

## Publications

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### Reviewed articles

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- Jędras, A., **Matusik, J.**, Dhanaraman, E., Fu, Y.-P., Cempura, G. (2024) Tuning the structural and electronic properties of Zn-Cr LDH/GCN heterostructure for enhanced photodegradation of estrone in UV and visible light. *Langmuir*, 40, 17845.
- 
- Matusik, J.**, Scholtzová, E., Lis, K., Marzec, M.M. (2024) Induced  $\pi$ -complexation properties of smectites impregnated by Ni, Cu and Ag transition metals: the highly efficient styrene uptake. *Applied Surface Science*, 675, 160999, 1-12.
- 
- Bajda, T., Grela, A., Pamuła, J., Kuc, J., Klimek, A., **Matusik, J.**, Franus, W., Kumar, A. S. K., Danek, T., Gara, P. (2024) Using zeolite materials to remove pharmaceuticals from water. *Materials*, 17, 3848.
- 
- Dziewiątka, K., **Matusik, J.**, Trenczek-Zajac, A., Cempura, G. (2023) TiO<sub>2</sub>-loaded nanotubular kaolin group minerals: the effect of mineral support on photodegradation of dyes as model pollutants. *Applied Clay Science*, 245, 107123.
- 
- Rybka, K., Hudcová, B., **Matusik, J.**, Marzec, M. (2023) Interaction of vanadates with Mg/Al and Mg/Fe LDH intercalated with carbonates and sulphates based on experimental data and surface complexation modelling. *Applied Clay Science*, 242, 107047.
- 
- Sobczyk, M., Muir, B., Skalny, M., Panek, R., **Matusik, J.**, Bajda, T. (2023) Fly ash-based zeolitic materials of different surface chemistry and texture: insight into adsorption performance and mechanisms of aqueous BTEX removal. *Journal of Environmental Chemical Engineering*, 11, 111220.
- 
- Joshi, N., Grewal, J., **Matusik, J.**, Drewniak, Ł., Pranaw, K. (2023) Faujasite Na-X zeolite as a novel carrier for cellulase immobilization and application in biomass saccharification. *Biochemical Engineering Journal*, 198, 109017.
- 
- Grela, A., Kuc, J., Klimek, A., **Matusik, J.**, Pamuła, J., Franus, W., Urbański, K., Bajda, T. (2023) Erythromycin scavenging from aqueous solutions by zeolitic materials derived from fly ash. *Molecules*, 28, art. no. 798, s. 1–20.
- 
- Dziewiątka, K., **Matusik, J.**, Rybka, K. (2022) Simultaneous scavenging of As(V) and safranin O dye by Mg/Al LDH-zeolite heterocoagulated materials: the effect of adsorbent synthesis approach on its efficiency in static and dynamic system. *Separation and Purification Technology*, 302, 122072, 1-13.
- 
- Jędras, A., **Matusik, J.**, Rybka, K. (2022) Impregnation of smectite with layered double hydroxides of different chemistry for simultaneous removal of Cr(III) and acid blue dye. *Journal of Water Process Engineering*, 50, 103252, 1–12.
- 
- Kumar, A. S. K., Warchoń, J., **Matusik, J.**, Tseng, W.L., Rajesh, N., Bajda, T. (2022) Heavy metal and organic dye removal via a hybrid porous hexagonal boron nitride-based magnetic aerogel. *npj Clean Water*, 5, 24, 1-12.
- 
- Rybka, K., **Matusik, J.**, Marzec, M. (2022) Mg/Al and Mg/Fe layered double hydroxides derived from magnesite and chemicals: The effect of adsorbent features and anions chemistry on their removal efficiency. *Journal of Cleaner Production*, 332, 130084.
-

- Matusik, J.**, Koteja-Kunecka, A., Maziarz, P., Kunecka, A. (2022) Styrene removal by surfactant-modified smectite group minerals: efficiency and factors affecting adsorption/desorption. *Chemical Engineering Journal*, 428, 13084, 1-10.
- Matusik, J.** (2021) Special issue: Layered Double Hydroxides (LDH) and LDH-based hybrid composites, *Materials*, ISSN 1996-1944, vol. 14 iss. 10 art. no. 2582, s. 1-3.
- Rybka, K., **Matusik, J.**, Slaný, M. (2021) Technical aspects of selected minerals transformation to LDH-containing materials: The structure, chemistry and affinity towards As(V). *Journal of Environmental Chemical Engineering*, 9 (6), 106792.
- Wójcik-Bania, M., **Matusik, J.** (2021) The effect of surfactant-modified montmorillonite on the cross-linking efficiency of polysiloxanes. *Materials*, 14 (10), 2623, 1-16.
- Gogoi, H., Zhang, R., **Matusik, J.**, Leiviskä, T., Rämö, J., Tanskanen, J. (2021) Vanadium removal by cationized sawdust produced through iodomethane quaternization of triethanolamine grafted raw material. *Chemosphere*, 278, 130448, 1-9.
- Rybka, K., **Matusik, J.**, Kuligiewicz, A., Leiviskä, T., Cempura G. (2021) Surface chemistry and structure evaluation of Mg/Al and Mg/Fe LDH derived from magnesite and dolomite in comparison to LDH obtained from chemicals. *Applied Surface Science*, 538, 147923.
- Matusik, J.**, Deng, Y. (2020) Fumonisin B1 interaction with Mg–Al and Mg–Fe layered double hydroxides: removal efficiency and mechanisms. *Materials*, 13 (19), 4344.
- Mrówka, M., Szymiczek, M., Machoczek, T., Lenża, J., **Matusik, J.**, Sakiewicz, P., Skonieczna, M. (2020) The influence of halloysite on the physicochemical, mechanical and biological properties of polyurethane-based nanocomposites. *Polymers/Polimery*, 65, (11-12), 784-791.
- Drzewicz, P., Naglik, B., Natkaniec-Nowak, L., Dumańska-Słowik, M, Stach, P., Kwaśny, M., **Matusik, J.**, Milovský, R., Skonieczny, J., Kubica-Bąk, D. (2020) Chemical and spectroscopic signatures of resins from Sumatra (Sarolangun mine, Jambi Province) and Germany (Bitterfeld, Saxony-Anhalt). *Scientific Reports (ISSN 2045-2322)*, 10, 18283.
- 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. *Journal of Environmental Chemical Engineering*, 103507 (1-11).
- Koteja, A., **Matusik, J.** (2019) Preparation of azobenzene-intercalated kaolinite and monitoring of the photoinduced activity. *Clay Minerals*, 54, 57–66.
- 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. *Materials*, 12, 3569.
- Maziarz, P., **Matusik, J.**, Leiviskä, T. (2019) Mg/Al LDH enhances sulfate removal and clarification of AMD wastewater in precipitation processes. *Materials*, 12, 2334.
- Koteja, A., **Matusik, J.**, Lubierda-Durnaś, K., Szczerba, M. (2019) The nature of interactions and UV-induced response within  $\alpha$ -zirconium phosphate intercalation compounds with azobenzenes. *Materials*, 12, 1436.
- Bello, A., Leiviskä, T., Zhang, R., Tanskanen, J., Maziarz, P., **Matusik, J.**, Bhatnagar, A. (2019) Synthesis of zerovalent iron from water treatment residue as a conjugate with kaolin and its application for vanadium removal. *Journal of Hazardous Materials*, 374, 372–381.
- 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. *Materials*, 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. *Chemical Engineering Journal*, 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. *Separation and Purification Technology*, vol. 210, s. 390–401.
- Lempart, M., Manecki, M., Kwaśniak-Kominek, M., **Matusik, J.**, Bajda, T. (2019) Accommodation of the carbonate ion in lead hydroxyl arsenate (hydroxylmimetite)  $Pb_5(AsO_4)_3OH$ . *Polyhedron*, 161, 330–337.
- Naglik, B., Kosmowska-Ceranowicz, B., Natkaniec-Nowak, L., Drzewicz, P., Dumańska-Słowik, M., **Matusik, J.**, Wagner, M., Milovsky, R., Stach, P., Szyszka A. (2018) Fossilization history of fossil resin from Jambi Province (Sumatra, Indonesia) based on physico-chemical studies, *Minerals*, vol. 8 (3), no. 95, 1–13.
- Kępyś, W., Wisła-Walsh, E., **Matusik, J.** (2018) Chemical examination of fly ash and bottom ash derived from incineration of hazardous waste. *Inżynieria Mineralna = Journal of the Polish Mineral Engineering Society*; ISSN 1640-4920, 1, 221–233.
- Leiviskä, T., **Matusik, J.**, Muir, B., Tanskanen, J. (2017) Vanadium removal by organo-zeolites and iron-based products from contaminated natural water. *Journal of Cleaner Production*, 167, 589-600.
- Kwaśniak-Kominek, M., Manecki, M., **Matusik, J.**, Lempart, M. (2017) Carbonate substitution in lead hydroxyapatite  $Pb_5(PO_4)_3OH$ . *Journal of Molecular Structure*, 1147, 594-602.
- Koteja, A., Szczerba, M., **Matusik, J.** (2017) Smectites intercalated with azobenzene and aminoazobenzene: Structure changes at nanoscale induced by UV light. *Journal of Physics and Chemistry of Solids*, 111, 294–303.
- Maziarz, P., **Matusik, J.** (2017) Halloysite composites with  $Fe_3O_4$  particles: the effect of impregnation on the removal of aqueous Cd(II) and Pb(II). *Mineralogia / Mineralogical Society of Poland*, 48, no. 1-4, 106-126.
- Rybka, K., Suwała, K., Maziarz, P., **Matusik, J.** (2017) Efficiency of Pb(II) and Mo(VI) removal by kaolinite impregnated with zero-valent iron particles. *Mineralogia / Mineralogical Society of Poland* ; 48, no. 1-4, s. 71-86.
- Radziemska, M., Mazur, Z., Fronczyk, J., **Matusik, J.** (2016) Co-remediation of Ni-contaminated soil by halloysite and Indian mustard (*Brassica juncea*L.) *Clay Minerals - Journal of the European Clay Groups*, 51 (no. 3), 489-497.
- Maziarz, P., **Matusik, J.** (2016) The effect of acid activation and calcination of halloysite on the efficiency and selectivity of Pb(II), Cd(II), Zn(II) and As(V) uptake. *Clay Minerals - Journal of the European Clay Groups*, 51 (no. 3), 385-394.
- Muir, B., **Matusik, J.**, Bajda, T. (2016) New insights into alkylammonium-functionalized clinoptilolite and Na-P1 zeolite: structural and textural features. *Applied Surface Science*, 361, 242-250.
- Kwaśniak-Kominek, M., **Matusik, J.**, Bajda, T., Manecki, M., Rakovan, J., Marchlewski, T., Szala, B. (2015) Fourier transform infrared spectroscopic study of hydroxylpyromorphite  $Pb_{10}(PO_4)_6OH_2$  – hydroxylmimetite  $Pb_{10}(AsO_4)_6(OH)_2$  solid solution series. *Polyhedron*, 99, 103-111.
- Michalik-Zym, A., Dula, R., Duraczyńska, D., Kryściak-Czerwenka, J., Machej, T., Socha, R.P., Włodarczyk, W., Gawel, A., **Matusik, J.**, Bahrnowski, K., Wisła-Walsh, E., Lityńska-Dobrzyńska, L., Serwicka, E.M. (2015) Active, selective and robust Pd and/or Cr catalysts supported on Ti-, Zr- or [Ti,Zr]-pillared montmorillonites for destruction of chlorinated volatile organic compounds. *Applied Catalysis B: Environmental*, 174-175, 293-307.

