


Curriculum Vitae

Personal Information	Name	Jakub Matusik	Gender	Male	
	Academic Title	Associate Professor			
	College	AGH University of Science and Technology, Kraków Faculty of Geology, Geophysics and Environmental Protection Department of Mineralogy, Petrography and Geochemistry			
	Discipline	Earth and related environmental sciences (mineralogy, chemical engineering)			
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	Mail Add.	AGH University of Science and Technology, Kraków Faculty of Geology, Geophysics and Environmental Protection al. Mickiewicza 30, 30-059 Kraków, Poland			
Educational Background	<p>2015 - Habilitation in Earth Sciences (post-doctoral degree), discipline: geology. AGH University of Science and Technology in Kraków, Poland Faculty of Geology, Geophysics and Environmental Protection Title of achievement: <i>Synthesis, characterization and sorption properties of hybrid mineral nanomaterials derived from kaolin group minerals</i></p> <p>2010 - PhD in Earth Sciences, discipline: geology. AGH University of Science and Technology in Kraków, Poland Faculty of Geology, Geophysics and Environmental Protection PhD thesis title: <i>Minerals from kaolin group as precursors of mineral nanotubes.</i></p> <p>2008 - Postgraduate certificate <i>Analytical chemistry in industry and environmental protection.</i> AGH University of Science and Technology in Kraków, Poland Faculty of Materials Science and Ceramics (WIMiC)</p> <p>2006 - MSc title AGH University of Science and Technology in Kraków, Poland Faculty of Geology, Geophysics and Environmental Protection Branch: Mining and Geology, specialization: Applied Mineralogy and Geochemistry M.Sc. thesis: <i>Efficiency of cadmium phosphates crystallization depending on the form of phosphates.</i></p>				

Working Experience	<p>2018 – now (Associate professor) AGH University of Science and Technology in Kraków, Poland Faculty of Geology, Geophysics and Environmental Protection (WGGiOŚ) Department of Mineralogy, Petrography and Geochemistry (KMPiG) Address: al. A. Mickiewicza 30, 30-059 Kraków, Poland</p> <p>2019-2020 (Visiting professor – Fulbright Senior Award) Texas A&M University (College Station, TX, USA) Department of Soil and Crop Sciences</p> <p>2011 – 2018 (Assistant professor) AGH University of Science and Technology in Kraków, Poland WGGiOŚ, KMPiG</p> <p>2010 – 2011 (Assistant) AGH University of Science and Technology in Kraków, Poland WGGiOŚ, KMPiG</p>
Research Interests	<p>Please visit the website of my research group for more details: www.mba.agh.edu.pl ORCID: 0000-0001-6008-6916</p> <ul style="list-style-type: none"> • Chemical and mineralogical characterization of layered (clay minerals, LDH) and framework minerals (zeolites). • Modification of minerals to obtain functional mineral materials e.g. adsorbents, catalysts and polymer composites. • Mineral-based adsorbents of cations/anions, organic (VOCs, mycotoxins) and inorganic compounds. • Determination of adsorption properties of mineral-based materials derived mainly from layered minerals and zeolites. • The influence of intercalation and grafting processes on the structure, textural parameters and morphology of minerals. • Synthesis, structural and mechanical properties of clay-polymer nanocomposites. • Pillared clays - synthesis, characterization and catalytic applications. • Photoactive nanomaterials based on clay minerals.
Major Publications*	<ul style="list-style-type: none"> • Maziarz, P., Matusik, J., Radziszewska, A. (2019) Halloysite/zero-valent iron nanocomposites for removal of Pb(II)/Cd(II) and As(V)/Cr(VI): Competitive effects, regeneration possibilities and mechanisms. <i>Journal of Environmental Chemical Engineering</i>, 103507 (1-11). • Matusik, J., Hyla, J., Maziarz, P., Rybka, K., Leiviskä, T. (2019) Performance of halloysite-Mg/Al LDH materials for aqueous As(V) and Cr(VI) removal. <i>Materials</i>, 12, 3569. • Maziarz, P., Matusik, J., Leiviskä, T. (2019) Mg/Al LDH enhances sulfate removal and clarification of AMD wastewater in precipitation processes. <i>Materials</i>, 12, 2334. • Matusik, J., Rybka, K. (2019) Removal of Chromates and Sulphates by Mg/Fe LDH and Heterostructured LDH/Halloysite Materials: Efficiency, Selectivity, and Stability of Adsorbents in Single- and Multi-Element Systems. <i>Materials</i>, 12, 1373. • Maziarz, P., Matusik, J., Strączek, T., Kapusta, C., Woch, W.M., Tokarz, W., Radziszewska, A., Leiviskä, T. (2019) Highly effective magnet-responsive LDH-Fe oxide composite adsorbents for As(V) removal. <i>Chemical Engineering Journal</i>, 362, 207-216. • Maziarz, P., Matusik, J., Leiviskä, T., Strączek, T., Kapusta, C., Woch, W.M., Tokarz, W., Górniak, K. (2019) Toward highly effective and easily separable halloysite-containing adsorbents: the effect of iron oxide particles impregnation and new insight into As(V) removal mechanisms. <i>Separation and Purification Technology</i>, vol. 210, s. 390–401.

