



ACADEMIC TEACHER PROFESSIONAL EXPERIENCE

DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. Basic information

Name, surname:	Karolina Labus
Grade / Title:	PhD
Scientific discipline	inżynieria chemiczna / chemical engineering
Faculty:	W3 Wydział Chemiczny / Faculty of Chemistry
Email address:	Karolina.labus@pwr.edu.pl
Link to home page and/or research profiles (Google Scholar, ResearchGate, etc.)	https://wch.pwr.edu.pl/pracownicy/karolina-labus https://www.researchgate.net/profile/Karolina-Labus

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.	Justyna M. Rogacka, Karolina T. Labus. Metal–organic frameworks as highly effective platforms for enzyme immobilization–current developments and future perspectives. Brazilian Journal of Chemical Engineering. 2024, s. 1-29. DOI: 10.1007/s43153-024-00513-4	2024
2.	Karolina T. Labus*, Halina Maniak, Katarzyna Kołodzińska, Łukasz Radosiński: Biobased hydrogels as functional platforms for biocatalysis, nutrition and medical applications. Chemical and Process Engineering: New Frontiers. 2024, vol. 45, nr 1, art. e49, s. 1-17. DOI: 10.24425/cpe.2023.147408	2024
3.	Karolina T. Labus*, Halina A. Maniak: Colourimetric plate assays based on functionalized gelatine hydrogel useful for various screening purposes in enzymology, International Journal of Molecular Sciences. 2023, vol. 24, nr 1, art. 33, s. 1-19. DOI: 10.3390/ijms24010033	2023
4.	Postimmobilization treatments before applications. W: Biocatalyst immobilization : foundations and applications / ed. Maria Lujan Ferreira. London [i in. : Elsevier : Academic Presss, cop. 2023. s. 55-85. (Foundations and Frontiers in Enzymology Series)	2023
5.	Kimberle Paiva dos Santos, Nathália S. Rios, Karolina T. Labus, Luciana R. B. Goncalves*: Co-immobilization of lipase and laccase on agarose-based supports via layer-by-layer strategy: effect of diffusional limitations; Biochemical Engineering Journal. 2022, vol. 185, art. 108533, s. 1-10. DOI: 10.1016/j.bej.2022.108533	2022
6.	Magdalena Lech, Karolina T. Labus. The methods of brewers' spent grain treatment towards the recovery of valuable ingredients contained therein and comprehensive management of its residues. Chemical Engineering Research & Design. 2022, vol. 183, s. 494-511. DOI: 10.1016/j.cherd.2022.05.032	2022
7.	Karolina T. Labus*, Łukasz Radosiński*, Piotr Kotowski: Functional properties of two-component hydrogel systems based on gelatin and polyvinyl alcohol - experimental studies supported by computational analysis. International	2021



	Journal of Molecular Sciences. 2021, vol. 22, nr 18, art. 9909, s. 1-25. DOI: 10.3390/ijms22189909	
8.	Karolina T. Labus*, Kamila Wolanin, Łukasz Radosiński*: Comparative study on enzyme immobilization using natural hydrogel matrices - experimental studies supported by molecular models analysis. Catalysts. 2020, vol. 10, nr 5, art. 489, s. 1-23. DOI: 10.3390/catal10050489	2020
9.	Karolina T. Labus: Effective detection of biocatalysts with specified activity by using a hydrogel-based colourimetric assay - β -galactosidase case study. PLoS ONE. 2018, vol. 13, nr 10, art. e0205532, s. 1-11. DOI: 10.1371/journal.pone.0205532	2018
10.	Karolina T. Labus, Jolanta Bryjak, Milan Polakovič*: Kinetics of thermal inactivation of immobilized Agaricus bisporus tyrosinase. Journal of Molecular Catalysis. B, Enzymatic. 2015, vol. 120, s. 136-140. DOI: 10.1016/j.molcatb.2015.05.019	2015

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.)	Investigator
	Project title	A smart platform of bioinspired materials of ionic nature possessing beneficial impact on plants
	Sources of funding	National Science Center, Poland
	Name of the call	OPUS 19
	Implementation period	2021 - 2025
2.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal investigator
	Project title	Determination of an influence of composition and spatial structure of hydrogels on the properties of entrapped biocatalysts
	Sources of funding	National Science Center, Poland
	Name of the call	SONATA 10
	Implementation period	2016 - 2020
3.	Role in the project (e.g., principal investigator, work package leader, etc.)	Investigator
	Project title	Mass transport of therapeutic substance from the homogeneous or multi-phase implant which is its reservoir or formation place.
	Sources of funding	National Science Center, Poland
	Name of the call	OPUS 6
	Implementation period	2014 - 2019
4.	Role in the project (e.g., principal investigator, work package leader, etc.)	investigator
	Project title	Characteristic of cascade of enzymatic membrane reactors for biopolymers hydrolysis
	Sources of funding	National Science Center, Poland



	Name of the call	OPUS 2
	Implementation period	2012 - 2015
5.	Role in the project (e.g., principal investigator, work package leader, etc.)	
	Project title	
	Sources of funding	
	Name of the call	
	Implementation period	

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.	Research internship (1 month), Department of Chemical Engineering, Federal University of Ceara in Fortaleza (Brazil).	2020
2.	Short-term consulting and teaching internship, Laboratory Charles Coulomb (L2C) at the University of Montpellier 2 (France).	2015
3.	Research internship (4 months), Department of Chemical and Biochemical Engineering, Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava (Slovakia)	2007

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.	New trends in chemical engineering	From 2022
2.		
3.		

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.			
2.			
3.			

7. Prizes and awards

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

No.	Description	Year
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1.	Award of the Rector of the Wrocław University of Science and Technology for scientific and teaching activities	2023
2.	Award of the Rector of the Wrocław University of Science and Technology for outstanding contribution to the university's activities	2020
3.		

8. Other significant achievements

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