- 
- Bahranowski, K., Włodarczyk, W., Wisła-Walsh, E., Gawęł, A., **Matusik, J.**, Klimek, A. (2015) [Ti,Zr]-pillared montmorillonite - a new quality with respect to Ti- and Zr-pillared clays. *Microporous and Mesoporous Materials*, 202, 155-164.
- 
- Szala, B., Bajda, T., **Matusik, J.**, Zięba, K., Kijak, B. (2015) BTX sorption on Na-P1 organo-zeolite as a process controlled by the amount of adsorbed HDTMA. *Microporous and Mesoporous Materials*, 202, 115-123.
- 
- Koteja, A. and **Matusik, J.** (2015) Di- and triethanolamine grafted kaolinites of different structural order as adsorbents of heavy metals. *Journal of Colloid and Interface Science*, 455, 83-92.
- 
- Matusik, J.**, Wścisko, A. (2014) Enhanced heavy metal adsorption on functionalized nanotubular halloysite interlayer grafted with aminoalcohols. *Applied Clay Science*, 100, 50-59.
- 
- Matusik, J.** (2014) Arsenate, orthophosphate, sulfate, and nitrate equilibria and kinetics for halloysite and kaolinites with an induced positive charge. *Chemical Engineering Journal*, 246, 244-253.
- 
- Matusik, J.**, Matytkowska, L. (2014) Behaviour of kaolinite intercalation compounds with selected ammonium salts in aqueous chromate and arsenate solutions. *Journal of Molecular Structure*, 1071, 52-59.
- 
- Matusik, J.**, Kłapyta, Z. (2013) Characterization of kaolinite intercalation compounds with benzylalkylammonium chlorides using XRD, TGA/DTA and CHNS elemental analysis. *Applied Clay Science*, 83-84, 433-440.
- 
- Matusik, J.**, Kłapyta, Z., Olejniczak, Z. (2013) NMR and IR study of kaolinite intercalation compounds with benzylalkylammonium chlorides. *Applied Clay Science*, 83-84, 426-432.
- 
- Matusik, J.**, Bajda, T. (2013) Immobilization and reduction of hexavalent chromium in the interlayer of positively charged kaolinites. *Journal of Colloid and Interface Science*, 398, 74-81.
- 
- Matusik, J.**, Bajda, T., Manecki, M. (2013) Aqueous cadmium removal by hydroxylapatite and fluoroapatite. *Geology, Geophysics & Environment* 2012 [wyd. 2013] vol. 38 no. 4, s. 427-438.
- 
- Matusik, J.**, Scholtzová, E., Tunega, D. (2012) Influence of synthesis conditions on the formation of a kaolinite-methanol complex and simulation of its vibrational spectra. *Clays and Clay Minerals*, 60, 227-239.
- 
- Matusik, J.**, Gawęł, A., Bahranowski, K. (2012) Grafting of methanol in dickite and intercalation of hexylamine. *Applied Clay Science*, 56, 63-67.
- 
- Matusik, J.**, Wisła-Walsh, E., Gawęł, A., Bielańska E., Bahranowski K. (2011) Surface area and porosity of nanotubes derived from kaolin minerals of different structural order. *Clays and Clay Minerals*, 59, 117-136.
- 
- Matusik, J.**, Stodolak, E., Bahranowski K. (2011) Synthesis of poly(lactide)/clay nanocomposites using structurally different kaolinites and kaolinite nanotubes. *Applied Clay Science*, 51, 102-109.
- 
- Matusik, J.**, Gawęł, A., Bielańska E., Osuch, W., Bahranowski K. (2009) The effect of structural order on nanotubes derived from kaolin group minerals. *Clays and Clay Minerals*, 57, 452-464.
-

---

**Matusik J., Bajda T., Manecki M.** (2008) Immobilization of aqueous cadmium by addition of phosphates. *Journal of Hazardous Materials*, 152, 1332-1339.

---

**Matusik J.** (2007) Synthesis and characterization of Ca, Pb, Zn, Cu and Cd chlorapatites and Pb-Cd chlorapatites solid solutions. *International Forum of Young Researchers: Topical issues of rational use of natural resources, Saint Petersburg 26-28 IV.2006. Zapiski Gornogo Instituta*, 170 (II), 10-13.

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### **Books and chapters in books**

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**Matusik, J.** (2019) Inżynieria Mineralna – nowe funkcjonalne materiały dla środowiska, medycyny i przemysłu (*eng. Mineral Engineering – new functional materials for the environment, medicine and industry*) W: *Mineralogia Szczegółowa (eng. Advanced Mineralogy)*, Author and Editor: Andrzej Manecki. MINERALPRESS, ISBN: 978-83-933330-5-9, 314-316.

---

**Matusik, J.** (2017) Natural and synthetic layered minerals in nanotechnologies (in Polish) Naturalne i syntetyczne minerały o budowie warstwowej w nanotechnologiach. Cykl: Nauka dla Ciekawych nr 10. Wydawnictwa AGH.

---

**Matusik, J.** (2016) Halloysite-like structure via delamination of kaolinite. W: *Nanosized Tubular Clay Minerals*, edytorzy: Peng Yuan, Antoine Thill, Faïza Bergaya. Elsevier. ISBN: 9780081002933, s. 409-428.

---

**Matusik, J.** (2016) Halloysite for adsorption and pollution remediation. W: *Nanosized Tubular Clay Minerals*, edytorzy: Peng Yuan, Antoine Thill, Faïza Bergaya. Elsevier. ISBN: 9780081002933, s. 606-627.

