Name and surname:	**Anna Gliszczyńska**
Academic Degree:	prof. dr hab. inż. (Prof.)
Institute/Department:	Department of Food Chemistry and Biocatalysis
e-mail address:	anna.gliszczynska@upwr.edu.pl
ORCID:	https://orcid.org/0000-0002-0218-6369
UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info.seam?id=UPWr9dfc420dff3c4125b0fbedecba7b78b9&affil=&lang=pl
Researchgate:	https://www.researchgate.net/profile/Anna-Gliszczynska/research
Personal website / Working group website:	-
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	„Optymalizacji procesu ekstrakcji związków biologicznie aktywnych z wybranych odmian konopi włóknistych pod kątem otrzymania produktu o wysokiej stabilności i pożądanych parametrach organoleptycznych i fizykochemicznych" (DWD/5/0065/2021) (PI)
	Second supervisor (from other discipline, Polish or international research unit)
Name and surname:	Elena Sánchez López
Academic Degree:	Dr.
Faculty, Institute/Department:	Department of Pharmacy, Pharmaceutical technology and Physical Chemistry
e-mail address:	esanchezlopez@ub.edu
ORCID:	0000-0003-2571-108X
UPWr Base of Knowledge - link or most important publications from last 3 year (JCR) / patents from last 3 years (maximum 5):	https://www.webofscience.com/wos/woscc/summary/224083a4-01ce-449b-8c66-c67feb64c365-6d279ec2/date-descending/1
Researchgate:	https://www.researchgate.net/profile/Elena-Sanchez-Lopez-4
Personal website / Working group website:	https://webgrec.ub.edu/webpages/000003/cat/esanchezlopez.ub.edu.html
Participation projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	1. Design of an age-dependent corneal membrane model for in vitro interaction studies of biodegradable polymeric nanoparticles. In vitro/ex vivo/in vivo correlation. Funding entity: Institute of Nanoscience and Nanotechnology (IN2UB), Period: 10/2018 - 12/2019 (PI) 2. Nanoparticles for endodontic disinfection Program: Proof of concept (PDC) Period: 10/01/2022 - 10/01/2023 (PI) 3. Nanostructured systems for controlled drug release, Program name: Ajuts de Suport als Grups de Recerca de Catalunya (SGR), Period: 1/01/2017- 31/12/2019 (RF) 4. New polymyxins for the treatment of infections caused by multidrug-resistant bacteria, Period: 25/02/2019- 24/02/2022 (RF) 5. Physicochemical and biopharmaceutical behavior of novel non-lipid nanostructures for drug delivery, Program: PROYECTOS DE GENERACIÓN DE CONOCIMIENTO. Organism: Ministry of Science and Innovation (RF) 6. In vivo anti-inflammatory and immune activation capacity of liposomal formulations assessed in endotoxin-induced uveitis model. Funding entity: Technology Dedicated to Care S. L. 28/02/2022 - 01/09/2022 (PI) 7. In vitro assessment of the anti-inflammatory and immune activation capacity of liposomal formulations. Funding entity: Technology Dedicated to Care S. L. 16-02-2022- 01-09-2022 (PI)
PhD topic:	Development of polyphenols-based lipid nanocarriers as food additives with antimicrobial activity and pro-health properties
Research discipline in Doctoral School:	Nutrition and Food Technology
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	Plants are rich sources of molecules with pro-health and antimicrobial activities many of which are phenolic compounds found in the essential oils isolated from flowers, leaves, seeds and bulbs. In recent years an increased demand from food industry for natural biomolecules with pro-health activities which exhibit antimicrobial properties that can be used as alternatives in controlling pathogenic microorganisms cause food spoilage, enhance the shelf-life of foods. Naturally occurring polyphenols with antimicrobial activity had gained considerable attention from both consumers and the food industry because of the concerns associated with the potential side effects caused by synthetic antimicrobials on health and the emergence of antibiotic-resistant bacteria. Despite their excellent pharmacological properties, polyphenols are easily degraded and present some difficulties reaching their target site. Therefore, in order to overcome these problems, they can be included in lipid nanoparticles. Based on that the study will focus on 1) design and production of lipid derivatives of previously selected polyphenols that occur in natural products and food 2) optimization and development of polyphenols-based nanoparticles in order to deliver natural polyphenols 3) study of the physicochemical parameters of polyphenols-based nanoparticles such as average size, polydispersity index, zeta potential and polyphenols loading 4) interaction studies of polyphenols-based nanoparticles using physicochemical techniques (X-Ray diffraction, differential scanning calorimetry and Fourier-transformed infrared) 5) Stability studies of the polyphenols-based nanoparticles during storage at different temperatures 6) assessment of the antimicrobial potential of the developed polyphenols-based nanoparticles against pathogens occurring in food.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	Master's degree in biotechnology, chemistry, biology, pharmaceutical sciences or other related fields, basic knowledge in the field of natural products (polyphenols) and/or nanotechnology, basic laboratory skills, analytical skills, the ability to independently plan and organize experimental work, ability to work in a team, involvement and commitment with scientific tasks, availability to do research work, fluent in English language (at the minimum B2 level)
a) Project title:	0
b) Agreement number:	0
c) Number of months in the project to support PhD (in months; starting from 1st of October 2022):	0
Project website:	