - SGGW in the PKN Technology Committee in KT 100 for Wood Products and Wood Materials, Polish Committee for Standardization
- mycological and construction expert of the Polish Association of Building Mycologists
- member of the Council of Reviewers of the Annals Warsaw University of Life Sciences - Forestry and Wood Technology
- expert of the National Center for Research and Development
- member of the team of experts of the National Center for Research and Development for the assessment of implementation reports
- expert of the Ministry of Economy (currently the Ministry of Development and Technology), responsible for substantive assessment of project applications and reviewing submitted protests

DIDACTIC

- classes with students in the following subjects:
 - Basis of wood based panels technology
 - Basis of wood based panels technology II
 - Wood based panels technology
 - Finishing of wood and wood based panels
 - Industrial processes of finishing
 - Finishing technology of furniture
- trainings, among others, in:
 - technology of wood materials, processes of surface finishing of wood and wood-based materials, biological corrosion of wood and wood-based materials, methods of wood protection against biocorrosion

SCIENCE

Science research:

- Characteristics of physical and mechanical characteristics of bacterial cellulose from Scoby microbial culture on various nutrient substrates and the impact of its addition on changes in selected properties of wood based composites.
- Innovative composite materials from lignocellulosic biomass renewable in the short cycle, increasing the competitiveness of the wood industry.
- Lignocellulose materials modification methods influence on their properties.
- Wood based materials manufactured in processes with limited use of wood material originating from forests.
- Analysis of selected properties of lignocellulose materials surface and features of surface improvement systems.
- Complex analysis of phenomenon influencing changes in emission and content of formaldehyde in particular stages of particle board manufacturing process.

Research projects:

- 2022 - 2023 Teaching excellence of universities - POWER project co-financed by the European Social Fund (intermediary institution: National Research and Development Center, contracting authority: Ministry of Education and Science). Project manager.
- 2022 - 2023 Success by nature - a comprehensive programme to improve the quality of education process management and teaching quality at the Warsaw University of Life Sciences, POWER project co-financed by the European Social Fund, Axis III Higher education for the economy and development, action 3.5 Comprehensive programmes of higher education institutions, POWR.03.05.00-00-2033/17. Contract manager - Construction of a system for the management of educational programme documentation.
- 2018 - 2022 Improving Malaysian HE Knowledge towards a Wood and Furniture Industry4.0 - MAKING4.0, Erasmus + program: Cooperation for innovation and the exchange of good practices. Key action 2: Capacity Building in the field of Higher Education (Erasmus+ KA2 – CBHE). Project member.
- Research implementation project within BIOSTRATEG strategic program, co-financed by the NCBR (No. BIOSTRATEG3/344303/14/NCBR/2018): Improving process and material efficiency in the sawmill industry. Project member.
- 2018 Research implementation project within WoodINN sectoral program, co-financed by the National Center for Research and Development (NCBR) (No. POIR.01.02.00-00-0094/1): „Innovative technology of furniture elements production supported with digital printing process”. Project manager for the part managed by SGGW (SGGW is a partner in this project).
- 2017 - 2018 Research implementation project within WoodINN sectoral program, co-financed by the National Center for Research and Development (NCBR) (No. POIR.01.02.00-00-0093/1): „Production of innovative furniture based on modern chipboard”. Project manager for the part managed by SGGW (SGGW is a partner in this project).
- 2016 - 2018 Research implementation project within BIOSTRATEG strategic program, co-financed by the NCBR (No. BIOSTRATEG2/298537/7/NCBR/2016): „New packaging using renewable raw materials and innovative paraffin impregnates”. Project member.
- 2014 - 2016. Research implementation project within LIDER program (No. LIDER/002/406/L-4/NCBR/2013), co-financed by the NCBR: “Innovative lignocellulose biomass renewable in a short cycle based composite materials increasing wood industry competitiveness”. Project manager.
- 05.2014. Research project realized within Own Stipendium Fund of SGGW in Warsaw: Alternative renewable in a short cycle raw material base, increasing wood based materials industry competitiveness. Project manager.
- 2010 - 2012. Research project co-financed by the Ministry of Science and Higher Education (MNiSW) - the National Science Center (NCN) (No. 2964/B/PO1/2010/39): “Formaldehyde emission level research on particular stages of particle board industrial manufacture”. Project manager.
- 2010 - 2012. Research Project co-financed by the MNiSW - the NCN (No. 0329/B/H03/2010/38): “Research on oligo- and polyglycerols application in wood glues manufacturing”. Project member.
- 2009 - 2012. Research Project co-financed by the MNiSW - the NCN (No. 0075/B/PO1/2009/37): “Machinability of wood based raw materials”. Project member.
- 06 - 12.2011. SGGW in Warsaw Project for realization of research task within internal competition for young scientific employees: „Selection of defibering of fast growing trees process parameters in fiber boards technology”. Project Manager.
- 2009 - 2011. Project co-financed within the 6th Framework Programme of EU (No. ERA-NET-IB/01/2009): „Improvement of strength properties and reduction of emission of volatile organic compounds by enzymatic modification of lignin containing biopolymers and composites”. Project member.
- 2008 - 2011. Research project co-financed by the MNiSW - the NCN (No. 1364/B/PO1/2008/35): “Utilization of waste wood in fiber board production”. Project member.

