


Curriculum Vitae

Personal Information	Name	TOMASZ BAJDA	Gender	MALE	
	Academic Title	prof. dr hab. eng.			
	College	AGH University of Science and Technology			
	Discipline	Earth and related environmental sciences Environmental engineering, mining and energy			
	Email	bajda@agh.edu.pl			
	Telephone (office)				
	Mail Add.	dargento@wp.pl			
Educational Background	1997 - M.Sc. title - AGH University of Science and Technology in Kraków - Faculty of Geology, Geophysics and Environmental Protection - Branch: Mining and Geology, specialization: Environmental Protection - M.Sc. thesis: Location and attempt to neutralize the sources of chromium contamination of soils and groundwater in Zabierzów.				
Working Experience	<p>2020 – Professor - AGH University of Science and Technology in Kraków - Faculty of Geology, Geophysics and Environmental Protection</p> <p>2016 - Associate professor - AGH University of Science and Technology in Kraków - Faculty of Geology, Geophysics and Environmental Protection</p> <p>2012 - Habilitation in Earth Sciences, discipline: geology. - AGH University of Science and Technology in Kraków - Faculty of Geology, Geophysics and Environmental Protection - Title of achievement: Formation, stability, and transformations of lead arsenates and phosphates in an environment.</p> <p>2004 - Ph.D. in Earth Sciences, discipline: mineralogy, petrography, geochemistry - AGH University of Science and Technology in Kraków - Faculty of Geology, Geophysics and Environmental Protection - Ph.D. thesis: The geochemistry of chromium in soils contaminated with its compounds and contamination prevention by mineral sorbent application.</p>				
Research Interests	<ul style="list-style-type: none"> - Determination of sorption properties of natural and modified minerals - Application of natural and synthetic mineral sorbents for sorption of inorganic and organic contaminants from solutions and gases - Modification of minerals in order to obtain functional mineral materials. - Production of functionalized materials based on fly ashes. - Modified clays as controlled remove vehicles for pesticides. - Determination of soils contaminations and their remediation using functionalized materials 				

	<ul style="list-style-type: none"> - Efficiency and mechanisms of heavy metals immobilization using phosphates (in situ phosphate induced metal stabilization). - Chemistry, mineralogy and thermodynamic stability of heavy metal phosphates. - Mineralogy and geochemistry of rocks and soils.
Major Publications*	<p>Yang Z., Karczewska-Golec J., Styczynski M., Bajda T., Drewniak L. (2021) Characterization of Fe-based sediments received from chemical pre-treatment of hydrometallurgical waste leachate from the recycling of alkaline batteries. <i>Journal of Hazardous Materials</i>, 403, 123988.</p> <p>Andrunik M., Wołowiec M., Wojnarski D., Zelek-Pogudz S., Bajda T. (2020) Transformation of Pb, Cd, and Zn minerals using phosphates. <i>Minerals</i>, 10, 342.</p> <p>Ciężkowska M., Bajda T., Dacewicz P., Dziewit Ł., Drewniak Ł. (2020) Effect of clinoptilolite and halloysite addition on biogas production and microbial community structure during anaerobic digestion. <i>Materials</i>, 13, 4127.</p> <p>Staicu L.C., Bajda T., Drewniak Ł., Charlet L. (2020) Power generation: feedstock for high-value sulfate minerals. <i>Minerals</i>, 10, 188.</p> <p>Andrunik M., Bajda T. (2019). Modification of bentonite with cationic and nonionic surfactants: structural and textural features. <i>Materials</i>, 12, 3772.</p> <p>Tuchowska M., Muir B., Kowalik M., Socha R.P., Bajda T. (2019) Sorption of molybdates and tungstates on functionalized montmorillonites: structural and textural features. <i>Materials</i>, 12, 2253.</p> <p>Tuchowska M., Rzepa G., Dębięc-Andrzejewska K., Drewniak Ł., Bajda T. (2019) Immobilization of arsenic compounds by bog iron ores. <i>Desalination and Water Treatment</i>, 157, 138–147.</p> <p>Tuchowska M., Wołowiec M., Solińska A., Kościelniak A., Bajda T. (2019) Organo-Modified Vermiculite: Preparation, Characterization, and Sorption of Arsenic Compounds. <i>Minerals</i>, 9, 483.</p> <p>Wołowiec M., Komorowska-Kaufman M., Pruss A., Lasocka-Gomuła I., Rzepa G., Bajda T. (2019) The properties of sludge formed as a result of coagulation of backwash water from filters removing iron and manganese from groundwater. <i>SN Applied Sciences</i>, 1, 639.</p> <p>Dębięc, K., Rzepa, G., Bajda, T., Uhrynowski, W., Skłodowska, A., Krzysztoforski, J., Drewniak, Ł. (2018) Granulated bog iron ores as sorbents in passive (bio)remediation systems for arsenic removal. <i>Frontiers in Chemistry</i>, 6, 54.</p> <p>Grela, A., Łach, M., Bajda, T., Mięka, J., Hebda, M. (2018) Characterization of the products obtained from alkaline conversion of tuff and metakaolin. <i>Journal of Thermal Analysis and Calorimetry</i>, 133, 217-226.</p> <p>Dębięc, K., Rzepa, G., Bajda, T., Zych, Ł., Krzysztoforski, J., Skłodowska, A., Drewniak, Ł. (2017) The influence of thermal treatment on bioweathering and arsenic sorption capacity of a natural iron (oxyhydr)oxide-based adsorbent. <i>Chemosphere</i>, 188, 99-109.</p> <p>Grela, A., Łach, M., Bajda, T., Mięka J. (2017) Characteristics of sorbent products obtained by the alkaline activation of waste from waste incineration plants. <i>Mineralogia</i>, 48, 87-105.</p> <p>Muir, B., Andrunik, D., Hyla, J., Bajda, T. (2017) The removal of molybdates and tungstates from aqueous solution by organo-smectites. <i>Applied Clay Science</i>, 136, 8-17.</p> <p>Wołowiec, M., Muir, B., Zięba, K., Bajda, T., Kowalik, M., Franus, W. (2017) Experimental study on the removal of</p>

