

**The list of supervisor and offered subjects of PhD thesis in academic year 2018/2019 by
Faculty of Microsystem Electronics and Photonics (W12)**

Supervisor	Mail address	The offered subjects
Dr hab. inż. Rafał WALCZAK	rafal.walczak@pwr.edu.pl	
Dr hab. inż. Jarosław DOMARADZKI	jaroslaw.domaradzki@pwr.edu.pl	The offered subjects of doctoral thesis concern a broad analysis of the properties of a new generation of thin-film structures with the resistance switching and memristor-like effects, in particular in the context of their use in transparent electronics. The research includes experimental work related to the preparation of structures based on mixtures of various oxides and their extensive characterization, including: analysis of electrical, optical and structural properties.
Prof. dr hab. inż. Andrzej DZIEDZIC	andrzej.dziedzic@pwr.edu.pl	
Prof. dr hab. inż. Jan DZIUBAN	jan.dziuban@pwr.edu.pl	
Prof. dr hab. inż. Teodor GOTSZALK	teodor.gotszalk@pwr.edu.pl	The offered subjects of doctoral thesis: - heat transport in nanostructures, - force and displacement MEMS references for nanometrology.
Prof. dr hab. inż. Anna GÓRECKA- DRZAZGA	anna.gorecka-drzazga@pwr.edu.pl	
Prof. dr hab. inż. Danuta KACZMAREK	danuta.kaczmarek@pwr.edu.pl	The offered subject of doctoral thesis concerns the study and analysis of bioactivity of functional and transparent thin film coatings for application in both, electronics and optoelectronics. The research will cover the deposition of thin films by magnetron sputtering method and the characterization of their selected properties.
Prof. dr hab. inż. Regina PASZKIEWICZ	regina.paszkievicz@pwr.edu.pl	One of the major problems in the fabrication of production VHEMT transistors is the development of the deep-UV lithography process carried out on non-spatial uniform shaped surfaces of AlGaIn / GaN heterostructures with sub-micrometre resolution. The tests will

		include simulations, fabrication of dedicated mask for DUV lithography masks, selection of resists and determination of size limits of the fabricated structures.
Prof. dr hab. inż. Helena TETERYCZ	helena.tetrycz@pwr.edu.pl	
Prof. dr hab. inż. Marek TŁACZAŁA	marek.tlaczala@pwr.edu.pl	
Prof. dr hab. inż. Artur WYMYSŁOWSKI	artur.wymyslowski@pwr.edu.pl	The offered subjects of PhD thesis concerns mechatronic systems and their applications in automatics and robotics, eg: interdisciplinary design methods, functional description, integration methods of mechanical, electrical and IT systems into complex mechatronic systems. The knowledge required to carry out the work concerns interdisciplinary issues: mechanics, electronics, materials engineering, steering and control systems, analogue and digital electronics, software engineering and the ability of numerical modelling, simulation and optimization.
Dr hab. inż. Sergiusz PATELA	sergiusz.patela@pwr.edu.pl	
Dr hab. inż. Witold POSADOWSKI	witold.posadowski@pwr.edu.pl	
Dr hab. inż. Irena ZUBEL	irena.zubel@pwr.edu.pl	
Dr hab. inż. Grzegorz JÓŹWIAK	grzegorz.jozwiak@pwr.edu.pl	Research area: Application of advanced image processing and analysis techniques in nanometrology. Research objects: low dimensional structures and 2D materials Measurement methods: scanning electron microscopy and scanning probe microscopy
Dr hab. inż. Ryszard KORBUTOWICZ	ryszard.korbutowicz@pwr.edu.pl	Thermal oxidizing AIIIIV and AIIIN structures; applications of gallium oxides in semiconducting devices; synthesis of nanowires of the III periodic group; GaN nanowires; devices on the basis of nanowires: sensors and detectors; organic printed

		electronics: sensors
Dr hab. inż. Karol MALECHA	karol.malecha@pwr.edu.pl	The offered subjects of PhD thesis: - study of phenomena and characterization of microfluidic systems with microwave components in LTCC technology - Functionalization of LTCC for application in analytical microsystems