



ACADEMIC TEACHER PROFESSIONAL EXPERIENCE

DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. Basic information

Name, surname:	Irena Zizovic
Grade / Title:	Prof. dr hab.
Scientific discipline	inżynieria chemiczna / chemical engineering
Faculty:	W3 Wydział Chemiczny / Faculty of Chemistry
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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.	Supercritical fluid and cocrystallization technologies for designing antimicrobial food packaging PLA nanocomposite foams loaded with eugenol cocrystals with prolonged release Chemical Engineering Journal 2024-02 Journal article Author DOI: 10.1016/j.cej.2023.148407 Contributors: Adrián Rojas; Dusan Mistic; Irena Zizovic; Carol López de Dicastillo; Eliezer Velásquez; Aleksandra Rajewska; Bastián Rozas; Luciano Catalán; Cristian Patiño Vidal; Abel Guarda	2024
2.	Enhancing the properties and morphology of starch aerogels with nanocellulose Food Hydrocolloids 2024-11 Journal article Author DOI: 10.1016/j.foodhyd.2024.110345 Contributors: Milica Pantić; Mariusz Nowak; Gregor Lavrič; Željko Knez; Zoran Novak; Irena Zizovic	2024
3.	The antimicrobial substance's content influences the membrane blocking mechanism in cross-flow filtration – Flow cytometric assessment of the membrane's activity Journal of Water Process Engineering 2023-12 Journal article DOI: 10.1016/j.jwpe.2023.104371 Contributors: Mariusz Nowak; Dusan Mistic; Stanisław Koter; Waldemar Jankowski; Tomasz Półbrat; Anna Trusek; Irena Zizovic	2023
4.	The transformation of cellulose acetate into a new biocidal polymer by effluent-free grafting in supercritical carbon dioxide The Journal of Supercritical Fluids	2023



	2023-11 Journal article DOI: 10.1016/j.supflu.2023.106058 Contributors: Mariusz Nowak; Damian Semba; Dusan Mistic; Tomasz Pólbrat; Dusica Stojanovic; Slavoljub Stanojevic; Anna Trusek; Irena Zizovic	
5.	A review on thymol-based bioactive materials for food packaging Industrial Crops and Products 2023-10 Journal article DOI: 10.1016/j.indcrop.2023.116977 Contributors: Adrián Rojas; Dusan Mistic; Carol López de Dicastillo; Irena Zizovic; Eliezer Velásquez; Danae Gutiérrez; Gonzalo Aguila; Cristian Patiño Vidal; Abel Guarda; María José Galotto	2023
6.	Cellulose Acetate Membranes Modification by Aminosilane Grafting in Supercritical Carbon Dioxide towards Antibiofilm Properties Membranes 2021-12 Journal article Author DOI: 10.3390/membranes12010033 Contributors: Marcin Tyrka; Mariusz Nowak; Dusan Mistic; Tomasz Pólbrat; Stanislaw Koter; Trusek-Holownia, Trusek; Irena Zizovic	2021
7.	Functionalization of polyamide microfiltration membranes by supercritical solvent impregnation The Journal of Supercritical Fluids 2021-08 Journal article DOI: 10.1016/j.supflu.2021.105250 Contributors: Irena Zizovic; Anna Trusek; Marcin Tyrka; Ivana Moric; Lidija Senerovic	2021
8.	Supercritical Fluid Applications in the Design of Novel Antimicrobial Materials Molecules 2020-05 Journal article Author DOI: 10.3390/molecules25112491 Contributors: Irena Zizovic	2020
9.	Utilization of supercritical carbon dioxide in fabrication of cellulose acetate films with anti-biofilm effects against Pseudomonas aeruginosa and Staphylococcus aureus The Journal of Supercritical Fluids 2018-10 Journal article DOI: 10.1016/j.supflu.2018.05.025 Contributors: Irena Zizovic; Lidija Senerovic; Ivana Moric; Tijana Adamovic; Milena Jovanovic; Melina Kalagasidis Krusic; Dusan Mistic; Dusica Stojanovic; Stoja Milovanovic	2018
10.	Supercritical CO₂ - assisted production of PLA and PLGA foams for controlled thymol release Materials Science and Engineering: C 2019-06 Journal article	2019



	DOI: 10.1016/j.msec.2019.01.106 Contributors: Stoja Milovanovic; Darka Markovic; Ana Mrakovic; Robert Kuska; Irena Zizovic; Sulamith Frerich; Jasna Ivanovic	
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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	Polymeric membranes impregnation in the environment of supercritical carbon dioxide – process parameters selection, molecular modeling and biofouling study
	Sources of funding	NCN
	Name of the call	OPUS16
	Implementation period	2019-2022
2.	Role in the project (e.g., principal investigator, work package leader, etc.)	Institutional leader
	Project title	Molecular and physiological mechanism of food pathogen response to selected natural bioactive compounds and development of biodegradable polymers with antibacterial activity
	Sources of funding	NCN
	Name of the call	OPUS18
	Implementation period	2021-2025
3.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal Investigator
	Project title	Comprehensive processing of plant extracts for high value added products
	Sources of funding	EUREKA Countries
	Name of the call	EUREKA
	Implementation period	2016-2017
4.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal Investigator
	Project title	Functional Physiologically active plant materials with additional values for application in pharmaceutical and food industry
	Sources of funding	Ministry of Education, Science and Technological Development of the Republic of Serbia
	Name of the call	Interdisciplinary Research III
	Implementation period	2011-2016
5.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal Investigator



Project title	Development of new products from plant material for health improvement and cosmetics
Sources of funding	EUREKA Serbia
Name of the call	EUREKA
Implementation period	2011-2012

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.	Visiting professor, Wrocław University of Science and Technology	2017-2018
2.	Short research stays, Hamburg University of Technology	2011-2012
3.		

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.	EFCE European Summer School in High Pressure Technology	2014-
2.	Recent research trends in chemical engineering, PWr	2022-
3.	Green Chemistry, University of Belgrade	2007-2017

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.	Mariusz Nowak	Modification of polymeric materials using high-pressure carbon dioxide to obtain antibacterial and antibiofilm properties	2024
2.	Jelena Pajnik	Application of supercritical carbon dioxide in the fabrication of materials with repellent properties based on pyrethrins	2018
3.	Svetolik Maksimovic	Extraction from curry plant (<i>Helichrysum italicum</i>) and impregnation of solid carriers with extract using supercritical carbon dioxide	2017
4.	Stoja Milovanovic	Thymol impregnation onto solid carriers using supercritical carbon dioxide	2015
5.	Jasna Ivanovic	Kinetics and optimization of the isolation of plant extracts with antibacterial properties	2011
6.	Marko Stamenic	Swelling of plant material under the influence of supercritical carbon dioxide –	2010



		mathematical modeling and optimization of supercritical extraction	
7	Dragana Bojran	Sustainable processing of materials using supercritical fluids	2022

7. Prizes and awards

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

No.	Description	Year
1.	Golden medal of Iasi Institute for Innovations for "New process for the isolation of antioxidant fractions from rosemary" (International Festival of Innovation TESLA FEST 2008)	2008
2.	Golden plaque for "New process for the isolation of antioxidant fractions from rosemary" at the International Festival of Innovation TESLA FEST 2008	2008
3.	Silver plaque for "Pharmacological compositions containing active plant ingredients for use in human and veterinary medicine" at the International Festival of Innovations "Inventions - Belgrade 2012"	2012

8. Other significant achievements

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