---

**Matusik, J.** (2016) Organo-functionalized kaolin-group minerals: synthesis, structure and properties, rozdział 3, 1-12 W: *The Clay Minerals Society Workshop Lecture Series, vol. 20: Surface Modification of Clays and Nanocomposites*, ed. Gary Beall. ISBN: 978-1-881208-44-0.

---

**Matusik, J., Rzepa, G.** (2016) Department of Mineralogy, Petrography and Geochemistry, Geology, Geophysics & Environment / Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie ; ISSN 2299-8004. — Tytuł poprz.: *Geologia : kwartalnik Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie ; ISSN: 0138-0974. — 2016 vol. 42 no. 2, s. 218–222.*

---

Koteja, A., Biskup, I., Góra, K., **Matusik, J.** (2015) Organokaolinit jako adsorbent jonów Cr(III) i Ni(II) - Organo-kaolinite as an adsorbent of Cr(III) and Ni(II) ions. W: *Sorbenty mineralne 2015: surowce, energetyka, ochrona środowiska, nowoczesne technologie: [monografia] / red. nauk. Tomasz Bajda, Elżbieta Hycnar. Kraków : Wydawnictwa AGH, 2015. ISBN: 978-83-7464-793-9, s. 131-143.*

---

Koteja, A., **Matusik, J.** (2015) Charakterystyka strukturalna minerałów z grupy smektytu interkalowanych bromkiem heksadecylotrimetyloamoniowym - Structural characterization of smectite group minerals intercalated with hexadecyltrimethylammonium bromide. W: *Sorbenty mineralne 2015: surowce, energetyka, ochrona środowiska, nowoczesne technologie: [monografia] / red. nauk. Tomasz Bajda, Elżbieta Hycnar. Kraków : Wydawnictwa AGH, 2015. ISBN: 978-83-7464-793-9, s. 145–155.*

---

---

Maziarz, P., Prokop, A., **Matusik, J.** (2015) Charakterystyka porównawcza zdolności sorpcyjnych haloizytu surowego, kalcynowanego i aktywowanego kwasowo względem Pb(II), Cd(II), Zn(II) oraz As(V) - A comparative study of raw, calcined and acid activated halloysite sorption capacity towards Pb(II), Cd(II), Zn(II) and As(V). W: Sorbenty mineralne 2015: surowce, energetyka, ochrona środowiska, nowoczesne technologie: [monografia] / red. nauk. Tomasz Bajda, Elżbieta Hycnar. Kraków : Wydawnictwa AGH, 2015. ISBN: 978-83-7464-793-9, s. 193–211.

---

**Matusik, J.** (2014) Wykorzystanie minerałów kaolinitowych z polskich złóż do syntezy hybrydowych, organomineralnych nanomateriałów o kontrolowanych właściwościach — (Use of kaolinite-rich minerals from Polish deposits for the synthesis of hybrid, organo-mineral nanomaterials of controlled properties) W: Innovator AGH : osiągnięcia naukowców Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie = AGH UST Innovator : achievements of researchers at the AGH University of Science and Technology in Krakow, Poland. Dział Informacji i Promocji. Akademia Górniczo-Hutnicza im. Stanisława Staszica, 2014. — ISBN: 978-83-7464-751-9. — S. 44–46. — Tekst pol.-ang.

---

**Matusik, J.** (2013) Kinetyka sorpcji Cr(VI) na surowych i modyfikowanych minerałach kaolinitowych. W: Sorbenty mineralne : surowce, energetyka, ochrona środowiska, nowoczesne technologie / red. nauk. Tadeusz Ratajczak, Grzegorz Rzepa, Tomasz Bajda - Kraków: Wydawnictwa AGH, 2013 - ISBN: 978-83-7464-629-1. s. 285-296.

---

Matkowska, L., **Matusik, J.** (2013) Interkalaty kaolinitu z solami amoniowymi i ich zdolność do usuwania chromianów z roztworów wodnych. W: Sorbenty mineralne : surowce, energetyka, ochrona środowiska, nowoczesne technologie / red. nauk. Tadeusz Ratajczak, Grzegorz Rzepa, Tomasz Bajda - Kraków: Wydawnictwa AGH, 2013 - ISBN: 978-83-7464-629-1. s. 297-310.

---

Wścisko, A., **Matusik, J.** (2013) Sorpcja kadmu na modyfikowanym haloizycie. W: Sorbenty mineralne : surowce, energetyka, ochrona środowiska, nowoczesne technologie / red. nauk. Tadeusz Ratajczak, Grzegorz Rzepa, Tomasz Bajda - Kraków: Wydawnictwa AGH, 2013 - ISBN: 978-83-7464-629-1. s. 559-572.

---

Szala, B., Turek, P., Bajda, T., **Matusik, J.**, Odrzywolski, A., Czerwiński, J., Franus, W., Manecki, M. (2013) Sorpcja BTX na organozeolicie. W: Sorbenty mineralne : surowce, energetyka, ochrona środowiska, nowoczesne technologie / red. nauk. Tadeusz Ratajczak, Grzegorz Rzepa, Tomasz Bajda - Kraków: Wydawnictwa AGH, 2013 - ISBN: 978-83-7464-629-1. s. 471-482.

---

Manecki, M., Rzepa, G., Bajda, T., **Matusik, J.** (2011) Geochemia. Materiały dla studentów kierunku ochrona środowiska. Wydział Geologii, Geofizyki i Ochrony Środowiska AGH. Publikacja bezpłatna, współfinansowana ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego: ISBN 123-45-6789a-bc-d.

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**Conference materials**


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Dziewiątka, K., **Matusik, J.**, Kuc, J. (2024) Photodegradation of zearalenone with kaolinite nanotubes-based photocatalysts: mechanisms and pathways, in: 11<sup>th</sup> MECC 2024, Pilsen, Czech Republic, September 15–20, 2024.

---

Dziewiątka, K., **Matusik, J.**, Herber, M., Hill, E.H., Cempura, G. (2024) Nanotubular photocatalysts based on kaolin group minerals for zearalenone degradation, in: 11<sup>th</sup> MECC 2024, Pilsen, Czech Republic, September 15–20, 2024.

---

Jędras, A., **Matusik, J.**, Dhanaraman, E., Fu, Y.-P., Cempura, G. (2024) Synthesis challenges of LDH/GCN heterostructures for the photodegradation of estrone:, in: 11<sup>th</sup> MECC 2024, Pilsen, Czech Republic, September 15–20, 2024.

---

Dziewiątka, K., **Matusik, J.**, Herber, M., Hill, E.H., Cempura, G. (2024) Sustainable kaolinite-supported photoactive materials for enhanced photodegradation of zearalenone: in-depth assessment of physical and electrochemical properties, in: ACS Fall 2024: Elevating Chemistry, Denver, August 18-22, CO, USA.

---

Jędras, A., **Matusik, J.**, Dhanaraman, E., Fu, Y.-P., Cempura, G. (2024) LDH/GCN heterostructures for enhanced photodegradation of estrone: exploring synthesis impact on the material properties, in: ACS Fall 2024: Elevating Chemistry, Denver, August 18-22, CO, USA.

---

Dziewiątka, K., **Matusik, J.**, Kuc, J., Jędras, A., Bartusiak, A. (2024) Exploring the mechanisms and pathways of zearalenone mycotoxin photodegradation by kaolinite nanotubes-based composites, in: ACS Fall 2024: Elevating Chemistry, Denver, August 18-22, CO, USA.

---

Dziewiątka, K., **Matusik, J.**, Cempura, G. (2024) Efficient photodegradation of zearalenone: Unraveling the potential of photocatalysts based on kaolin group minerals: in: EGU General Assembly 2024, Vienna, Austria, 14-19 April 2024, pp. 1–2. <https://doi.org/10.5194/egusphere-egu24-9623>.

---

Jędras, A., **Matusik, J.**, Dhanaraman, E., Fu, Y.-P., Cempura, G. (2024) Zn-Cr LDH/g-C<sub>3</sub>N<sub>4</sub> heterostructure for estrone photodegradation: what is the effect of synthesis methods on materials' properties and degradation efficiency?: in: EGU General Assembly 2024, Vienna, Austria, 14-19 April 2024, pp. 1–2. <https://doi.org/10.5194/egusphere-egu24-9600>.

