

Candidate supervisor's information summary form
maximum 2 pages – it should be a summary of most important achievements

Name and surname, degree, title: Adam Ekielski, BEng, PhD, ProfTit	
Discipline/ disciplines of science	Mechanical Engineering
Professional development (degrees and titles) in chronological order	2014 Habilitation in Agricultural Engineering: SGGW-WULS 2001 PhD in Agricultural Engineering: WULS-SGGW 1993 MSc Eng: Warsaw University of Technology. Faculty of Precision Mechanics (Mechatronics)
Most important publications/patens over the last 3 years (maximum 10)	<p>Ekielski, A.; Mishra, P.K. Lignin for Bioeconomy: The Present and Future Role of Technical Lignin. <i>Int. J. Mol. Sci.</i> 2021, 22, 63. <i>Int. J. Mol. Sci.</i> 2021, 22(1), 63; https://doi.org/10.3390/ijms22010063.</p> <p>Ekielski, A.; Żelaziński, T.; Mishra, P.K.; Skudlarski, J. Properties of Biocomposites Produced with Thermoplastic Starch and Digestate: Physicochemical and Mechanical Characteristics. <i>Materials</i> 2021, 14, 6092. https://doi.org/10.3390/ma14206092</p> <p>Vandana Prasad, Lubna Siddiqui, Pawan Kumar Mishra, Adam Ekielski and Sushama Talegaonkar*, "Recent advancements in lignin valorization and biomedical applications: A patent review", <i>Recent Patents on Nanotechnology</i> (2021) 15: 1. Bentham Science Publisher. Print ISSN 1872-2105; Online ISSN 2212-4020</p> <p>Ekielski, A.; Mishra, P.K. Lignin for Bioeconomy: The Present and Future Role of Technical Lignin. <i>Int. J. Mol. Sci.</i> 2021, 22, 63. <i>Int. J. Mol. Sci.</i> 2021, 22(1), 63;</p> <p>Alena Capíková, Daniela Tesařová, Josef Hlavaty, Adam Ekielski, and Pawan Kumar Mishra. GC-FID and Olfactometry-Assisted Assessment of Odors from Polymeric Foams under Normal and Repeated-Use Conditions," <i>Advances in Polymer Technology</i>, vol. 2020, Article ID 4097414, 9 pages, 2020</p> <p>Karol Durczak, Adam Ekielski, Radosław Kozłowski, Tomasz Żelaziński, Krzysztof Pilarski. A computer system supporting agricultural machinery and farm tractor purchase decisions. <i>Heliyon</i>, Volume 6, ISSUE 10, e05039, October 01, 2020.</p> <p>Vishal Sharma, Jyoti Yadav, Raj Kumar, Daniela Tesarova, Adam Ekielski, Pawan Kumar Mishra. On the rapid and non-destructive approach for wood identification using ATR-FTIR spectroscopy and Chemometric methods. <i>Vibrational Spectroscopy</i>. 2020/6/26</p> <p>LubnaSiddiquia, JanmejayaBagb, SeethabDishaMittalc, AnkitaLeekhac. HarshitaMishraa, MonalisaMishrab, Anita K.VermacPawan K.Mishrad, Adam Ekielski, Zeenatlqbala, SushamaTalegaonkar. Assessing the potential of lignin nanoparticles as drug carrier: Synthesis, cytotoxicity and genotoxicity studies. <i>International Journal of Biological Macromolecules</i>. Volume 152, 1 .</p>
Experience in work with doctoral students (defended doctoral	2020-2024: PhD thesis supervisor: Modeling and simulation of a hybrid heating system.

dissertations, doctoral programmes opened) in chronological order	2021-2024: PhD thesis co-supervisor: Micro-encapsulation of probiotic bacteria.
Project/grants achievements (from the last 10 years)	<p>2021-2022: "Innovation Incubator 4.0" Main manager of the task, project title: "Technology of applying to biodegradable materials, waterproof, high-adhesion coatings refined with nanolignin". Years of implementation "2021-2022. MNISW / 2020/358 / DIR</p> <p>2021: Manager of the task: Stage 3 / Task 2, implemented under the competition project 8 / 1.1.1 / 2019 - "Fast path" Heating Devices "" for SMEs under Measure 1.1: R&D projects of enterprises, Sub-measure 1.1.1</p> <p>2020: Manager of the task: Stage 1 / Task no. 2: of the competition implemented under the project 8 / 1.1.1 / 2019 - "Fast path" Heating Devices "" for SMEs under Measure 1.1: R&D projects of enterprises, Sub-measure 1.1.1</p> <p>2020-2021: ULAMA scholarship "Pawan Kumar Mishra": AGREEMENT ON ADMISSION OF A FOREIGN PERSON FOR RESEARCH OR DEVELOPMENT WORK NO. [PPN / ULM / 2019/1/00289 / U / 00001] Years of implementation: 2020-2021.</p> <p>2020-2024: Manager-Supervisor. Implementation doctorate, contract DWD / 4/14/2020, "Modeling and simulation of a heating system powered by biomass, electricity from the grid, from a photovoltaic installation or a solar installation, integrated with a thermal energy storage".</p> <p>2019-2020: Main manager of the task, project title: "Innovation Incubator". Title: "Production technology of deep-pressed biodegradable dishes coated functional coatings".</p> <p>2018-2019: Main manager of the task, project: "Innovation Incubator". Title: "Starch basis functional layers uses for the modern packagins". WULS grant</p> <p>2017 - 2018: Main Project Leader, Hardis Interreg Project, Czech-Austria project, ATCZ21. "Mechanical disintegration of hardwood". Funding program: Interreg V-A Austria-Czech Republic 2014-2020</p>
Topic – research problem – for which the candidate supervisor seeks a doctoral student	<ol style="list-style-type: none"> 1. Metrological and mechanical properties of UV biosensors obtained from lignin. 2. Construction of a model of dynamic deformation of biocomposite shells. 3. Influence of the type of solvent on the electrical conductivity and mechanical properties of lignosulfonate coatings. 4. Development of a model for the absorption of plastic microparticles by lignocellulosic structures.
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