

Candidate supervisor's information summary form

Name and surname, degree, title: : Katarzyna Dziendzikowska, dr hab.	
Scientific discipline/ disciplines	Food Technology and Nutrition
Professional development (degrees and titles) in chronological order	2014 - PhD of agricultural sciences, discipline: food technology and nutrition 2023 - habilitated doctor of agricultural sciences, discipline: food technology and nutrition
Most important publications/ patents in the last 3 years (maximum 10)	<ol style="list-style-type: none"> 1. Kopiasz Ł., Dziendzikowska K., Oczkowski M., Harasym J., Gromadzka-Ostrowska J. (2024). Low-molar-mass oat beta-glucan impacts autophagy and apoptosis in early stages of induced colorectal carcinogenesis in rats. <i>International Journal of Biological Macromolecules</i>, 254(Pt 2):127832. 2. Oczkowski M, Wilczak J, Dziendzikowska K, Øvrevik J, Myhre O, Lankoff A, Kruszewski M, Gromadzka-Ostrowska J.(2022). Dietary Intervention with Blackcurrant Pomace Protects Rats from Testicular Oxidative Stress Induced by Exposition to Biodiesel Exhaust. <i>Antioxidants</i>, 11, 1562. 3. Kopiasz Ł, Dziendzikowska K, Gromadzka-Ostrowska J. (2022). Colon expression of chemokines and their receptors depending on the stage of colitis and oat beta-glucan dietary intervention-Crohn's disease model study. <i>International Journal of Molecular Sciences</i>, 23(3): 1406. 4. Dziendzikowska K, Wilczak J, Grodzicki W, Gromadzka-Ostrowska J, Węsierska M, Kruszewskim M. (2022). Coating-Dependent Neurotoxicity of Silver Nanoparticles—An In Vivo Study on Hippocampal Oxidative Stress and Neurosteroids. <i>International Journal of Molecular Sciences</i>, 23(3), 1365. 5. Dziendzikowska K., Węsierska M., Gromadzka-Ostrowska J., Wilczak J., Oczkowski M., Męczyńska-Wielgosz S., Kruszewski M. (2021). Silver Nanoparticles Impair Cognitive Functions and Modify the Hippocampal Level of Neurotransmitters in a Coating-Dependent Manner. <i>International Journal of Molecular Sciences</i>, 22(23), 12706. 6. Grodzicki W., Dziendzikowska K., Gromadzka-Ostrowska J., Kruszewski M. (2021). Nanoplastic Impact on the Gut-Brain Axis: Current Knowledge and Future Directions. <i>International Journal of Molecular Sciences</i>, 22(23), 12795. 7. Żyła E., Dziendzikowska K., Kamola D., Wilczak J., Sapieryński R., Harasym J., Gromadzka-Ostrowska J. (2021) Anti-Inflammatory Activity of Oat Beta-Glucans in a Crohn's Disease Model: Time- and Molar Mass-Dependent Effects. <i>International Journal of Molecular Sciences</i>, 22(9), 4485. 8. Oczkowski M., Dziendzikowska K., Pasternak-Winiarska A., Włodarek D., Gromadzka-Ostrowska J. (2021). Dietary Factors and Prostate Cancer Development, Progression, and Reduction. <i>Nutrients</i>, 13(2), 496. 9. Kopiasz Ł., Dziendzikowska K., Gajewska M., Oczkowski M., Majchrzak-Kuligowska K., Królikowski T., Gromadzka-Ostrowska J. (2021) Effects of Dietary Oat Beta-Glucans on Colon Apoptosis and Autophagy through TLRs and Dectin-1 Signaling Pathways—Crohn's Disease Model Study. <i>Nutrients</i> 2021, 13, 321. 10. Grodzicki W., Dziendzikowska K. (2020). The Role of Selected Bioactive Compounds in the Prevention of Alzheimer's Disease. <i>Antioxidants</i>, 9(3), 229.
Experience in work with doctoral students (defended doctoral	Defended doctoral dissertations (Co-Supervisor):

<p>dissertations, initiated doctoral programmes/procedures) in chronological order</p>	<p>1. "Effect of oat beta-glucans on the course of inflammation of the large intestine"; 15-10-2021; 2. "Mechanisms of action of oat β-D-glucan on Crohn's disease and early stages of colon carcinogenesis – <i>in vivo</i> model studies"; 15-03-2024</p> <p>Initiated doctoral programmes (Co-Supervisor):</p> <p>" Nanoplastic toxicity: effect on gut-brain axis", 4th year of the Doctoral School at SGGW in Warsaw</p> <p>"The impact of oat beta-glucans on the metabolism of the large intestine and the profile of the gut microbiota in Crohn's disease (preclinical model studies).", 2nd year of the Doctoral School at SGGW in Warsaw</p>
<p>Project/grants achievements (in the last 10 years)</p>	<p>1. Project leader at SGGW for NCN OPUS 18, " Nanoplastic toxicity: effect on gut-brain axis" (no. 2019/35/B/NZ7/04133); 2020-2024.</p> <p>2. Principal Investigator in NCN Miniatura I "Assessment of the neurotoxicity of silver nanoparticles with special consideration of their impact on steroid metabolism in the hippocampus" (DEC-2017/01/X/NZ7/00648); 2017-2018.</p> <p>Participation in research projects:</p> <p>1. NCN OPUS 24 project, " Effects of beta-glucan from oats in Crohn's disease - a preclinical study " (no. 2022/47/B/NZ9/03123); 2023-2026 – researcher.</p> <p>2. NCN OPUS 15 project " Mechanisms of action of 1-3,1-4-beta-D-glucan from oat in the early stage of colon carcinogenesis" (no. 2018/29/B/NZ9/01060); 2019-2024 – researcher.</p> <p>3. Research Council of Norway project, "Preventive measures to reduce the adverse health impact of traffic-related air pollution" (PreventTAP) (no. 260381/H10); 2017-2022 – researcher.</p> <p>4. NCN OPUS 9 project " The effect of soluble oat beta-glucan on non-specific colon inflammation" (no. 2015/17/B/NZ9/01740); 2016-2020 – researcher.</p> <p>5. NCBiR project, Polish-Norwegian Research Program, "Green fuels and human health – toxicity of engine emissions from 1st and 2nd generation biodiesel fuels" (FuelHealth) (no. Pol-Nor/201040/72/2013) 2013-2017 – researcher.</p> <p>6. MNiSZW project "The impact of oat beta-glucans on the inflammatory process in the gastrointestinal tract" (no. NN312427440); 2011-2014 – researcher.</p>
<p>Topic – research problem – for which the candidate supervisor seeks a doctoral student</p>	<p>The analysis of therapeutic mechanisms of action of oat beta-glucan (studies on <i>in vitro</i> models). Oat beta-glucan is a polysaccharide belonging to the soluble fraction of dietary fiber, which, thanks to its specific structure, exhibits a range of health-promoting properties, including immunomodulatory, anticancer, and anti-inflammatory actions. The mechanisms by which oat beta-glucan molecules impact cells are still not fully explained, which will be the subject of the doctoral research.</p>
<p><u>Contact details:</u> Institute E-mail address Tel.</p>	<p>Katarzyna Dziendzikowska Institute of Human Nutrition Sciences katarzyna_dziendzikowska@sggw.edu.pl +48 22 593 70 33</p>