

Data of Supervisors of the Doctoral School at WPUT

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Scientific Discipline(s):	chemistry
Research Areas (max. 2000 characters):	<p>The research that is the subject of my interests concerns, first of all, the reactivity of oxides in binary and ternary oxide systems, e.g. V_2O_5-MIIO-Cr$2O_3$, V_2O_5-MIIO-In$2O_3$ and P_2O_5-MIIO-Cr$2O_3$ where M = Zn, Mg, Ni, Pb, Co, Cd, Mn. The research work focuses on developing methods of synthesis and characterization of compounds and phases unknown before these studies, but also on developing phase diagrams in binary and ternary systems in the entire range of component concentrations. The results of the conducted research are primarily of a cognitive nature and significantly enrich the knowledge of multicomponent oxide systems, and in particular of new compounds and phases of the type of solid solutions formed with the involvement of all components of the studied ternary oxide systems. Determining the physicochemical properties of these new compounds (vanadates(V) or phosphates(V) of di- and trivalent metals) may constitute a basis for undertaking further research of an application nature in order to find areas of application for them, e.g. in the electrical, electronics, optoelectronic and ceramic industries (inorganic pigments).</p>
Keywords (max. 10):	Phase equilibria, binary systems, ternary systems, ceramic materials, inorganic pigments