International and national awards for scientific and organizational activities:

- 2023 - Distinguished by HM Rector of Warsaw University of Life Sciences in Warsaw (SGGW) for scientific and didactical achievements, which influence development, promotion and prestige of SGGW significantly (these distinctions are elements of benefit system for the best scientific employees of University).
- 2nd degree individual prize for organizational achievements, 2022, HM Rector of Warsaw University of Life Sciences - SGGW.

- 3rd degree individual prize for scientific achievements (Certificate of Recognition), 2022, HM Rector of Warsaw University of Life Sciences - SGGW.
- 3rd degree individual prize, for organizational achievements, 2021, HM Rector of Warsaw University of Life Sciences - SGGW.
- Certificate of Recognition, 2021, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for scientific achievements.
- Bronze Medal for Long Service, awarded by the President of the Republic of Poland in 2020.
- 1st degree team prize for scientific achievements, 2020, HM Rector of Warsaw University of Life Sciences - SGGW.
- 2019 - Distinguished by HM Rector of Warsaw University of Life Sciences in Warsaw (SGGW) for scientific and didactical achievements, which influence development, promotion and prestige of SGGW significantly (these distinctions are elements of benefit system for the best scientific employees of University).
- Certificate of Recognition, 2019, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for scientific achievements.
- Certificate of Recognition, 2019, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for organizational achievements.
- 2018 - Distinguished by HM Rector of Warsaw University of Life Sciences in Warsaw (SGGW) for scientific and didactical achievements, which influence development, promotion and prestige of SGGW significantly (these distinctions are elements of benefit system for the best scientific employees of University).
- Certificate of Recognition, 2018, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for scientific achievements.
- 2nd degree individual prize for scientific achievements, 2017, HM Rector of Warsaw University of Life Sciences - SGGW.
- Certificate of Recognition, 2014, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for scientific achievements.
- Certificate of Recognition, 2014, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for organizational achievements.
- Title of Polish Science Leader 2013, given by the National Center for Research and Development.
- Certificate of Recognition, 2013, HM Rector of Warsaw University of Life Sciences - SGGW, distinction for scientific achievements.
- 2012 - prestigious Young Active Scientist prize given by Members of Agriculture, Forestry and Veterinary Sciences Faculty of Polish Academy of Science.
- 2nd degree team prize for organizational achievements, 2012, HM Rector of Warsaw University of Life Sciences - SGGW.
- 2nd degree individual prize for scientific achievements, 2011, HM Rector of Warsaw University of Life Sciences - SGGW.
- Excellent Paper of the 2nd International Conference on Environmental Engineering and Applications, 2011 r., Asia - Pacific Chemical, Biological & Environmental Engineering Society, nagroda zespołowa za pracę pt.: Glycerol as a renewable resource for wood adhesives.
- Conference Scholarship for Young Researchers, 2010, Foundation for Polish Science, scholarship award for scientific achievements.
- Second Prize in the Poster Competition of the International Panel Products Symposium, 2008 r., The BioComposites Centre of The Bangor University & Helsinki University of Technology - TKK, nagroda zespołowa za pracę pt.: Waste thermoplastics as binders for green and recycled wood bonding in particleboard manufacturing.

