



ACADEMIC TEACHER PROFESSIONAL EXPERIENCE

DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. Basic information

Name, surname:	Izabela Pawlaczyk-Graja
Grade / Title:	PhD, DSc, Eng, Assoc. Prof.
Scientific discipline	inżynieria chemiczna / chemical engineering
Faculty:	W3 Wydział Chemiczny / Faculty of Chemistry
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Link to home page and/or research profiles (Google Scholar, ResearchGate, etc.)	https://www.researchgate.net/profile/Izabela-Pawlaczyk-Graja

2. Publication record

Up to 10 most important papers published over the period of previous 10 years.

No.	Description (authors, publication title, journal / conference, DOI)	Publication year
1.	Marta Tsirigotis-Maniecka, Ewa Zaczyńska, Anna Czarny, Piotr Jadczyk, Barbara Umińska-Wasiluk, Roman Gancarz, Izabela Pawlaczyk-Graja , <i>Antioxidant and protective effects of the polyphenolic glycoconjugate from Agrimonia eupatoria L. herb in the prevention of inflammation in human cells.</i> (2023), Journal of Functional Biomaterials, 14(4), 182, s. 1-16, ISSN: 2079-4983 DOI 10.3390/jfb14040182	2023
2.	Martina Šutovská, Michaela Kocmálová, Jozef Mažerik, Izabela Pawlaczyk-Graja , Roman Gancarz, Peter Capek, <i>Chemical characteristics and significant antitussive effect of the Erigeron canadensis polyphenolic polysaccharide-protein complex.</i> (2022), Journal of Ethnopharmacology, 284, 114754, s. 1-8, ISSN: 0378-8741/1872-7573 DOI 10.1016/j.jep.2021.114754	2022
3.	Izabela Pawlaczyk-Graja , Sebastian J. Balicki, Rafał Ziewiecki, Peter Capek, Mária Matulová, Kazimiera Wilk, <i>New isolation process for bioactive food fiber from wild strawberry leaf.</i> (2020), Biochemical Engineering Journal, 161, 107639, s. 1-10. ISSN: 1369-703X/1873-295X DOI 10.1016/j.bej.2020.107639	2020
4.	Sebastian J. Balicki, Izabela Pawlaczyk-Graja , Roman Gancarz, Peter Capek, Kazimiera Wilk, <i>Optimization of ultrasound-assisted extraction of functional food fiber from Canadian horseweed (Erigeron canadensis L.).</i> (2020), ACS Omega, 5(33), s. 20854-20862. ISSN: 2470-1343 DOI 10.1016/j.bej.2020.107639	2020
5.	Izabela Pawlaczyk-Graja , Sebastian J. Balicki, Kazimiera Wilk, <i>Effect of various extraction methods on the structure of polyphenolic-polysaccharide conjugates from Fragaria vesca L. leaf.</i> (2019), International Journal of Biological Macromolecules, 130, s. 664-674. ISSN: 0141-8130 DOI 10.1016/j.ijbiomac.2019.03.013	2019
6.	Marta Tsirigotis-Maniecka, Izabela Pawlaczyk-Graja , Rafał Ziewiecki, Sebastian J. Balicki, Mária Matulová, Peter Capek, Franciszek Czechowski,	2019