---

Bajda, T., Grela, A., Kuc, J., Klimek, A., **Matusik, J.**, Pamuła, J., Franus, W. (2024) Zeolite materials for the removal of pharmaceuticals from aqueous medium, in: Frontiers in Membrane Technology: 7<sup>th</sup> IWA-rmtc 2024: [7<sup>th</sup> International Water Association (IWA) Regional Membrane Technology Conference: 18–21 June 2024, Palermo, Italy]. pp. 42–47. [https://doi.org/10.1007/978-3-031-63357-7\\_7](https://doi.org/10.1007/978-3-031-63357-7_7).

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Bajda, T., Andrunik, M., Franus, W., Grela, A., Klimek, A., Kuc, J., **Matusik, J.**, Muir, B., Kumar, A.S.K., Skalny, M., Sobczyk, M., Świstuń, E. (2023) The use of fly ash transformation products as sorbents to remove contaminants from water and wastewater, in: WASTES 2023, 6<sup>th</sup> International Conference, Wastes, Solutions, Treatments, Opportunities: September 6–8, 2023, Coimbra, Portugal: Book of Proceedings. pp. 18–20.

---

Bajda, T., Grela, A., Kuc, J., Klimek, A., **Matusik, J.**, Pamuła, J., Franus, W. (2023) Cost-effective sorption materials for the removal of pharmaceuticals from aqueous medium, in: ECO STP 2023, 6<sup>th</sup> International Conference on Eco-technologies for Wastewater Treatment, Girona, Spain, 26<sup>th</sup>–29<sup>th</sup> June 2023, Conference Proceedings. pp. 216.

---

---

Sobczyk, M., Muir, B., Skalny, M., Panek, R., **Matusik, J.**, Bajda, T. (2023) Aqueous BTEX removal onto the fly-ash based zeolites, in: IUPAC CHAINS 2023, Connecting Chemical Worlds : 20-25 August 2023, Hague, Netherlands, Book of Abstracts. pp. 536.

---

Jędras, A., **Matusik, J.** (2023) Visible light-induced degradation of dyes by layered double hydroxides supported on clay minerals: the synergistic effect of adsorption-photocatalysis, in: EUROCLAY 2023 International Conference of European Clay Groups Association, Bari, Italy, 24-27 July 2023, pp. 126.

---

Dziewiątka, K., **Matusik, J.** (2023) TiO<sub>2</sub>-loaded nanotubular materials based on kaolin group minerals as spatially confined nanoreactors for photodegradation of deoxynivalenol, in: EUROCLAY 2023 International Conference of European Clay Groups Association, Bari, Italy, 24-27 July 2023, pp. 71.

---

**Matusik, J.**, Dziewiątka, K. (2023) Kaolinite-based nanotubes - current state of knowledge on synthesis, properties and applications, in: EUROCLAY 2023 International Conference of European Clay Groups Association, Bari, Italy, 24-27 July 2023, pp. 174.

---

**Matusik, J.**, Lis, K., Rybka, K. (2023) Highly efficient styrene removal by smectites impregnated with Ni, Cu and Ag transition metals, in: EUROCLAY 2023 International Conference of European Clay Groups Association, Bari, Italy, 24-27 July 2023, pp. 175.

---

**Matusik, J.**, Dziewiątka, K., Cempura, G. (2023) Unraveling the structure-property relationship of adsorbents and photocatalysts derived from 2D layered materials of natural and synthetic origin, in: SCANDEM 2023, 73rd Annual Meeting, June 12-15, Uppsala, Sweden : Book of Abstracts. pp. 64–65.

---

**Matusik, J.**, Dziewiątka, K. (2023) The effect of synthesis conditions on formation and properties of kaolinite-based nanotubes, in: 60<sup>th</sup> Annual Meeting the Clay Minerals Society, Austin, May 20-25, 2023: Program and Abstracts. pp. 138.

---

Jędras, A., **Matusik, J.** (2023) Layered double hydroxides supported by clay minerals as photocatalysts for visible light-driven degradation of organic pollutants, in: 60<sup>th</sup> Annual Meeting the Clay Minerals Society, Austin, May 20-25, 2023: Program and Abstracts. pp. 63.

---

Dziewiątka, K., **Matusik, J.** (2023) A comparative photocatalytic study of TiO<sub>2</sub>-loaded nanotubes derived from kaolin group minerals: evaluation of degradation efficiency using dyes as model pollutants, in: 60<sup>th</sup> Annual Meeting the Clay Minerals Society, Austin, May 20-25, 2023: Program and Abstracts. pp. 47.

---

Rybka, K., **Matusik, J.**, Dziewiątka, K., Giera, A., Marzec, M. (2022) The characteristics of V(V) and P(V) adsorption by LDH derived from magnesite: kinetics, pH influence and competition with common anions. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 213.

---

**Matusik, J.**, Koteja-Kunecka, A., Maziarz, P., Kunecka, A. (2022) Surfactant intercalated smectite group minerals: the effect of host mineral and surfactant type on the styrene adsorption/desorption. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 86.

---

Deng, Y., Hsu, C.C., **Matusik, J.** (2022) Modify smectites and layered double hydroxides for zearalenone detoxification. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 130.

---



---

Rybka, K., **Matusik, J.**, Slaný, M. (2022) LDH-containing materials derived from minerals: from technical aspects of synthesis to the application in As(V) removal. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 192.

---

Jędras, A., **Matusik, J.**, Rybka, K. (2022) Impregnation of smectite with layered double hydroxides of different chemistry for simultaneous removal of Cr(III) and acid blue dye. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 216.

---

Dziewiątka, K., **Matusik, J.**, Rybka, K. (2022) Hydrotalcite-zeolite hetero-coagulated materials: towards materials with dual adsorption properties. W: ICC 2022, AIPEA – XVII International Clay Conference : 25–29 July, 2022, Istanbul, Turkey: scientific research abstracts/eds. Kadir, S. et al. ; The Clay Science Society, The Clay Mineral Society, 217.

---

Jędras, A., **Matusik, J.**, Rybka, K. (2022) Heterocoagulated materials based on smectite and layered double hydroxides of different chemistry with dual adsorption properties. W: MECC'20/22: 10th Jubilee Mid-European Clay Conference, Kliczków, Poland, September 11-15, 2022: book of abstracts / eds. Górniak, K., Szydłak, T., Sęk, M., Kraków, Wydawnictwo Naukowe „Akapit”, ISBN: 978-83-65955-60-9, 48.

---

**Matusik, J.** (2022) Kaolinite madness - 1:1 layered structure which reveals its potential for synthesis of next generation materials. W: MECC'20/22: 10th Jubilee Mid-European Clay Conference, Kliczków, Poland, September 11-15, 2022: book of abstracts / eds. Górniak, K., Szydłak, T., Sęk, M., Kraków, Wydawnictwo Naukowe „Akapit”, ISBN: 978-83-65955-60-9, 7.

---

Dziewiątka, K., **Matusik, J.**, Rybka, K. (2022) Simultaneous removal of As(V) and safranin O dye by Mg/Al LDH-zeolite heterocoagulated materials in static and dynamic conditions. W: MECC'20/22: 10th Jubilee Mid-European Clay Conference, Kliczków, Poland, September 11-15, 2022: book of abstracts / eds. Górniak, K., Szydłak, T., Sęk, M., Kraków, Wydawnictwo Naukowe „Akapit”, ISBN: 978-83-65955-60-9, 35.

---

Rybka, K., **Matusik, J.**, Hudcová, B., Marzec, M. (2022) The mechanisms of V(V) interactions with Mg/Al and Mg/Fe LDH with various interlayer anions. W: MECC'20/22: 10th Jubilee Mid-European Clay Conference, Kliczków, Poland, September 11-15, 2022: book of abstracts / eds. Górniak, K., Szydłak, T., Sęk, M., Kraków, Wydawnictwo Naukowe „Akapit”, ISBN: 978-83-65955-60-9, 75.

---

Rybka, K., **Matusik, J.**, Dziewiątka, K., Giera, A. (2022) As(V) scavenging from artificial and real wastewaters by mineral-derived Mg/Al and Mg/Fe LDH materials. W: Goldschmidt Conference 2022, 11-15 July 2022, Hawaii, USA: European Association of Geochemistry and of the Geochemical Society.

---

Rybka, K., **Matusik, J.** (2022) Al- and Fe-bearing layered double hydroxides as effective adsorbents of aqueous V(V): the effect of brucite-like layer and interlayer chemistry. W: Goldschmidt Conference 2022, 11-15 July 2022, Hawaii, USA: European Association of Geochemistry and of the Geochemical Society.

