



## Joanna Ortyl

**Academic degrees : PhD. DSc Prof.**

**Position : professor**

**Engineering - technical field**

**Discipline Chemical engineering**

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### Academic qualifications:

Manager of research projects Team-Tech, TANGO 2.

Supervisor of the Scientific Circle of Cracow University of Technology section Photochemistry.

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### Membership in professional and academic boards :

Member of ACS - American Chemical Society, Member of RSC - The Royal Society of Chemistry,

President of the Board of the spin-off company Photo4Chem sp. z o.o.

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### Academic merits :

She is a professor at the Faculty of Chemical Engineering and Technology, Cracow University of Technology. After her PhD, she completed a research internship in the research group of Prof. Dr Thomas Jüstel at Münster University of Applied Sciences in the Institute for Optical Technologies (Germany) in 2012-2013. In 2013, she also completed the Master of Business Economics (MBE) course at the Haas School of Business at the University of California, Berkeley (USA). She worked as a visiting professor in Prof. Jacques Lalevée's group at the Institute de Science des Matériaux de Mulhouse in 2015 (1 month stay), 2016 (1 month stay) and 2019 (1 month stay). Her research is always based on organic chemistry, photochemistry of small molecules, and photochemistry of polymerization processes and is always correlated with practical applications. She is the inventor of more than 30 patents and has received more than 50 international and national awards for her research. She is a laureate of the Rector's Award of the Cracow University of Technology for 2017, as well as a manager of scientific projects funded by the Foundation for Polish Science, the National Science Centre, or the National Centre for Research and Development (she was or is currently a manager of Ventures-FNP, Sonata-NCN, Powroty-FNP, Lider-NCBiR, Team Tech-FNP, TANGO 2-NCBiR projects). She is a scientific supervisor of students and PhD students realizing their scientific projects such as Diamond Grant - MNiSW (3 projects), Prelude - NCN (2 projects).

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### Professional qualifications/language skills

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### Research field :

Current research interests: modern photochemical technologies, synthesis and characterization of photochemical and photophysical properties of initiators of polymerization initiated by ultraviolet and visible radiation, photochemistry and photophysics of spectroscopic probes. He conducts interdisciplinary scientific research activities at the intersection of photochemistry, chemistry, materials engineering, chemical engineering, and cell biology. Research topics include:

1. Synthesis of new effective photoinitiators and co-initiators for hybrid polymerization and studies of the photoinitiated polymerization process, including synthesis and research of photoinitiators that may find application in photochemically cured varnish coatings technology and photochemical prototyping technology (stereolithography and 3D printing).
2. Work on new photo-curable materials (including composites and nanocomposites) for

3D printing in photochemical technologies viz: SD-SLA, 3D-DLP, 3D-CLIP, and new structural solutions in the field of 3D printing machine construction.

3. Work on photochemical and photophysical properties of molecular probes, including syntheses of new luminescent compounds, evaluating their photochemical stability under conditions of photochemical reduction and photochemical oxidation, potential application in molecular spectroscopic marking processes of microenvironments, including for visualization of eukaryotic cell structures.

Summary of the research scope: polymer technology, polymer chemistry, photopolymerization, photochemistry, organic chemistry, applied photochemistry - 3D printing, printing, fluorescence spectroscopy, fluorescent sensors, monitoring of polymerization reaction kinetics by on-line and in-situ techniques, visualization of cell structures, the biology of eukaryotic cell in terms of labeling and spectroscopic monitoring of its vital functions.

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**Useful links :**

[www.joannaortyl.pl](http://www.joannaortyl.pl)