	Roman Gancarz, <i>The polyphenolic-polysaccharide complex of Agrimonia eupatoria L. as an indirect thrombin inhibitor - isolation and chemical characterization.</i> (2019), International Journal of Biological Macromolecules, 125, s. 124-132. ISSN: 0141-8130 DOI 10.1016/j.ijbiomac.2018.12.017	
7.	Izabela Pawlaczyk-Graja , <i>Polyphenolic-polysaccharide conjugates from flowers and fruits of single-seeded hawthorn (Crataegus monogyna Jacq.): Chemical profiles and mechanisms of anticoagulant activity.</i> (2018), International Journal of Biological Macromolecules, 116, s. 869-879. ISSN: 0141-8130 DOI 10.1016/j.ijbiomac.2018.05.101	2018
8.	Michał Gaworski, Sławomir J. Jabłoński, Izabela Pawlaczyk-Graja , Rafał Ziewiecki, Piotr Rutkowski, Anna Wieczńska, Roman Gancarz, Marcin Łukaszewicz, <i>Enhancing biogas plant production using pig manure and corn silage by adding wheat straw processed with liquid hot water and steam explosion</i> (2017), Biotechnology for Biofuels, 10(1), 259, 1-13. ISSN: 1754-6834 DOI 10.1186/s13068-017-0922-x	2017
9.	Joanna Kołodziejczyk-Czepas, Michał Bijak, Joanna Saluk-Juszczak, Michał Ponczek, Halina M. Zbikowska, Paweł Nowak, Marta Tsirigotis-Maniecka, Izabela Pawlaczyk , <i>Radical scavenging and antioxidant effects of Matricaria chamomilla polyphenolic-polysaccharide conjugates.</i> (2015), International Journal of Biological Macromolecules, 72, s. 1152-1158. ISSN: 0141-8130 DOI 10.1016/j.ijbiomac.2014.09.032	2015
10.	Michał Bijak, Rafał Ziewiecki, Joanna Saluk-Juszczak, Michał Ponczek, Izabela Pawlaczyk , Hubert Krotkiewski, Barbara Wachowicz, P. A. Nowak, <i>Thrombin inhibitory activity of some polyphenolic compounds.</i> (2014), Medicinal Chemistry Research, 23(5), s. 2324-2337. ISSN: 1054-2523 DOI 10.1007/s00044-013-0829-4	2014

3. Projects and grants

List of the most important 5 projects/grants with basic description including: title, source(s) of funding, name of the call, role in the project (e.g., principal investigator).

1.	Role in the project (e.g., principal investigator, work package leader, etc.)	principal investigator
	Project title	Wieloskalowa analiza wpływu parametrów technologicznych procesu ekstrakcji z zastosowaniem naturalnych mieszanin głęboko eutektycznych na właściwości pektyn z wyłoków owocowych.
	Sources of funding	NCN
	Name of the call	Preludium BIS-2, 2020/39/O/ST8/03514
	Implementation period	10.2021-09.2025
2.	Role in the project (e.g., principal investigator, work package leader, etc.)	work package leader, Task 17
	Project title	WROVASC - Integrated Cardiovascular Center
	Sources of funding	European Fund, POIG



	Name of the call	The indicative project in frame of POIG, project No. 01.01.02-02-001/08-03
	Implementation period	12.2008-09.2015
3.	Role in the project (e.g., principal investigator, work package leader, etc.)	principal investigator
	Project title	An agent with anticoagulant properties against blood plasma obtained from the herb of the common wild strawberry by an ultrasound-assisted process.
	Sources of funding	of Wrocław Center for Biotechnology - the Leading National Research Center – KNOW (2014-2018)
	Name of the call	418/2016/KNOW
	Implementation period	06.2016-09.2018
4.	Role in the project (e.g., principal investigator, work package leader, etc.)	principal investigator
	Project title	Natural antioxidant compounds obtained from medicinal plants.
	Sources of funding	Innovation Incubator +, the European Regional Development Fund under the program of the Ministry of Science and Higher Education
	Name of the call	Project No. 0/0180/0511/2018
	Implementation period	07.2018-01.2019
5.	Role in the project (e.g., principal investigator, work package leader, etc.)	work package leader
	Project title	Projekt bilateralny w ramach Programu Wykonawczego na lata 2013-2014 dotyczący współpracy międzynarodowej z Republiką Słowacką
	Sources of funding	the Ministry of Science and Higher Education
	Name of the call	SK-PL-12/8914/2013
	Implementation period	01.2013-12.2014

4. International experience

Brief description of international cooperation and experience (e.g., research stays, cooperation with foreign entities, coordination or participation in international projects or programmes, keynote speeches and presentations delivered at renowned international conferences, visiting professor stays, invited lectures).