---

Bajda, T., Andrunik, M., Franus, W., Grela, A., Klimek, A., Kuc, J., **Matusik, J.**, Muir, B., Kumar, S.K.A., Skalny, M., Świstuć, E., Urbański, K. (2022) The application of fly ash chemical transformation products in environmental engineering. Mineralogia – Special Papers, 50, 26, 27th Meeting of the Petrology Group of the Mineralogical Society of Poland: October 20-23, 2022, Rudy, Poland.

---

---

Bajda, T., Andrunik, M., Franus, W., Grela, A., Klimek, A., Kuc, J., **Matusik, J.**, Muir, B., Kumar, S.K.A., Skalny, M., Sobczyk, M. (2022) The use of functionalized silica materials from fly ash to remove inorganic and organic contaminants from waters. W: Water, waste and energy management international congress: Rome, Italy, 20–22 July 2022.

---

Rybka, K., **Matusik, J.** (2021) The efficiency and stability of Mg/Al and Mg/Fe as mineral-based adsorbents for the removal of Cr(VI) and Se(VI) from wastewaters. W: ICWPT 2021 [Dokument elektroniczny], 6th international conference on Water pollution and treatment : 14–16 July 2021, Frankfurt, Germany, [Hong Kong : Chemical, Biological & Environmental Engineering Society], [2021].

---

Rybka, K., **Matusik, J.**, Dziwiątko, K., Giera, A. (2021) Mineral-based adsorbents for wastewater treatment – the kinetics study of Cr(VI) and Se(VI) adsorption in the presence of sulphates and nitrates by Mg/Al and Mg/Fe layered double hydroxides. W: Sustainable Minerals'21 [Dokument elektroniczny] : June 21-24, 2021, online, [Falmouth : MEI Conferences].

---

Rybka, M., **Matusik, J.** (2020) Efficiency of selected anions removal by Mg/Al and Mg/Fe LDH obtained with different sources of Mg. XXIst International Conference of Young Geologists HERL'ANY 2020: Niedzica, Poland, 05-07.11.2020: abstract book & introduction to the Pieniny Klippen Belt / eds. Peter Kiss, [et al.]. Wydawnictwo Mineralogiczne MINERALPRESS, 2020, ISBN: 978-83-933330-2-8, s. 1-2.

---

Koteja, A., Maziarz, P., Solińska, A., **Matusik, J.** (2020) Removal of anionic contaminants from wastewaters using functionalized mineral adsorbent in a fixed-bed column installation. W: Industrial Water 2020: 17-19 November 2020, virtual conference: book of abstracts. Frankfurt am Main: Dechema, s. 137–138.

---

Koteja, A., Maziarz, P., Solińska, A., **Matusik, J.** (2020) Granulated and functionalized halloysite for anions adsorption. 57<sup>th</sup> Annual Meeting of the Clay Minerals Society (virtual conference), 18-23.10.2020. Book of abstracts.

---

**Matusik, J.**, Deng, Y. (2020) Fumonisin FB1 interaction with Mg-Al and Mg-Fe layered double hydroxides: removal efficiency and mechanisms. 57<sup>th</sup> Annual Meeting of the Clay Minerals Society (virtual conference), 18-23.10.2020. Book of abstracts.

---

Maziarz, P., **Matusik, J.** (2020) Kaolin particles coated with zero-valent iron – competitive adsorption of Pb/Cd, regeneration and reuse possibilities. 57<sup>th</sup> Annual Meeting of the Clay Minerals Society (virtual conference), 18-23.10.2020. Book of abstracts.

---

Rybka, K., **Matusik, J.** (2020) Mg/Al LDH obtained via transformation of minerals for the removal of selected elements from acidic and alkaline wastewaters. 57<sup>th</sup> Annual Meeting of the Clay Minerals Society (virtual conference), 18-23.10.2020. Book of abstracts.

---

Rybka, K., **Matusik, J.** (2020) Different approaches to transformation of selected minerals into layered double hydroxides. 57<sup>th</sup> Annual Meeting of the Clay Minerals Society (virtual conference), 18-23.10.2020. Book of abstracts.

---

Koteja, A., **Matusik, J.** (2019) Photoactive hybrid nanomaterials derived from layered minerals. W: ICYG 2019: International Conference of Young Geologists: April 3-5 2019, Herl'any, 45-47.

---

Rybka, K., **Matusik, J.** (2019) Mg/Al LDH formation via transformation of minerals through the AlCl<sub>3</sub> hydrolysis. W: ICYG 2019: International Conference of Young Geologists: April 3-5 2019, Herl'any, 97-98.

---

---

Maziarz, P., **Matusik, J.** (2019) Enhanced removal efficiency of Pb(II) and Cd(II) by kaolin impregnated with zerovalent iron particles. W: ICYG 2019: International Conference of Young Geologists: April 3-5 2019, Herl'any, 64-66.

---

Maziarz, P., **Matusik, J.** (2019) Halloysite-supported iron oxide particles for As(V) removal: adsorption mechanism investigation by the XPS and Mössbauer spectroscopy. W: ECMS 2019 [Dokument elektroniczny]: European Conference on Mineralogy and Spectroscopy:[September 11–13, 2019, Prague, Czech Republic], 29.

---

Rybka, K., **Matusik, J.** (2019) The effect of M(II)/M(III) molar ratio on the LDH structure derived from chemicals and minerals: a spectroscopic study using FTIR, Raman and XPS. W: ECMS 2019 [Dokument elektroniczny]: European Conference on Mineralogy and Spectroscopy:[September 11–13, 2019, Prague, Czech Republic], 36.

---

Rybka, K., **Matusik, J.** (2019) Physico-chemical studies of Mg/Fe and Mg/Al Layered Double Hydroxides obtained via transformation of minerals. W: EUROCLAY 2019 [Dokument elektroniczny] : International Conference on Clay Science and Technology: July 2019, Paris :book of abstracts, 540.

---

**Matusik, J.**, Rybka, K., Maziarz, P., Hyla, J., Kuzdro, J., Toboła, B. (2019) Halloysite-LDH heterostructured materials: performance in removal of selected anions from aqueous solutions. W: EUROCLAY 2019 [Dokument elektroniczny] : International Conference on Clay Science and Technology: July 2019, Paris :book of abstracts, 428.

---

Maziarz, P., **Matusik, J.** (2019) Effectiveness of As(V) removal from wastewaters by layered double hydroxides impregnated with Fe oxide. W: EUROCLAY 2019 [Dokument elektroniczny] : International Conference on Clay Science and Technology: July 2019, Paris :book of abstracts, 430.

---

Rybka, K., **Matusik, J.** (2019) Characterization of hydrotalcite/pyroaurite-like anion adsorbents derived from magnesite and dolomite. W: Sorbenty mineralne 2019: surowce, energetyka, ochrona środowiska, nowoczesne technologie. [abstrakty z konferencji: 16–17 września 2019, Jerzmanowice] / red. nauk. Tomasz Bajda. — Kraków: Wydawnictwo Naukowe AKAPIT, 2019. — ISBN: 978-83-65955-37-1, 57–58.

---

Maziarz, P., **Matusik, J.** (2019) Enhanced sulphate removal by precipitation and adsorption using Ca(OH)<sub>2</sub> and synthetic layered double hydroxide: acid mine drainage case study. W: Sorbenty mineralne 2019: surowce, energetyka, ochrona środowiska, nowoczesne technologie. [abstrakty z konferencji: 16–17 września 2019, Jerzmanowice] / red. nauk. Tomasz Bajda. — Kraków: Wydawnictwo Naukowe AKAPIT, 2019. — ISBN: 978-83-65955-37-1, 48-49.

---

Rybka, K., **Matusik, J.** (2018) Synthesis of Mg–Fe layered double hydroxides from minerals and their sorption affinity towards Cr(VI). III international conference on Applied mineralogy & advanced materials: MMS 2018 Minerals & Materials Sciences : bridging materials & minerals sciences: Bari, Italy, July, 24–26, 2018. ISSN 2464-9147, s. 77.

---

Maziarz, P., **Matusik, J.** (2018) The structural stability of Mg–Al LDH impregnated with iron oxide particles used for As(V) removal. III international conference on Applied mineralogy & advanced materials: MMS 2018 Minerals & Materials Sciences : bridging materials & minerals sciences: Bari, Italy, July, 24–26, 2018. ISSN 2464-9147, s. 58.

---

Koteja, A., **Matusik, J.** (2018) Photoresponsive behavior of  $\alpha$ -zirconium phosphate functionalized with azobenzenes. III international conference on Applied mineralogy & advanced materials: MMS 2018 Minerals & Materials Sciences : bridging materials & minerals sciences: Bari, Italy, July, 24–26, 2018. ISSN 2464-9147, s. 45.