Implementations, patents:

- Patent No. P - 433630, 2022 titled: „Three-layer particleboard modified with bacterial cellulose and the method of manufacturing the board”. Betlej I., Boruszewski P. Patent granted by the Polish Patent Office.
- Boruszewski P., Jankowska A., Laskowska A., Burawska-Kupniewska I., Auriga R. 2018 "Know-how" for the technology of innovative medium density fiberboards MDF for furniture applications, with the participation of a new type of renewable raw material - fast growing poplar. License agreement with an external entity, implementing the effects of scientific research.
- Property right No. 65933, 2012 for utility model titled: „Particle-mineral composite board”. Mamiński M., Borysiuk P., Boruszewski P., Król M.
- Patent No. P - 387808, 2013 titled: „Manufacture method to produce plywood with increased waterproofness”. Borysiuk P., Grześkiewicz M., Mamiński M., Boruszewski P. Patent granted by the Polish Patent Office.
- Patent No. P - 413873, 2018 titled.: „Strengthened particle board”. Borysiuk P., Boruszewski P., Jabłoński M., Wilkowski J. Patent granted by the Polish Patent Office.

Cooperation:

- Poznan University of Life Sciences
- LUKASIEWICZ Research Network - Wood Technology Institute in Poznan
- Forest Research Institute in Sekocin
- ŁUKASIEWICZ Research Network - Institute of Heavy Organic Synthesis "Blachownia" in Kedzierzyn Kozle
- Kazimierz Wielki University in Bydgoszcz
- Research & Development Centre for Wood-Based Panels in Czarna Woda
- Universiti Putra Malaysia

RESEARCH OFFER AND EXPERT ASSESSMENTS

- complaints and expertise regarding the quality of wood products and wood-based materials (floors, furniture, etc.)
- opinions on innovation in the field of wood technology
- assessment and comparative analysis of the properties of wood and wood-based materials
- research in the field of physical, mechanical and functional properties of wood-based materials
- testing strength of wood and wood-based materials joints
- testing the properties of coatings on the surface of wood and wood materials
- new technologies of wood-based materials

SELECTED PUBLICATIONS FROM LAST 7 YEARS:

ORCID: [0000-0002-6500-0680](https://orcid.org/0000-0002-6500-0680)

2023

Betlej I., Barlak M., Krajewski K., Andres B., Werner Z., Jankowska A., Zakaria S., Boruszewski P. 2023: Effect of Cu, Zn and Ag Ion Implantation on the Surface Modification of Bacterial Cellulose Films. *Coatings* 13(2), 254 (IF = 3,236; 5-Year IF = 3,312).

2022

Betlej I., Salerno-Kochan R., Borysiuk P., Boruszewski P., Monder S., Krajewski K., Andres B., Krochmal-Marczak B., Pisulewska E., Danecki L., Pochwała S. 2022: Quality Parameters of PE–Pomace Based Membranes. *Membranes* 12, 1086 (IF = 4,562; 5-Year IF = 5,015).

Betlej I., Rybak K., Nowacka M., Antczak A., Borysiak S., Krochmal-Marczak B., Lipska K., Boruszewski P. 2022: Structural Properties of Bacterial Cellulose Film Obtained on a Substrate Containing Sweet Potato Waste. *Crystals* 12(9), 1191 (IF = 2,67; 5-Year IF = 2,688).

Betlej I., Barlak M., Wilkowski J., Werner Z., Zagórski J., Lipska K., Boruszewski P. 2022: Wettability of the surface of bacterial cellulose film modified with the ion implantation. *Annals of Warsaw University of Life Sciences SGGW Forestry and Wood Technology* 118: 15-21.

Boruszewski P., Borysiuk P., Jankowska A., Pazik J. 2022: Low-density particleboards modified with blowing agents - characteristic and properties. *Materials* 15(13), 4528 (IF = 3,748; 5-Year IF = 4,042).

