

Name and surname:	Filip Boratyński
Academic Degree:	dr hab. inż. (DSc.)
Institute/Department:	Department of Food Chemistry and Biocatalysis
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ORCID:	0000-0002-3216-9527
UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr87f8e85cba4849a084d427972c2a675d&affil=&lang=pl
Researchgate:	https://www.researchgate.net/profile/Filip-Boratynski
Personal website / Working group website:	https://upwr.edu.pl/en/research/leading-research-group/biocatalysis-and-biological-activity-bioactiv
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. Research project "Unlocking Bioactivity of Forest Plants Associated Mycobiome as Sources of Novel Carotenoids and other BioPigments: Intensifying their Potential using Nanotechnology", National Centre of Science (NCN), POLONEZ BIS 1 programme, 2021/43/P/NZ9/02241, 2022 – 2024 (project mentor). 2. Research project „Development of efficient and sustainable enzymatic methods for the oxidative cleavage of alkenes”, NAWA, Bekker programme, PPN/BEK/2018/1/00181 2019 – 2020 (PI, project manager).
Do you plan to engage support of second supervisor or auxiliary supervisor?	YES
	Second supervisor (from other discipline, Polish or international research unit)
Name and surname:	El Sayed Ramadan El Sayed Ali
Academic Degree:	dr hab. (Dr. Sc.)
Faculty, Institute/Department:	1. Department of Food Chemistry and Biocatalysis, UPWr2. Plant Research Department, Nuclear Research Centre, Egyptian Atomic Energy Authority
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ORCID:	0000-0001-7867-3801
UPWr Base of Knowledge - link or most important publications from last 3 year (JCR) / patents from last 3 years (maximum 5):	1. El-Sayed ER, Gach J, Olejniczak T, Boratyński F (2022) A new endophyte <i>Monascus ruber</i> SRZ112 as an efficient production platform of natural pigments using agro-industrial wastes. <i>Scientific Reports</i> . https://doi.org/10.1038/s41598-022-16269-1 ; 2. El-Sayed ER, Mousa SA, Mahmoud SR, Abo El-Seoud MA, Elmehalawy AA, Abdou DAM (2022). Exploiting the Exceptional Biosynthetic Potency of the Endophytic <i>Aspergillus terreus</i> in Enhancing Production of Co ₃ O ₄ , CuO, Fe ₃ O ₄ , NiO, and ZnO Nanoparticles Using Bioprocess Optimization and Gamma Irradiation. <i>Saudi Journal of Biological Sciences</i> . https://doi.org/10.1016/j.sjbs.2021.12.019 ; 3. Amira G. Zaki, El-Sayed ER (2021). New and Potent Production Platform of the Acetylcholinesterase Inhibitor Huperzine A by Gamma-Irradiated <i>Alternaria brassicae</i> Under Solid-State Fermentation. <i>Applied Microbiology and Biotechnology</i> . https://doi.org/10.1007/s00253-021-11678-0 ; 4. Mousa SA, El-Sayed ER, Mahmoud SR, Abo El-Seoud MA, Elmehalawy AA, Abdou DAM (2021) Novel mycosynthesis of Co ₃ O ₄ , CuO, Fe ₃ O ₄ , NiO, and ZnO nanoparticles by the endophytic <i>Aspergillus terreus</i> and evaluation of their antioxidant and antimicrobial activities. <i>Applied Microbiology and Biotechnology</i> . https://doi.org/10.1007/s00253-020-11046-4 ; 5. El-Sayed R. El-Sayed, Doaa S. Mansour, Reham M. Morsi, Hanan A. Abd Elmonem (2023) Gamma irradiation mediated production improvement of some myco-fabricated nanoparticles and exploring their wound healing, anti-inflammatory and acetylcholinesterase inhibitory potentials. <i>Scientific Reports</i> . https://www.nature.com/articles/s41598-023-28670-5
Researchgate:	https://www.researchgate.net/profile/El-Sayed-El-Sayed-3
Personal website / Working group website:	https://bioexplor.eu
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. Research project "Unlocking Bioactivity of Forest Plants Associated Mycobiome as Sources of Novel Carotenoids and other BioPigments: Intensifying their Potential using Nanotechnology", National Centre of Science (NCN), POLONEZ BIS 1 programme, 2021/43/P/NZ9/02241, 11.2022 – 10.2024 (PI, project manager).
PhD topic:	Bioprospecting Endophytic Fungi of some Medicinal Plants for Natural Bioactive Compounds
Research discipline in Doctoral School:	Biotechnology

<p>Short description of the research problem to be solved in the PhD (minimum 1000 characters):</p>	<p>Natural bioactive compounds are considered the cornerstone in the development of high-value products. Their bioactivity has supported their applications in medicine, agriculture, and the food industry. The search for new bioactive compounds and the study of their potential biological activities has emerged as one of the most promising and ambitious developments in science. For example, there is a continuous need for new antibiotics due to the emergence of resistant microbes, and a global need for other drugs to target unmet clinical needs for a range of diseases. Hence, new natural compounds must be identified and developed now, more than ever, to meet this urgent and growing demand for novel drugs. The utilization of microbial communities, especially fungi, has several advantages which rendered it more robust than other strategies. For instance, the culture medium for fungal growth and metabolism is relatively cheap and simple. Today, the bioprospecting research still needs much attention because few products from it are available in the pharmaceutical market. Thus, the research proposal aims in to unfold the untapped potential of endophytic fungi of some medicinal plants in Poland species as sources for new bioactive compounds.</p>
<p>Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):</p>	<p>Professional skills of PhD candidate:</p> <ol style="list-style-type: none"> 1. Experience in cultivation of microorganisms. 2. Familiarity of various extraction and purification techniques such as thin-layer and column chromatography. 3. Experience in chromatography methods such as HPLC, GC and spectroscopic methods such as NMR. 4. In vitro bioassays. 5. MSc in Agricultural or Biological or Biotechnology or Chemical sciences. 6. Publication of at least 1 research paper in a JCR indexed journal. 7. English skills at the level min. B2.
<p>a) Project title:</p>	<p>0</p>
<p>b) Agreement number:</p>	<p>0</p>
<p>c) Number of months in the project to support PhD student (in months; starting from 1st of October 2024):</p>	<p>0</p>
<p>Project website:</p>	<p></p>