No.	Description	Year(s)
1.	Long-term postdoctoral fellowship, postdoctoral fellowship of the National Scholarship Program of the Slovak Republic. Institute of Chemistry, Slovak Academy of Sciences in Bratislava, Slovakia; scientific supervision: dr Peter Capek, prof. Igor Tvaroška.	2009
2.	Short-term postdoctoral fellowship, Bilateral project under the Executive Program for 2010-2011 on international cooperation with the Slovak Republic no. SK-PL-0045-09 / 7992/2010. Institute of Chemistry, Slovak Academy of Sciences in Bratislava, Slovakia	2010
3.	Short-term postdoctoral fellowship, Bilateral project under the Executive Program for 2010-2011 on international cooperation with the Slovak	2011



	Republic no. SK-PL-0045-09 / 7992/2010. Institute of Chemistry, Slovak Academy of Sciences in Bratislava, Slovakia	
4.	Short-term postdoctoral fellowship, Bilateral project under the Executive Program for 2013-2014 on international cooperation with the Slovak Republic no. SK-PL-12/8914/2013. Institute of Chemistry, Slovak Academy of Sciences in Bratislava, Slovakia	2013
5.	Short-term postdoctoral fellowship, Bilateral project under the Executive Program for 2013-2014 on international cooperation with the Slovak Republic no. SK-PL-12/8914/2013. Institute of Chemistry, Slovak Academy of Sciences in Bratislava, Slovakia	2014
6.	I. Pawlaczyk-Graja , R. Ziewiecki, S. Balicki, P. Capek, R. Gancarz, speech titled „Glycoconjugates of the selected medicinal plants with anticoagulant activity mediated by antithrombin or heparin cofactor II”, 19th European Carbohydrate Symposium (19 EUROCARB), Barcelona, Spain	2017
7.	I. Pawlaczyk-Graja , lecture "Environment-friendly emerging techniques in separation and purification of pectins and hemicelluloses"., X Kongres Technologii Chemicznej, Wrocław, Poland	2022
8.	I. Pawlaczyk-Graja , speech titled "Environment-friendly techniques in isolation of pectin conjugates from <i>Fragaria vesca</i> L. Leaf", 18th International Conference on Polysaccharides and Glycoscience (ICPG), Prague, Czech Republic	2022
9.	I. Pawlaczyk-Graja , speech titled "Pectins from blackcurrant fruit pomace extraction by Natural Deep Eutectic Solvents (NADES)", 19th International Conference on Polysaccharides and Glycoscience (ICPG), Prague, Czech Republic	2023
10.	The collaboration with the research group of the Laboratory of Bioactive Substances - Plovdiv, the Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences (IOCCP, BAS) represented by Assoc. Prof. Yordan Nikolaev Georgiev, PhD (Scopus no 57191257065).	2023 - till now
11.	The collaboration with the research group of the Department of Carbohydrates and Cereals, Faculty of Food and Biochemical Technology, University of Chemistry and Technology, Prague (DCC, UCT Prague). The representative of the Laboratory of Chocolate and Confectionery Technology - Assist. Prof. Roman Bleha, PhD (Scopus no 55534623100).	2023 – till now
12.	The collaboration with the research group of the Institute of Chemistry, the Slovak Academy of Sciences in Bratislava, Slovakia, with the research group leader - Peter Capek, PhD (Scopus no 7005404941).	2009 – till now

5. Experience in teaching doctoral students

Brief description of experience in teaching doctoral students (e.g., courses in doctoral schools and PhD studies, summer/winter schools for doctoral students, tutorials, trainings, etc.).

No.	Description	Year(s)
1.	Zastosowanie metod spektroskopowych w chemii strukturalnej	2019/2020 2020/2021
2.	Biorefineries in sustainable development	2020/2021
3.	Recent research trends in chemical engineering	2021/2022 2022/2023 2023/2024



6. List of supervised doctoral students

List of all supervised doctoral students that defended the PhD including: name of the student, dissertation title, year of awarding PhD.