Boruszewski P., Borysiuk P., Jankowska A., Pazik J. 2022: Low-density particleboards modified with expanded and unexpanded fillers - characteristics and properties. *Materials* 15(13), 4430 (IF = 3,748; 5-Year IF = 4,042).

- Walid Y., Nowacka M., Rybak K., Boruszewski P., Ostrowska-Ligeza E., Betlej I., Wissem A. W., Hammami M., Jallouli S., Horchani-Naifer K., Witrowa-Rajchert D., Saidani-Tounsi M. 2022:** Effect of rosemary essential oil and ethanol extract on physicochemical and antibacterial properties of optimized gelatin–chitosan film using mixture design. *Journal of Food Processing and Preservation*, 46, e16059 (IF = 2,609; 5-Year IF = 2,61).
- Borysiuk P., Krzysztof K., Auriga A., Auriga R., Betlej I., Rybak K., Nowacka M., Boruszewski P. 2022:** PLA Biocomposites: Evaluation of Resistance to Mold. *Polymers* 14, 157 (IF = 4,967; 5-Year IF = 5,063).
- Bednarczyk D., Boruszewski P. 2022:** Lightweight particleboards - manufacturing modification using a blowing agent from the group of bicarbonates. *Annals of Warsaw University of Life Sciences SGGW Forestry and Wood Technology* 117: 55-62.
- Bednarczyk D., Betlej I., Boruszewski P. 2022:** Celuloza bakteryjna - czynniki warunkujące wydajność syntezy. *Biuletyn Informacyjny Ośrodka Badawczo-Rozwojowego Przemysłu Płyt Drewnopochodnych w Czarnej Wodzie* 1-2: 19-42 DOI:10.32086/biuletyn.2022.02.
- Bednarczyk D., Betlej I., Boruszewski P. 2022:** Celuloza bakteryjna – zastosowanie. *Biuletyn Informacyjny Ośrodka Badawczo-Rozwojowego Przemysłu Płyt Drewnopochodnych w Czarnej Wodzie*, 1-2: 5-18. DOI:10.32086/biuletyn.2022.01.

2021

- Bednarczyk D., Betlej I., Boruszewski P. 2021:** Celuloza bakteryjna - charakterystyka, synteza, właściwości. *Biuletyn Informacyjny Ośrodka Badawczo-Rozwojowego Przemysłu Płyt Drewnopochodnych w Czarnej Wodzie* 3-4: 122-138
- Laskowska A., Marchwicka M., Trzaska A., Boruszewski P. 2021:** Surface and physical features of thermo-mechanically modified iroko and tauari wood for flooring application. *Coatings* 11, 1528 (IF = 2,881; 5-Year IF = 3,038).
- Betlej I., Salerno-Kochan R., Jankowska A., Krajewski K., Wilkowski J., Rybak K., Nowacka M., Boruszewski P. 2021:** The impact of the mechanical modification of bacterial cellulose films on selected quality parameters. *Coatings* 11, 1275 (IF = 2,881; 5-Year IF = 3,038).
- Małachowska E., Dubowik M., Boruszewski P., Przybysz P. 2021:** Accelerated ageing of paper: effect of lignin content and humidity on tensile properties. *Heritage Science* 9:132 (IF = 2,517; 5-Year IF = 2,56).
- Boruszewski P., Laskowska A., Jankowska A., Klisz M., Mionskowski M. 2021:** Potential Areas in Poland for Forestry Plantation. *Forests* 12, 1360 (IF = 2,633; 5-Year IF = 2,424).
- Betlej I., Boruszewski P., Dubis D., Wilkowski J., Krajewski K. J., Zawadzki J. 2021:** Influence of SCOPY Microorganisms' Cultivation Conditions on the Synthesis Efficiency and Selected Qualities of Bacterial Cellulose. *Bioresources* 16(3): 6147-6158 (IF = 1,614; 5-Year IF = 1,923).
- Betlej I., Zakaria S., Krajewski K., Boruszewski P. 2021:** Bacterial Cellulose - Properties and Its Potential Application. *Sains Malaysiana* 50(2): 493-505 (IF = 1,009; 5-Year IF = 0,95).
- Borysiuk P., Boruszewski P., Auriga R., Danecki L., Auriga A., Rybak K., Nowacka M. 2021:** Influence of a bark-filler on the properties of PLA biocomposites. *Journal of Materials Science* 56: 9196-9208 (IF = 4,22; 5-Year IF = 3,69).