	<ul style="list-style-type: none"> • Leiviskä, T., Matusik, J., Muir, B., Tanskanen, J. (2017) Vanadium removal by organo-zeolites and iron-based products from contaminated natural water. <i>Journal of Cleaner Production</i>, 167, 589-600. • Koteja, A., Szczerba, M., Matusik, J. (2017) Smectites intercalated with azobenzene and aminoazobenzene: Structure changes at nanoscale induced by UV light. <i>Journal of Physics and Chemistry of Solids</i>, 111, 294–303. • Matusik, J. (2016) Halloysite-like structure via delamination of kaolinite. W: Nanosized Tubular Clay Minerals, Eds.: Peng Yuan, Antoine Thill, Faïza Bergaya. Elsevier. ISBN: 9780081002933, 409-428. • Matusik, J. (2016) Halloysite for adsorption and pollution remediation. W: Nanosized Tubular Clay Minerals, Eds.: Peng Yuan, Antoine Thill, Faïza Bergaya. Elsevier. ISBN: 9780081002933, 606-627. • Muir, B., Matusik, J., Bajda, T. (2016) New insights into alkylammonium-functionalized clinoptilolite and Na-PI zeolite: structural and textural features. <i>Applied Surface Science</i>, 361, 242-250. • Koteja, A. and Matusik, J. (2015) Di- and triethanolamine grafted kaolinites of different structural order as adsorbents of heavy metals. <i>Journal of Colloid and Interface Science</i>, 455, 83-92.
Research Projects*	<ul style="list-style-type: none"> • 2020-2024 (Research grant FNP TEAM-NET) The use of fly ashes as precursors of functionalized materials for applications in environmental engineering, civil engineering and agriculture (Co-investigator) Principal Investigator: prof. Wojciech Franus. • 2018-2021 (Research grant NCN OPUS 14) Hydrotalcite-like mineral composites obtained by transformation of selected minerals as hybrid sorbents for the removal of anions from multi-element aqueous solutions (Principal Investigator). • 2017-2020 (Research grant NCN PRELUDIUM 11) Layered minerals doped with iron nanoparticles showing reductive and magnetic properties for the removal and separation of selected inorganic ions (Supervisor). Principal Investigator: Msc. Paulina Maziarz. • 2017-2018 (Research grant - Innovation Incubator+) Production and application of a filter containing functionalized sorbent for the removal of volatile organic compounds (Co-investigator). Principal Investigator: Dr. Tomasz Bajda. • 2017-2020 (Research grant NCN/NCBR TANGO 2) Remediation technology of aquatic environments polluted with anionic forms of elements with the use of functionalized kaolinite sorbents (Principal Investigator). • 2015-2018 Research grant NCN OPUS Photoactive hybrid nanomaterials derived from layered minerals (Principal Investigator).
Professional Membership	<ul style="list-style-type: none"> • Clay Minerals Society (2010-now) • Mineralogical Society of Poland (2016-now)
Potential Research Projects**	Adsorption of pollutants from waters, wastewaters, gases by using natural and synthetic minerals (clay minerals, layered double hydroxides, zeolites).

* 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.