	<p>VOCs and PAHs by zeolites and surfactant-modified zeolites. <i>Energy & Fuels</i>, 31, 8803-8812.</p> <p>Wołowiec, M., Muir, B., Bajda, T., Zięba, K., Kijak, B., Franus, W. (2017) Removal of BTEX and hexane by organo-zeolites: The influence of surfactants' carbon chain length on the sorption process. <i>Desalination and Water Treatment</i>, 94, 120-128.</p> <p>Muir, B., Bajda, T. (2016) Organically modified zeolites in petroleum compounds spill cleanup - production, efficiency, utilization. <i>Fuel Processing Technology</i>, 149, 153-162.</p> <p>Muir, B., Matusik, J., Bajda, T. (2016) New insights into alkylammonium-functionalized clinoptilolite and Na-P1 zeolite: structural and textural features. <i>Applied Surface Science</i>, 361, 242-250.</p>
Research Projects*	<p>2023-2020. Grant FNP TEAM-NET - Fly ash as the precursors of functionalized materials for applications in environmental engineering, civil engineering and agriculture (Principal Investigator)</p> <p>2020-2017. Grant NCN/NCBR TANGO 2 - Remediation technology of aquatic environments polluted with anionic forms of elements with the use of functionalized kaolinite sorbents (Co-investigator).</p> <p>2018-2017. Innovation Incubator+ - Production and application of a filter containing functionalized sorbent for the removal of volatile organic compounds (Principal Investigator)</p> <p>2017-2014. Grant NCBiR INNOTECH (3/IN3/54/227695/NCBR/14) - An innovative and ecological process of metallurgical refining of cast iron in a casting reactor (Principal Investigator at AGH)</p>
Professional Membership	<ul style="list-style-type: none"> - Experimental Results journal - editorial board member 2019-present - Mineralogical Society of Poland (President, 2017-2020; Vice-President, 2021-2022) - Committee for Development and Promotion of Achievements of Young Scientists at the Polish Academy of Sciences Branch in Lublin (member) 2017-present - Committee of Mineralogical Sciences, Polish Academy of Science (secretary, member) 2005-present - Materials journal - guest editor 2019, 2021 - Geological Quarterly journal - associate editor 2018-present - Mineralogia journal - associate editor 2017, 2019 - Geology, Geophysics & Environment journal - editorial board member 2014-present - Construction and Architecture journal - scientific board member 2012-present - Geochemical Society (member) 2009-present
Potential Research Projects**	<ul style="list-style-type: none"> - Mineral based architectures towards materials for the environment and industry - Transformation of fly ash into products for engineering and environmental protection

* Please list achievements of recent 5 years

** This CV is intended to match Chinese and Polish Scientists within SPUC member universities, and Potential Research Projects is intended to apply for Sino-Polish or EU scientific cooperation projects.