



Małgorzata Miastkowska

Academic degrees : PhD, DSc

Position : Professor

Engineering - technical field

Discipline Chemical engineering

Academic qualifications:

- 1) Lead supervisor of the CosmMed scientific club
- 2) Member of the Senate Committee on the Quality of Education
- 3) Member of the Scientific Council of the Faculty of Chemical Engineering and Technology of the Cracow University of Technology

Membership in professional and academic boards :

- 1) Polish Society of Chemists Cosmetologists
- 2) Polish Society of Biomaterials
- 3) The Association of Alumni of the Cracow University of Technology
- 4) Amateur Running Team of the Cracow University of Technology

Academic merits :

Co-author of 60 scientific publications (total IF = 93.186, h-index = 15 according to the Scopus database) as well as 15 patent applications, including 12 with already granted patent status, implementations for the cosmetics industry. Examples of publications:

[1] Miastkowska, M.; Kulawik-Pióro, A.; Lasoń, E.; Śliwa, K.; Malinowska, M.A.; Sikora, E.; Kantyka, T.; Bielecka, et al. Topical Formulations Based on Ursolic Acid-Loaded Nanoemulgel with Potential Application in Psoriasis Treatment. *Pharmaceutics* 2023, 15, 2559. <https://doi.org/10.3390/pharmaceutics15112559>

[2] Miastkowska, M.; Sikora, E.; Kulawik-Pióro, A.; Kantyka, T.; Bielecka, E.; Kałucka, U.; Kamińska, M.; Szulc, J.; Piasecka-Zelga, J.; Zelga, P.; Staniszevska-Ślęzak, E. Bioactive Lavandula angustifolia essential oil-loaded nanoemulsion dressing for burn wound healing. In vitro and in vivo studies, *Biomaterials Advances*, 2023, 148, 213362. <https://doi.org/10.1016/j.bioadv.2023.213362>.

[3] Bialik-Wąs K.; Kulawik-Pióro A.; Sienkiewicz A.; Łętocha A.; Osińska J.; Malarz K.; Mrozek-Wilczkiewicz A.; Barczewski M.; Lanoue A.; Giglioli-Guivarc'h N.; Miastkowska M. Design and development of multicomponent hybrid alginate hydrogels and lipid nanodispersion as new materials for medical and cosmetic applications. *Int J Biol Macromol.* 2024, 278 (Pt 1):134405. <https://doi.org/10.1016/j.ijbiomac.2024.134405>

[4] Łętocha, A.; Michalczyk, A.; Miastkowska, M.; Sikora, E., Effect of encapsulation of Lactobacillus casei in alginate-tapioca flour microspheres coated with different biopolymers on the viability of probiotic bacteria, *ACS Applied Materials & Interfaces*, 2024, <https://doi.org/10.1021/acsmi.4c10187>

[5] Bielecka, E.; Zubrzycka, N.; Marzec, K.; Maksylewicz, A.; Sochalska, M.; Kulawik-Pióro, A.; Lasoń, E.; Śliwa, K.; Malinowska, M.; Sikora, E.; Nowak, K.; Miastkowska, M.; Kantyka, T. Ursolic Acid Formulations Effectively Induce Apoptosis and Limit Inflammation in the Psoriasis Models In Vitro. *Biomedicines*. 2024, 12(4):732. <https://doi.org/10.3390/biomedicines12040732>

Professional qualifications/language skills

English- C1 level
Spanish – B1 level

Research field :

The subject of her scientific research is the design of a wide range of unique recipes for advanced, non-

invasive transepidermal systems, including: lipid nanocarriers, liquid crystal systems, hydrogels, bigels, oleogels, emulsion systems, polymer micro- and nanospheres, and hybrid systems, which are carriers for drugs, bioactive ingredients, probiotic bacteria, enzymes, supporting the treatment of skin inflammations and chronic wounds. These preparations are used as medical, cosmetic and medicinal products. The scope of research includes, among others, analysis of physicochemical properties of the obtained preparations, confirmation of their safety in use and effectiveness in in vitro and in vivo conditions. The research also includes analysis of profiles and kinetics of release of active ingredients from the above systems using appropriate mathematical models, application of statistical methods in experiment planning (optimization of qualitative and quantitative composition of preparations).

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Useful links :

<https://www.researchgate.net/profile/Malgorzata-Miastkowska-Miastkowska, Malgorzata A. - Author details - Scopus Preview>