No.	Name, surname	Dissertation title	Year of awarding PhD
1.	Ewa Górska	Multiscale analysis of the influence of technological parameters of the natural deep eutectic solvents extraction process on the properties of the fruit pomace pectins.	planned on 2025
2.	Aleksandra Mazurek-Hołys	Dietary fiber polysaccharides from carrot root pomace - development of the extraction process using sustainable development methods.	planned on 2025

7. Prizes and awards

The most important national and international prizes and awards related to research, development and teaching activities.

No.	Description	Year
1.	Award of the Rector of WUST for the activity as the deputy chairman of the discipline of chemical engineering.	2022
2.	Award of the Rector of WUST for the scientific achievement: 'Polyphenolic-polysaccharide conjugates from raw herbal sources with pro-health potential'.	2021
3.	Silver medal in the "Industry" category received at the 11th International Trade Fair for Inventions and Innovations INTARG (20-21.06.2018), International Congress Center, Katowice. The scale of the event: over 200 inventions and 95 exhibitors from 14 countries.	2018
4.	Bronze Medal for Long Service, awarding body: Prime Minister of Poland	2018
5.	Award of the Rector of WUT for the doctoral dissertation.	2007
6.	Award of the Rector of WUT for inventions submitted to the Polish Patent Office for protection in the category of inventions aimed at improving human health. 4th University Inventive Competition	2006

8. Other significant achievements

Information on other significant achievements related to research, development and teaching activities.

Other significant achievements related to research, development and teaching activities:

2021 - plenipotentiary of the Dean of the Faculty of Chemistry of the Wr. University of Technology to the contacts with Wrocław Technology Park S. A. and the NutriBioMed Cluster
2019 - deputy chair of the Scientific Discipline of Chemical Engineering at WUST
2017 – 2024 expert in the Lower Silesian Regional Development Agency S. A.
2016 co-founder of the specialty "Technology of Fine Chemicals" Faculty of Chemistry, WUT
2006 co-founder of the "Medicinal Chemistry" specialty, which is still in operation second-cycle studies at the Faculty of Chemistry, WUT



Patents:

1. I. Pawlaczyk, R. Gancarz, L. Czerchawski, Z. Kawala, Patent no PL 198837 (2008), patent appl. no P 351697, 14.01.2002
2. R. Gancarz, I. Pawlaczyk, L. Czerchawski, Patent no PL 211520 (2012), patent appl. no P 380474, 21.08.2006
3. R. Gancarz, I. Pawlaczyk, H. Kleszczyńska, Patent no PL 216635 (2014), patent appl. no P 382973, 23.07.2007
4. R. Gancarz, I. Pawlaczyk, L. Czerchawski, Patent no PL 226269 (2017), patent appl. no P 392257, 27.08.2010
5. I. Pawlaczyk-Graja, M. Tsirigotis-Maniecka, Patent no PL 230337 (2018), patent appl. no P 413885, 09.09.2015
6. H. Żbikowska, J. Saluk, I. Pawlaczyk-Graja, M. Szejka, Patent no PL 233306 (2019), patent appl. no P 412248, 06.05.2015
7. I. Pawlaczyk-Graja, Patent no PL 236149 (2020), patent appl. no P 413886, 09.09.2015

Industrial implementations:

"Technology for obtaining health-promoting components of plant origin as ingredients of functional drinks." I. Pawlaczyk-Graja (90%), Kazimiera A. Wilk (10%) Technology registered at PWr. as Know-How no. 14/PK/2019 of July 10, 2019. License sold.

"Method of qualitative and quantitative evaluation of imine derivatives of saccharides, on the example of -deoxynojirimycin (1-DNJ), by gas chromatography with mass spectrometry (GC-MS)." I. Pawlaczyk-Graja (100%). Technology registered at PWr. as Know-How no. 1/PK/2022 of January 28, 2022. License sold.