Olga Długosz

Academic degrees: PhD. DSc

Position: Assistant Professor

Engineering - technical field

Discipline Chemical engineering

Academic qualifications:

Assistant Professor

Membership in professional and academic boards:

Academic merits:

Scientific publications in journals indexed in the Journal Citation Reports (JCR) database with an Impact Factor >50. Cumulative Impact Factor according to the JCR list, based on the year of publication, exceeding 268. Hirsch index: 20. Patent applications and granted patents: 19. Industrial collaborations: 11. Leadership and participation in international and national research projects: 6. Research internships in international and domestic scientific or academic institutions: UJ (Cracow), NTNU (Trondheim). Supervisor of the Student Research Group of Nanostructural Materials Technology and Bionanotechnology. Collaborations with academic institutions: University of Life Sciences in Lublin, Polish Academy of Sciences, Institute of Virology in Wrocław, Agricultural University of Krakow.

Professional qualifications/language skills

Polish, English

Research field:

Technologies for the synthesis and application of **nanomaterials** and nanocomposites. Advanced reaction systems for the controlled production of materials with specific physicochemical properties. Processes for obtaining stable suspensions and powders of metallic nanoparticles, oxide nanoparticles, hybrid composites, and oxide systems. Development of materials with **antimicrobial, photocatalytic, antiviral, and antibiofilm properties.**

Utilization and transformation of by-products from technological processes. Synthesis of bioactive nanomaterials, light-activated, for the degradation of pollutants under UV and visible light. **Flow chemistry** technologies in nanomaterial production. Design of flow reactors using **3D printing technology**.

Design, synthesis, and application of **deep eutectic solvents (DES)** in nanotechnology. Formulations with controlled physicochemical properties. Utilization of DES as reaction media in the synthesis of metallic, oxide, and hybrid nanoparticles. Enhancement of bioactivity, as well as antibiofilm and antimicrobial properties of nanomaterials. Selectivity and eco-friendliness of DES-based processes. Optimization of nanomaterial production using low-temperature and energy-efficient methods. Application of DES in flow technology and by-product processing.

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Useful links :

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