Piotr Olesik, PhD Eng.

Assistant Professor | Materials Engineering — Composites & Recycling

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Research profile

Materials scientist and Assistant Professor at the Silesian University of Technology. Research focuses on materials structure analysis, smart thermoplastic composites for 3D priting and recycling of polymer composites. Doctoral Dissertation addressed heterophase HDPE-matrix composites with glassy carbon for FDM 3D printing. Publication record spans thermoplastic and epoxy systems, recovered carbon fibres, glass-ceramics / thermal barrier coatings, and functional (e.g. piezoelectric) composites.

Research expertise

Materials & processing: structure characterisation of ceramics, polymers and composites; thermoplastic composites (HDPE, LDPE, PA6); resin-matrix composites (epoxy, polyester); conductive / carbon-filled composites; mechanical recycling of CFRP and epoxy prepreg waste; FDM / additive manufacturing of polymer composites

Application themes: wear-resistant and self-lubricating composites; recovered carbon fibre reuse; glass-ceramics from industrial wastes; thermal barrier coatings; piezocomposites (epoxy/SbSI)

Professional experience

Assistant Professor — Silesian University of Technology, Gliwice

Department of Materials Technology, Faculty of Materials Engineering and Industrial Digitization

03.2025 – present

- Research and academic work in materials technology (composites, recycling-related themes).
- Science communication.
- Co-organisation of the International Student Scientific Session “Materials and Technologies of the 21st Century” (22.05.2025, Katowice).

Specialist — Łukasiewicz Research Network – New Chemical Syntheses Institute (INS), Gliwice

Micronization Laboratory

04.2024 – 02.2025

- Quality control and quality assurance for pharmaceutical products processed on a contract basis for the pharmaceutical industry.
- Updating documentation; drafting procedures and work instructions; maintaining measuring equipment in a validated state.
- Research and development related to cleaning validation of pharmaceutical equipment.

Education

PhD in Materials Engineering — Silesian University of Technology

defended 19.03.2024

10.2019 – 10.2023

- Thesis: *The effect of addition of glassy carbon particles at different grain size on properties of heterophase HDPE matrix composites made by FDM 3D-printing*
- Supervisor: Prof. Mateusz Kozioł.

MSc Eng. in Materials Engineering — Silesian University of Technology

10.2016 – 09.2017 · Specialisation: Materials and Technologies in Automotive Engineering

- Thesis: *Analysis of optical parameters of oxyfluoride glasses and oxyfluoride glass-ceramics by the Judd–Ofelt method*