2020

- Małachowska E., Dubowik M., Boruszewski P., Łojewska J., Przybysz P. 2020:** Influence of lignin content in cellulose pulp on paper durability. *Scientific Reports* 10, 19998 (2020) (IF = 4,380; 5-Year IF = 5,134).
- Jankowska A., Rybak K., Nowacka M., Boruszewski P. 2020:** Insight of weathering processes based on monitoring surface characteristic of tropical wood species. *Coatings* 10(9), 877 (IF = 2,881; 5-Year IF = 3,038).
- Grzegorzewska E., Burawska-Kupniewska I., Boruszewski P. 2020:** Economic profitability of particleboards production with a diversified raw material structure. *Maderas-Ciencia y Tecnologia* 22(4) (IF = 1,576; 5-Year IF = 1,938).
- Betlej I., Salerno-Kochan R., Krajewski K.J., Zawadzki J., Boruszewski P. 2020:** The influence of culture medium components on the physical and mechanical properties of cellulose synthesized by Kombucha microorganisms. *Bioresources* 15(2): 3125-3135 (IF = 1,614; 5-Year IF = 1,923).
- Zaraziński K., Boruszewski P. 2020:** Analysis of the influence of particle and poplar fibres share on selected properties of particle-fibre boards. *Annals of Warsaw University of Life Sciences SGGW Forestry and Wood Technology* 112: 22-31
- Pazio B., Boruszewski P. 2020:** Analysis of the influence of larch fibers and particles on selected properties of fiber- and particleboards. *Annals of Warsaw University of Life Sciences SGGW Forestry and Wood Technology* 111: 43-52
- Pawlak D., Boruszewski P. 2020:** Digital printing in wood industry. *Annals of Warsaw University of Life Sciences - SGGW. Forestry and Wood Technology*, 109/2020, 109-115

2019

- Małachowska E., Lipkiewicz A., Niemczyk M., Dubowik M., Boruszewski P., Przybysz P. 2019:** Influences of Fiber and Pulp Properties on Papermaking Ability of Cellulosic Pulps Produced from Alternative Fibrous Raw Materials. *Journal of Natural Fibers*, pp. 1-11, doi:10.1080/15440478.2019.1697994 (IF = 1,252; 5-Year IF = 1,289).
- Przybysz K., Małachowska E., Martyniak D., Boruszewski P., Kalinowska H., Przybysz P. 2019:** Production of Sugar Feedstocks for Fermentation Processes from Selected Fast Growing Grasses. *Energies* 12(16), 3129: 1-12 (IF = 2,707; 5-Year IF = 2,99).
- Przybysz Buzafa K., Kalinowska H., Małachowska E., Boruszewski P., Krajewski K., Przybysz P. 2019:** Effect of lignin content in birch and beech kraft cellulosic pulps on simple sugars yields from enzymatic hydrolysis of cellulose. *Energies* 12(15), 2952: 1-11 (IF = 2,707; 5-Year IF = 2,99).