---

- 
- Maziarz, P., **Matusik, J.** (2018) The novel magnetic adsorbents doped with Fe<sub>3</sub>O<sub>4</sub> nanoparticles for the removal of As(V) and Cr(VI) by adsorption. Herl'any 2017: International conference of young geologists, Dobczyce n. Kraków. Wydawnictwo Mineralogiczne MINERALPRESS, cop. 2018. — ISBN: 978-83-933330-1-1, s. 44-45.
- 
- Koteja, A., Góra, K., Łepko, A., Biskup, I., **Matusik, J.** (2018) Photoactivity of organically modified layered minerals. Herl'any 2017: International conference of young geologists, Dobczyce n. Kraków. Wydawnictwo Mineralogiczne MINERALPRESS, cop. 2018. — ISBN: 978-83-933330-1-1, s. 32-33.
- 
- Luberda-Durnaś, K., Koteja, A., Szczerba, M., **Matusik, J.**, Łasocha, W. (2018) New hybrid compound –  $\alpha$ -zirconium phosphate intercalate with *p*-aminoazobenzene: structure determination and interaction with UV radiation revealed by molecular modeling. 60 Konwersatorium krystalograficzne: warsztaty i walne zebranie PTKryst: Wrocław, 27–29 VI 2018 r, e-ISBN: 978-83-939559-4-7 - s. 222-223.
- 
- Rybka, K., **Matusik, J.** (2018) The quality of Mg–Fe layered double hydroxide derived from magnesite and hematite. 55th annual meeting The Clay Minerals Society, University of Illinois at Urbana-Champaign (Illinois, USA) June 11-14, 2018, s. 204.
- 
- Maziarz, P., **Matusik, J.** (2018) Maghemite particles supported on halloysite as magnetically responsive composites for efficient As(V) removal. 55th annual meeting The Clay Minerals Society, University of Illinois at Urbana-Champaign (Illinois, USA) June 11-14, 2018, s. 170.
- 
- Koteja, A., **Matusik, J.** (2018) Monitoring the azobenzene isomerization in layered intercalation compounds using the infrared spectroscopy. 55th annual meeting The Clay Minerals Society, University of Illinois at Urbana-Champaign (Illinois, USA) June 11-14, 2018, s. 136.
- 
- Matusik, J.**, Rybka, K., Kuzdro, J., Tobała, B. (2018) Halloysite-based hybrid composites with synthetic LDH and their affinity to remove anions. 55th annual meeting The Clay Minerals Society, University of Illinois at Urbana-Champaign (Illinois, USA) June 11-14, 2018, s. 169.
- 
- Matusik, J.**, Hyla, J. (2018) Removal of chromates and arsenates by halloysite-LDH composites. 9<sup>th</sup> Mid-European Clay Conference: Zagreb, September 17–21, 2018, ISBN 978-953-6923-39-7, s. 77.
- 
- Rybka, K., **Matusik, J.** (2018) Mg–Fe LDH derived from magnesite and hematite and its affinity towards sulphates. 9<sup>th</sup> Mid-European Clay Conference: Zagreb, September 17–21, 2018, ISBN 978-953-6923-39-7, s. 94.
- 
- Koteja, A., Luberda-Durnaś, K., Szczerba, M., **Matusik, J.** (2018) Highly ordered  $\alpha$ -zirconium phosphate intercalate with *p*-aminoazobenzene: structure refinement and interaction with UV radiation revealed by molecular modelling. 9<sup>th</sup> Mid-European Clay Conference: Zagreb, September 17–21, 2018, ISBN 978-953-6923-39-7, s. 63.
- 
- Maziarz, P., **Matusik, J.** (2018) Application of halloysite impregnated with Fe<sup>0</sup> particles for acid mine drainage water treatment. 9<sup>th</sup> Mid-European Clay Conference: Zagreb, September 17–21, 2018, ISBN 978-953-6923-39-7, s. 78.
- 
- Koteja, A., **Matusik, J.** (2017) UV triggered basal spacing shifts in smectite intercalates. W: ICC 2017: XVI International Clay Conference: Granada, Spain, July, 17–21, 2017, Vol. 7, ISSN 2464-9147, ISBN: 978-88-7522-089-1. s. 426.
-

---

Maziarz, P., **Matusik, J.** (2017) Layered minerals as supports for magnetite nanoparticles and their use for aqueous As(V) removal. W: ICC 2017: XVI International Clay Conference: Granada, Spain, July, 17–21, 2017, Vol. 7, ISSN 2464-9147, ISBN: 978-88-7522-089-1. s. 527.

---

Koteja, A., Góra, K., **Matusik, J.** (2017) Kanemite as a precursor for the synthesis of photoactive layered materials. W: ICC 2017: XVI International Clay Conference: Granada, Spain, July, 17–21, 2017, Vol. 7, ISSN 2464-9147, ISBN: 978-88-7522-089-1. s. 425.

---

Łepko, A., Biskup, I., Koteja, A., **Matusik, J.** (2017) Insight into the structure of kaolinite and layered zirconium phosphate intercalated with photoactive molecules. W: ICC 2017: XVI International Clay Conference: Granada, Spain, July, 17–21, 2017, Vol. 7, ISSN 2464-9147, ISBN: 978-88-7522-089-1. s. 472.

---

**Matusik, J.**, Koteja, A., Łepko, A. (2017) The synthesis approach for the intercalation of photoactive molecules into kaolinite and layered zirconium phosphate. W: Living clays : The 54th Annual Clay Minerals Society conference: from nano-scale interactions to incorporation in everyday life : June 2–7, 2017, Edmonton, Alberta Canada, s. 13-14.

---

Maziarz, P., **Matusik, J.** (2017) The LDH-based magnetic nanocomposites for the removal of As(V) and Mo(VI) anionic species. W: Living clays : The 54th Annual Clay Minerals Society conference: from nano-scale interactions to incorporation in everyday life : June 2–7, 2017, Edmonton, Alberta Canada, s. 86–87.

---

Koteja, A., Góra, K., **Matusik, J.** (2017) Monitoring and understanding the UV induced structural changes for functionalized smectites and kanemite. W: Living clays : The 54th Annual Clay Minerals Society conference: from nano-scale interactions to incorporation in everyday life : June 2–7, 2017, Edmonton, Alberta Canada, s. 79–80.

---

**Matusik, J.**, Koteja, A. (2016) Kaolinite co-intercalated with benzylalkylammonium salts and azobenzene: structural features and photoswitching effect. Resurgent clays: 53rd annual meeting of the Clay Minerals Society: June 5–8, 2016 : Atlanta, Georgia : program & abstracts.

---

Koteja, A., Szczerba, M., **Matusik, J.** (2016) Molecular dynamics simulations of azobenzene intercalates in smectites. 8<sup>th</sup> Mid-European Clay Conference : July 4–8, 2016, Košice, Slovakia : book of abstracts / ed. Jana Valúchová.

---

Koteja, A., **Matusik, J.** (2016) Na-montmorillonite modified with ammonium salts and azobenzene as a photoactive nanomaterial. *Geology, Geophysics & Environment / Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie* ; ISSN 2299-8004. — Tytuł poprz.: *Geologia : kwartalnik Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie* ; ISSN: 0138-0974. — 2016 vol. 42 no. 1, s. 87–88.

---

Koteja, A., **Matusik, J.** (2016) Photoactivity of azobenzene intercalated in organo-smectites. W: Resurgent clays : 53rd annual meeting of the Clay Minerals Society : June 5–8, 2016 : Atlanta, Georgia : program & abstracts.

---

Koteja, A., **Matusik, J.** (2016) Structural differences of kaolinite and montmorillonite co-intercalated with ammonium salts and azobenzene. W: MECC 2016: 8<sup>th</sup> Mid-European Clay Conference : July 4–8, 2016, Košice, Slovakia : book of abstracts / ed. Jana Valúchová.

---

Maziarz, P., **Matusik, J.** (2016) The effect of experimental factors on alkali activation of halloysite. W: MECC 2016 : 8<sup>th</sup> Mid-European Clay Conference : July 4–8, 2016, Košice, Slovakia : book of abstracts / ed. Jana Valúchová.

---

Maziarz, P., **Matusik, J.** (2016) The influence of alkali concentration and temperature on chemical activation of halloysite / Paulina MAZIARZ, Jakub MATUSIK // *Geology, Geophysics & Environment* / Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie ; ISSN 2299-8004. — Tytuł poprz.: *Geologia : kwartalnik Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie* ; ISSN: 0138-0974. — 2016 vol. 42 no. 1, s. 97–98.

