Candidate supervisor's information summary form

Name and surname, degree, title: **Marek Kieliszek, Dr hab. inż. (Ph.D DSc. Eng)**	
Discipline/ disciplines of science	food and nutrition technology
Professional development (degrees and titles) in chronological order	**05.07.2019** Habilitation, Institute of Food Sciences (previously: Faculty of Food Sciences), Warsaw University of Life Sciences **12.06.2015** Doctor of Engineering, Institute of Food Sciences (previously: Faculty of Food Sciences), Warsaw University of Life Sciences **12.06.2009** Postgraduate studies, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Molecular Biology
Most important publications/patens over the last 3 years (maximum 10)	**Kieliszek M**., Dourou M. (2021) Effect of selenium on the growth and lipid accumulation of *Yarrowia lipolytica* yeast. Biological Trace Element Research, 199(4), 1611-1622. **Kieliszek M**., Kot A. M., Piwowarek K., Błażejak S. (2020) Accumulation of selenium in *Candida utilis* growing in media of increasing concentration of this element. Applied Sciences, 10(4), 1439. **Kieliszek M**. (2019) Selenium–fascinating microelement, properties and sources in food. Molecules, 24(7),1298. **Kieliszek M**., Błażejak S., Bzducha-Wróbel A., Kot A. M. (2019) Effect of selenium on lipid and amino acid metabolism in yeast cells. Biological Trace Element Research, 187, 316–327. **Kieliszek M**., Błażejak S., Bzducha-Wróbel A., Kot A. M. (2019) Effect of selenium on growth and antioxidative system of yeast cells. Molecular Biology Reports 46, 1797–1808. **Kieliszek M**., Błażejak S., Piwowarek K., Brzezicka K. (2018) Equilibrium modeling of selenium binding from aqueous solutions by *Candida utilis* ATCC 9950 yeasts. 3 Biotech, 8, 388. **Kieliszek M**., Lipinski B. (2018) Pathophysiological significance of protein hydrophobic interactions: an emerging hypothesis. Medical Hypotheses, 110, 15–22. **Kieliszek M**., Piwowarek K., Kot A. M., Błażejak S., Chlebowska-Śmigiel A., Wolska I. (2018) Pollen and bee bread as new health-oriented products: a review. Trends in Food Science and Technology, 71, 170–180. **Kieliszek M**., Błażejak S. (2018) Speciation analysis of selenium in *Candida utilis* yeast cells using HPLC-ICP-MS and UHPLC-ESI-Orbitrap MS techniques. Applied Sciences, 8, 2050. **Kieliszek M**., Błażejak S., & Kurek E. (2017) Binding and conversion of selenium in *Candida utilis* ATCC 9950 yeasts in bioreactor culture. Molecules, 22(3), 352.
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	-
Project/grants achievements (from the last 10 years)	Project Miniatura 2017/01/X/NZ9 / 00339 (12/09/2017-11/10/2018), National Science Center, "The influence of selenium on the assessment of the activity of the antioxidant system of yeast cells", manager. Project 505-10-092800-Q00349-99 (2018-2019), "Proteomic analysis of selenium proteins isolated from yeast strains", leader. Project, "Glu-Can-Technology for the production of functional preparations with a high content of (1,3)/(1,6) -glucan of the yeast Candida utilis with

	mycotoxin binding properties", contractor. Project 505-10-092800-N00287-99 (2016-2017), "Studies on bioaccumulation of selenium from Na2SeO3 aqueous solutions by Candida utilis ATCC 9950 yeast with the use of glycerol and waste potato juice as components of the culture medium", supervisor. Project 510-01-ZM-02 (2014), "Production of extracellular proteolytic enzymes by selected strains of Lactobacillus bacteria depending on the source of nitrogen in the medium and the use of experimental statistics", leader. Project 500-01-ZM-04 (2014), "Assessment of the suitability of lactic acid bacteria and yeast strains for the production of a health-promoting product - bee-seed", leader. Project 505-10-092800-A-01135-99 (2012-2013), "Studies on the bioaccumulation of selenium ions by the cell biomass of the feed yeast Candida utilis ATCC 9950", principal investigator. OPI project, UDA-POIG.01.03.02-00-011/10 (2011-2015), "Patent protection of the invention concerning a yeast strain and the method of obtaining a dried preparation of this yeast, guaranteeing the preservation of technological features enabling the fermentation of (honey) wort with high sugar concentrations ", contractor. OPI project, UDA-POIG.01.03.02-00-014/10 (2011-2015), "Patent protection for an invention concerning strains and a method of obtaining a health-promoting product based on pollen and bee honey", contractor. Targeted project, No. 6 ZR9 2009C/07327, contract number: 04564/C.ZR9-6/2010 (2010-2011), National Center for Research and Development, "Development of technology and implementation for the production of microbial transglutaminase for the food industry", contractor .
Topic – research problem – for which the candidate supervisor seeks a doctoral student	1. Studies on the influence of selenium on physiological functions and metabolic processes of lipolytic yeast cells 2. Optimization of the production of transglutaminase by microorganisms in variable breeding conditions 3. The influence of selenium and anhydrobiosis on the physiological activity of yeast cells 4. Studies on the toxicity and mutagenicity of selenium compounds in various groups of yeasts
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