2018

- Laskowska A., Marchwicka M., Boruszewski P., Wyszyńska J. 2018:** Chemical composition and selected physical properties of oak wood (*Quercus robur* L.) modified by cyclic thermo-mechanical treatment. *Bioresources* 13(4): 9005-9019 (IF = 1,396; 5-Year IF = 1,59).
- Padzil F. N. M., Ariffin H., Zakaria S., Boruszewski P., Krajewski K., Mamiński M. 2018:** Effect of Poplar Cultivar "Hybrid 275" Fiber Impregnation with DMDHEU on the Properties of High Density Fiberboards. *Bioresources* 13(4): 7470-7480 (IF = 1,396; 5-Year IF = 1,59).
- Nowacka M., Rybak K., Wiktor A., Mika A., Boruszewski P., Woch J., Przybysz K., Witrowa-Rajchert D. 2018:** The quality and safety of food contact materials - paper and cardboard coated with paraffin emulsion. *Food Control* 93: 183-190 (IF = 4,248; 5-Year IF = 4,391).
- Jankowska A., Boruszewski P., Drożdżek M, Rębkowski B., Kaczmarczyk A., Skowrońska A. 2018:** The role of extractives and wood anatomy in the wettability and free surface energy of hardwoods. *Bioresources* 13(2): 3082-3097 (IF = 1,396; 5-Year IF = 1,59).
- Przybysz K., Małachowska E., Martyniak D., Boruszewski P., Iłowska J., Kalinowska H., Piotr Przybysz P. 2018:** Yield of Pulp, Dimensional Properties of Fibers, and Properties of Paper Produced from Fast Growing Trees and Grasses. *BioResources* 13(1): 1372-1387 (IF = 1,396; 5-Year IF = 1,59).
- Grzegorzewska E., Boruszewski P. 2018:** Wood raw material and manufacture costs of wood based panels. *Annals of Warsaw University of Life Sciences - SGGW, Forestry and Wood Technology* 104: 390-394.
- Pawlak D., Boruszewski P. 2018:** Influence of addition of microfibrillated cellulose (MFC) on selected properties of low-density particleboard. *Annals of Warsaw University of Life Sciences - SGGW, Forestry and Wood Technology* 102: 139-148.
- Pawlak D., Jencyk-Tołoczko I., Boruszewski P. 2018:** Analysis of selected properties of particleboard modified with *Miscanthus giganteus* JM Greef & Deuter ex Hodk. & Renvoize, *Annals of Warsaw University of Life Sciences - SGGW, Forestry and Wood Technology* 102: 149-156.
- Radziejewicz D., Pawlak D., Bereska B., Boruszewski P. 2018:** Modyfikowane kompozyty warstwowe. *Biuletyn Informacyjny Ośrodka Badawczo-Rozwojowego Przemysłu Płyt Drewnopochodnych w Czarnej Wodzie* 3-4: 102-111.
- Lieber E., Pawlak D., Boruszewski P. 2018:** Analiza wpływu okresu sezonowania płyt wiórowych na ich właściwości mechaniczne. *Biuletyn Informacyjny Ośrodka Badawczo-Rozwojowego Przemysłu Płyt Drewnopochodnych w Czarnej Wodzie* 1-2: 22-33.

2017

- Mirski R., Boruszewski P., Trociński A., Dziurka, D. 2017:** The possibility to use long fibres from fast growing hemp (*Cannabis sativa* L.) for the production of boards for the building and furniture industry. *BioResources* 12(2): 3521-3529 (IF = 1,202; 5-Year IF = 1,59).
- Boruszewski P., Jankowska A., Kurowska A. 2017:** Comparison of the structure of juvenile and mature wood of *Larix decidua* Mill. from fast-growing plantations in Poland. *BioResources* 12(1): 1813-1825 (IF = 1,202; 5-Year IF = 1,59).
- Jaskółowski W., Boruszewski P., Lukaszek-Chmielewska A. 2017:** Analysis and assessment of flammable selected wood based panels received from renewable raw materials at accelerated production system. *Proceedings of the 7th International Conference on Mechanics and Materials in Design (11-15.06.2017, Albufeira, Portugal)*, Editors J.F. Silva Gomes and S.A. Meguid. Publ. INEGI/FEUP.
- Nowacka M., Wiktor A., Rybak K., Boruszewski P., Dadan M., Mika A., Witrowa-Rajchert D. 2017:** Organoleptic assessment and resistance liquid wetting of impregnated packaging paper. *Proceedings of the 31st EFFoST International Conference, Food Science and Technology Challenges for the 21st Century - Research to Progress Society (13-16.11.2017, Sitges, Spain):* P1.146.
- Burawska I., Boruszewski P. 2017:** Research on modified floorboard of higher hardness. Design, application and aesthetics of biobased building materials (28.02-01.03.2017, Sofia, Bulgaria) Publishing House Avangard Prima: 48-49.
- Barlak M., Wilkowski J., Boruszewski P., Zagórski J., Werner Z. 2017:** Influence of electron pulses on roughness and wettability of beech wood surface. *Annals of Warsaw University of Life Sciences - SGGW, Forestry and Wood Technology* 98: 16-19.
- Barlak M., Wilkowski J., Boruszewski P., Werner Z., Pałubicki B. 2017:** Changes of functional properties of material used in wood industry after ion implantation process. *Annals of Warsaw University of Life Sciences - SGGW, Forestry and Wood Technology* 97: 133-139.
- Zborowska M., Waliszewska H., Waliszewska B., Stachowiako-Wencek A., Boruszewski P. 2017:** Changes of chemical structure of populus by acid pre-treatment. *Proceedings of the 2nd Green & Sustainable Chemistry Conference (14-17.05.2017, Berlin, Germany)*.