Natkaniec-Nowak, L., Drzewicz, P., Bąk, M., **Matusik, J.**, Kowalczyk, J., Bogdasarov, M., Ivanina, A.V. (2016) Fossil resins from Jambi province (Sumatra, Indonesia) - proxy indicators of palaeoenvironment and palaeoclimate of Sundaland. W: *ESASGD 2016 : international conferences on Earth sciences and sustainable geo-resources development : Hanoi, November 12–15, 2016 : program book* / Hanoi University of Mining and Geology. — [Hanoi] : Transport Publishing House

Koteja, A., **Matusik, J.** (2015) Structure and photoresponse of azobenzene-smectite intercalation compounds to UV radiation. W: *EUROCLAY 2015: International conference on Clay science and technology, Edinburgh, 5th–10th July: programme & abstracts*, s. 20.

Prokop, A., Maziarz, P., **Matusik, J.** (2015) Removal of selected anions by raw halloysite and smectite clay. *Geology, Geophysics & Environment*, vol. 41 no. 1, s. 125-126. XVI International conference of young geologists: Herl'any 2015.

Maziarz, P., Prokop, A., **Matusik, J.** (2015) Raw, acid activated and calcined halloysite for metals and metalloids adsorption: sorption capacity and mechanisms. W: *EUROCLAY 2015: International conference on Clay science and technology, Edinburgh, 5th–10th July: programme & abstracts*, s. 213.

Koteja, A., **Matusik, J.** (2015) Preparation and characterization of azobenzene-smectite photoactive mineral nanomaterials. *Geology, Geophysics & Environment*, vol. 41 no. 1, s. 99-100. XVI International conference of young geologists: Herl'any 2015.

**Matusik, J.**, Koteja, A. (2015) Organo-kaolinite: 50 Å intercalation compound with azobenzene. W: *EUROCLAY 2015: International conference on Clay science and technology, Edinburgh, 5th–10th July: programme & abstracts*, s. 23.

Radziemska, M., Mazur, Z., Fronczyk, J., **Matusik, J.** (2015) Co-remediation method of nickel contaminated soil by halloysite and Indian mustard *Brassica juncea* L. W: *EUROCLAY 2015: International conference on Clay science and technology, Edinburgh, 5th–10th July: programme & abstracts*, s. 214.

Szala, B., Bajda, T., **Matusik, J.** (2015) BTX sorption on Na-P1 organo-zeolites as a process controlled by the type of surfactant. W: *Scientific Research Abstracts: AMAM 2015: international conference on Applied Mineralogy & Advanced Materials : Taranto, Italy, June, 7–12, 2015, Vol. 4 / eds. Claudia Belviso, Saverio Fiore. Bari: Digilabs*, s. 106.

Maziarz, P., Prokop, A., **Matusik, J.** (2015) A comparative study on the removal of Pb(II), Zn(II), Cd(II) and As(V) by natural, acid activated and calcinated halloysite. *Geology, Geophysics & Environment*, vol. 41 no. 1, s. 108–109. XVI International conference of young geologists: Herl'any 2015.

Szala, B., Bajda, T., **Matusik, J.** (2014) Quantitative determination of quaternary ammonium salts in organo-zeolites by FTIR. W: *6th FEZA conference: Porous systems: from novel materials to sustainable solutions: 8-11.09.2014, Leipzig, Germany*, s. 449.

Koteja, A., **Matusik, J.** (2014) Sorption efficiency of selected metals on kaolinites grafted with aminoalcohols. W: *MECC 14: 7<sup>th</sup> Mid-European Clay Conference: 16-19.09.2014, Dresden, Germany*, s. 289.

---

Prokop, A., **Matusik, J.** (2014) Removal of chromate, arsenate and phosphate oxyanions by halloysite from Dunino deposit, Poland. W: MECC 14: 7<sup>th</sup> Mid-European Clay Conference: 16-19.09.2014, Dresden, Germany, s. 294.

---

Bahranowski, K., Gawęł, A., Klimek, A., **Matusik, J.**, Michalik-Zym, A., Serwicka, E., Wisła-Walsh, E., Włodarczyk, W. (2014) Pillared montmorillonites as catalysts for removal of chlorinated volatile organic compounds from air - textural characterization. W: MECC 14: 7<sup>th</sup> Mid-European Clay Conference: 16-19.09.2014, Dresden, Germany, s. 105.

---

Koteja, A., **Matusik, J.** (2014) Efficiency and mechanism of heavy metals sorption on grafted kaolinites of different structural order. W: Everything is big: from nanoparticles to planets : 51<sup>st</sup> annual meeting of the Clay Minerals Society, 17-21.05.2014, Texas A&M University, s. 137-138.

---

Prokop, A., **Matusik, J.** (2014) Competitive sorption of selected anions on modified halloysite. *Geology, Geophysics & Environment*, 40 no. 1, s. 118-119. International conference of Young geologists Herl'any 2014 : Międzybrodzie Żywieckie, Poland.

---

Maziarz, P., **Matusik, J.** (2014) The kinetics of heavy metals immobilization by modified halloysite. *Geology, Geophysics & Environment*, 40 no. 1, s. 108-109. International conference of Young geologists Herl'any 2014 : Międzybrodzie Żywieckie, Poland.

---

Koteja, A., **Matusik, J.** (2014) Improved copper sorption on grafted kaolinites of different structural order. *Geology, Geophysics & Environment*, 40 no. 1, s. 96-97. International conference of Young geologists Herl'any 2014 : Międzybrodzie Żywieckie, Poland.

---

Szala, B., Bajda, T., **Matusik, J.** (2014) Quantitative determination of ammonium salts in organo-zeolites by infrared spectroscopy. *Geology, Geophysics & Environment*, 40 no. 1, s. 131-132. International conference of Young geologists Herl'any 2014 : Międzybrodzie Żywieckie, Poland.

---

**Matusik, J.**, Wścisko, A. (2013) Equilibrium and kinetic study of heavy metals sorption on grafted halloysite. W: *50<sup>th</sup> Anniversary of The Clay Minerals Society: 1963-2013: annual meeting: October 6-10, 2013, Urbana-Champaign : program & abstracts. S. 165-166.*

---

**Matusik, J.**, Matykowska, L. (2013) Chromate and arsenate removal by kaolinite intercalated with ammonium salts. W: *50<sup>th</sup> Anniversary of The Clay Minerals Society: 1963-2013: annual meeting: October 6-10, 2013, Urbana-Champaign : program & abstracts. S. 167-168.*

---

**Matusik, J.**, Wścisko, A. (2013) Lead sorption on halloysite grafted with aminoalcohols. *XV International Clay Conference: 7-11 July 2013 Rio de Janeiro, Brazil, abstract no. 532.*

---

**Matusik, J.**, Bajda, T. (2013) Sorption of arsenate and phosphate on positively charged kaolinites. *XV International Clay Conference: 7-11 July 2013 Rio de Janeiro, Brazil, abstract no. 531.*

---

Turek, P., Szala, D., Czerwiński, J., Bajda, T., **Matusik, J.** (2013) BTX sorption by surfactant-modified synthetic zeolite. *Mineralogical Magazine*, vol. 77 no. 5, s. 2366. *Goldschmidt Conference Abstracts: Florence, Italy, August 25-30, 2013.*

---

Wścisko, A., **Matusik, J.** (2013) Halloysite-based material with improved cation sorption properties. *Geology, Geophysics & Environment* 2012 [wyd. 2013] vol. 38 no. 4, s. 553–554. *Herlandia 2013: XIV international conference of young geologists Herl'any, Svätý Jur, Slovak Republic, 4-6 April 2013.*

---

Matykowska, L., **Matusik, J.** (2013) Intercalates of kaolinite with ammonium salts and their interaction with aqueous Cr(VI) ions. *Geology, Geophysics & Environment* 2012 [wyd. 2013] vol. 38 no. 4, s. 506–507. *Herlandia 2013: XIV international conference of young geologists Herl'any, Svätý Jur, Slovak Republic, 4-6 April 2013.*

Kwaśniak-Kominek, M., **Matusik, J.**, Bajda, T., Manecki, M. (2013) Vibrational spectroscopic study of hydroxylpyromorphite-hydroxylmimetite solid solutions. *EGU European Geosciences Union, 10th EGU General Assembly 2013 Vienna, 07-12 April 2013.*

Zych, M., Puskarczyk, E., Stadnik, R., **Matusik, J.** (2013) Badanie skał oraz mechanizmu powstawania laminacji ilastych w warstwach piaskowcowych. Rock examination and mechanism of shale lamination formation in sandstone layers. W: POKOS 5'2013: głębokomorska sedimentacja fliszowa: sedimentologiczne aspekty historii basenów karpaccich: V polska konferencja sedimentologiczna. Żywiec, 16–19.05.

