

Data of Supervisors of the Doctoral School at WPUT

Supervisor: (academic titles and degrees, name and surname)	Prof. Elżbieta Tomaszewicz
Units:	Faculty of Chemical Technology and Engineering, Department of Inorganic and Analytical Chemistry
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Scientific Discipline(s):	chemical sciences
Research Areas (max. 2000 characters):	Optical materials are crucial for the development of modern electronic devices, such as LED displays, photovoltaic panels, lasers, scintillators, sensors, and optical fibers. They also have wide applications in the development of medical devices and monitoring technologies. Research focuses on obtaining new materials with improved optoelectronic properties, such as higher energy conversion efficiency in solar cells or better emission quality in LED diodes. The new materials will be solid solutions containing, as dopants, d- and/or f-electron metal ions. Several synthesis methods will be used to obtain both micro- and nanopowders. A wide range of modern experimental techniques will be applied to study the properties of the materials, including XRD, DTA-TG, FTIR, SEM/TEM, UV-vis, etc.
Keywords (max. 10):	optical materials; new phosphors and scintillators; oxide materials; rare earth metal ions; solid solutions; micro- and nanocrystalline powders; XRD; DTA-TG; FTIR; UV-vis.