SUMMARY

Research-implementation activity that is running by Piotr Boruszewski is strictly connected with co-operation with industrial companies. He is the author of many implementation solutions, co-author of application (feasibility study) for starting-up WoodINN Sectoral Program for forestry-wood sector, which has been indicated by the National Center for Research and Development in 2017. Moreover he is an expert of the Ministry of Investment and

Development (formerly Ministry of Development and Ministry of Economy) for substantive evaluation matters within 4.5 Activity - Investments with high importance for the economy support, Innovative Economy Operational Program (POIG), member of opinion committee in the Ministry of Investment and Development (formerly Ministry of Development and Ministry of Economy) and reviewer of dozens of large-budget implementation projects co-financed from EU structural funds, within POIG, moreover he is the author of nearly 100 opinions and sectoral expertise commissioned by: the Ministry of Investment and Development (formerly Ministry of Development and Ministry of Economy), the State Treasury - Public Procurement Office in Warsaw, the Polish Agency for Enterprise Development, the National Information Processing Institute - Research Institute, Warsaw District Court, Polish Jews History Museum, Technical Services Office of Chief Technical Organization of Metropolitan Council, Associations of Foresters and Wood Technologists, national and international companies (Pfleiderer, Swedwood, Swedspan, IKEA Industry and other). In 2017th director of the National Center for Research and Development appointed him for a member of Experts Group for evaluation of the National Center for Research and Development implementations.

His activities have been recognized by authorities for forestry - in 2012 Piotr Boruszewski has been honored with the prestigious Young Active Scientist prize given by Members of Agriculture, Forestry and Veterinary Sciences Faculty of Polish Academy of Science. In 2023, 2019 and 2018 he has been distinguished by HM Rector of Warsaw University of Life Sciences in Warsaw (SGGW) for scientific and didactical achievements, which influence development, promotion and prestige of SGGW significantly (these distinctions are elements of benefit system for the best scientific employees of University). In 2013th Piotr Boruszewski has obtained title of Polish Science Leader, given by the National Center for Research and Development. In 2013th he was a 3rd place laureate for 116 participants list of governmental TOP 500 Innovators Science - Management - Commercialization program, what effected in 9 weeks internship at STANFORD UNIVERSITY and 3 weeks of scientific practice in INFITI AEROSPACE (NASA Ames Research Center - Silicon Valley) company acting at SINGULARITY UNIVERSITY.

He was also a beneficiary of 5 practical internships, increasing commercial potential of scientists, realized within Human Capital Operational Programme (POKL), co-financed from the European Social Fund. Until now Piotr Boruszewski participated in creation of scientific networks and 6 scientific consortiums with wood and construction sector companies as well as with leading research centers in Europe for the needs of research calls. Piotr Boruszewski actively support scientific activities of students, what is proved by the fact that the team he has supported won the first prize in University IV Competition of Scientific Students' Projects. He obtained many distinguishing for didactic activities in recent years. He was a promotor of nearly 100 thesis and assistant promotor of 4 finished PhD thesis. Additionally, Piotr Boruszewski is an active manuscripts reviewer for international journals, e.g.: BioResources, Environmental Entomology, Wood Science and Technology, Journal of Oil Palm Research, Journal of Tropical Forest Science, Composites Part A: Applied Science and Manufacturing, Sains Malaysiana.

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