Szala, B., Turek, P., Bajda, T., **Matusik, J.** (2013) Optymalizacja procesu syntezy organo-zeolitu. Optimizing the process of synthesising an organo-zeolite. W: Młodzi dla techniki: wybrane problemy naukowo-badawcze chemii i technologii chemicznej: praca zbiorowa, red. Dariusz Szychowski; Politechnika Warszawska. Wydział Budownictwa, Mechaniki i Petrochemii. S. 109-118.

Kwaśniak, M., Manecki, M., Lempart, M., Bajda, T., **Matusik, J.** (2012) Carbonate substitution in hydroxylpyromorphite  $Pb_5(PO_4)_3OH$ . W: EMC 2012 [Dokument elektroniczny]: *European Mineralogical Conference: Frankfurt, Germany, 2-6 September, Tryb dostępu: {<http://meetingorganizer.copernicus.org/EMC2012/EMC2012-723.pdf>}*.

**Matusik, J.**, Bajda, T. (2012) Kaolinite-based sorbent of hexavalent chromium: sorption mechanism, pH effect and desorption behaviour. *Mineralogia, Special Papers*, **39**, 55-56.

**Matusik, J.**, Matykowska L., Wścisko A. (2012) Methoxy-kaolinite: a precursor for the intercalation of methylene blue and benzoic acid. *6th Mid-European Clay Conference, Pruhonice, Republika Czeska*, 142.

**Matusik, J.**, Zimowska, M., Bajda, T. (2012) Modified kaolinites and halloysite with anion sorption properties. *6th Mid-European Clay Conference, Pruhonice, Republika Czeska*, 70.

Bahranowski, K., Gaweł, A., Klimek, A., Machej, T., **Matusik, J.**, Michalik-Zym A., Serwicka E. M., Wisła-Walsh, E., Włodarczyk W. (2012) Pillared manotmorillonites as catalysts for removal of chlorinated volatile organic compounds from air: structural characterization. *6th Mid-European Clay Conference, Pruhonice, Republika Czeska*, 112.

Kristóf J., Horváth E., Makó, **Matusik, J.**, Stodolak, E. (2012) Synthetic halloysite-type nanotubes as additives for polymer composites. *6th Mid-European Clay Conference, Pruhonice, Republika Czeska*, 20.

**Matusik, J.**, Bajda, T. (2012) Chromates sorption by functionalized kaolin group minerals. Book of abstracts “49<sup>th</sup> Annual Meeting of the Clay Minerals Society, Golden, Colorado, USA”, 107-108.

Wścisko, W., **Matusik, J.** (2012) Synthesis of kaolinite derivatives with aromatic chemical compounds. *XIII International Conference of Young Geologists: Herl'any 26-28.04.2012: proceedings: abstract book*, 16-17.

**Matusik, J.** (2012) Organic synthesis of positively charged kaolinites. *XIII International Conference of Young Geologists: Herl'any 26-28.04.2012: proceedings: abstract book*, 36-37.



- 
- Matykowska, L., **Matusik, J.** (2012) Formation of kaolinite complex with methylene blue. *XIII International Conference of Young Geologists: Herl'any 26-28.04.2012: proceedings: abstract book*, 47-48.
- 
- Lempart, M., Kwaśniak-Kominek, M., Manecki, M., **Matusik, J.**, Bajda, T. (2012) Characterization of CO<sub>3</sub><sup>2-</sup> substitution in hydroxylmimetite Pb<sub>5</sub>(AsO<sub>4</sub>)<sub>3</sub>OH. *XIII International Conference of Young Geologists: Herl'any 26-28.04.2012: proceedings: abstract book*, 63-64.
- 
- Matusik, J.**, Kłapyta, Z. (2011) Kaolinite intercalates with benzylalkylammonium chlorides. Book of abstracts "48<sup>th</sup> Annual Meeting of the Clay Minerals Society, Stateline, Nevada, USA", 74-75.
- 
- Matusik, J.**, Gawęł, A., Bahranowski, K. (2011) Influence of synthesis conditions on the formation of kaolinite-methanol complex. *EuroClay Conference 2011 abstract book*, 341.
- 
- Psykała, M., **Matusik, J.** (2011) Intercalation of dodecylamine into kaolinites of high structural order. *Mineralia Slovaca*, **43**, 184-185.
- 
- Grzywacz, W., **Matusik, J.** (2011) Methanol complexes with kaolin minerals of low structural order - IR study. *Mineralia Slovaca*, **43**, 177.
- 
- Matusik, J.**, Wisła-Walsh, E., Gawęł A., Bielańska E., Bahranowski K. (2010) Nanotubular particles derived from kaolin group minerals - structural and textural examination. *Acta Mineralogica-Petrographica - Abstract Series*, **6**, 88.
- 
- Matusik, J.**, Stodolak, E., Bahranowski, K. (2010) Nanotubular kaolinite as an additive for preparation of polylactide/clay composites. *Trilateral Meeting on Clays (SEA-CSSJ-CMS) TMC- Book of Abstracts*, 320-321, Sewilla, Hiszpania.
- 
- Matusik, J.** (2009) The kaolin group minerals as the precursors of mineral nanotubes. *Mineralogia*, **40**, 125-126.
- 
- Matusik, J.**, Gawęł, A., Bielańska, E., Bahranowski, K. (2009) Nanotubes derived from kaolinites of different structural order. *X International Conference of Young Geologists, Herlany 2-4.IV.2009, Geovestnik*, **13**, 365.
- 
- Matusik, J.**, Gawęł, A., Bielańska, E., Bahranowski, K. (2008) Aluminosilicate nanotubes derived from kaolinite group minerals. *Mineralogia, Special Papers*, **33**, 110.
- 
- Matusik, J.**, Bajda, T., Manecki, M. (2008) Removal of aqueous cadmium by hydroxylapatite and fluoroapatite. *Mineralia Slovakia*, **40/3-4**, 268.
- 
- Matusik, J.**, Bajda, T., Manecki, M. (2008) Removal of aqueous cadmium by hydroxylapatite and fluoroapatite. *IX International geological conference of Ph. D. students and young scientists: Zawoja-Herl'any, 3-6 April 2008: extended abstracts*. ISBN: 978-83-60958-10-0, s. 64.
- 
- Matusik, J.** (2007) Delaminacja i transformacja morfologii minerałów z grupy kaolinitu. *Auxiliary sciences in archaeology, preservation of relics and environmental engineering. Sprawozdanie z posiedzeń Komisji Nauk Mineralogicznych PAN - czasopismo elektroniczne*: ISBN 978-83-923836-0.
- 
- Matusik, J.**, Bajda, T., Manecki, M. (2007) Immobilization of aqueous cadmium by addition of phosphates. Book of abstracts: "Nanoscopic Approaches in Earth and Planetary Sciences" - 9th EMU School, Monachium 12-17.VIII.2007 ; 91-92.
-

---

**Matusik, J., Bajda, T., Manecki, M.** (2007) Solubility product of cadmium phosphate  $Cd_5H_2(PO_4)_4 \cdot 4H_2O$  at 20°C. Materiały konferencyjne “*Studencka konferencja geologiczna*”, *Miękinia 1-3.VI.2007* ; 23-24.

---

**Matusik, J., Bajda, T., Manecki, M.** (2007) Immobilization of aqueous cadmium by addition of phosphates. *VIII International conference of PhD Students and young scientists, Herlany 2-4.III.2007. Mineralia Slovakia*, **39/2**, 13-14.

---

Wojnarski, D., **Matusik, J.**, Bajda, T., Manecki, M. (2006) Reaction of Cd sorbed on ferrihydrite with phosphate ions. *VII International conference of PhD Students and young scientists, Modra Harmonia-Herlany 4-6.V.2006. Mineralia Slovakia*, **38/4**, 15.

---

**Matusik, J.**, Bajda, T., Manecki, M., Gawęł, A. (2005) Próba syntezy i charakterystyka fazowa chlorapatytów wapnia, ołowiu, cynku i miedzi. *VI International conference of PhD Students and young scientists Miękinia-Herlany 7-8 kwietnia 2005. Przegląd Geologiczny*, **53/9**, 794.

---

**Matusik, J.** (2004) Synteza i charakterystyka chlorapatytów wapnia, ołowiu, cynku i miedzi. *Program XLV Sesji Studenckich Kół Naukowych Pionu Górniczego Akademii Górniczo-Hutniczej*, 110.

---

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