

Scientific CV

Personal details

First and last name: **Klaudia Dziewiątka**

Scientific websites and databases:

- **WWW:** www.mba-group.agh.edu.pl
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- **Web of Science:** <https://www.webofscience.com/wos/author/record/HJO-8960-2023>
- **ResearchGate:** <https://www.researchgate.net/profile/Klaudia-Dziewiatka>
- **Scopus:** 57884463100 (<https://www.scopus.com/authid/detail.uri?authorId=57884463100>)
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Education – diplomas and degrees

2022-present	<p>PhD in Earth and Environmental Sciences AGH, WGGiOŚ</p> <p>PhD thesis: <i>Nanotubular materials based on kaolin group minerals for the photodegradation of selected mycotoxins in aqueous environment.</i></p> <p>Supervisor: Prof. Jakub Matusik</p>
2022	<p>MSc title AGH, WGGiOŚ</p> <p>Branch: Engineering and Environmental Protection, Specialization: Mineral Functional Materials</p> <p>MSc thesis: <i>Hydrotalcite-zeolite mineral composites with dual adsorption properties.</i></p> <p>Supervisor: Prof. Jakub Matusik</p>
2020	<p>BSc title AGH, WGGiOŚ</p> <p>Branch: Environmental Engineering</p> <p>BSc thesis: <i>Efficiency of vanadium ions removal from model aqueous solutions by synthetic hydrotalcite-like sorbents.</i></p> <p>Supervisor: Prof. Jakub Matusik</p>

Research interest

- Chemical and mineralogical characterization of layered (clay minerals, LDH) and framework minerals (zeolites).
- Modification of minerals in order to obtain functional mineral materials e.g. adsorbents, catalysts, photocatalysts and polymer-composites.
- Pillared clays - synthesis, characterization and catalytic applications.
- Determination of adsorption properties of mineral-based materials derived mainly from layered minerals and zeolites.

- Photoactive nanomaterials based on clay minerals.
- Synthesis and structural characterization of phosphate phases containing rare earth elements.

Research grants

2022-2025	Grant NCN OPUS 22 (2021/43/B/ST10/00868) , 838 140 PLN Nanotubular materials based on kaolin group minerals for the photodegradation of selected mycotoxins in aqueous environment (Co-investigator) – in progress. Principal Investigator: Prof. Jakub Matusik
2022	Grant Initiative for Excellence Research University , Support for Student Research Groups (Działanie 12), 24 000 PLN Synthetic analogs of phosphoschultenite (Pb,REE)HPO ₄ rich in REE – basic research for future technologies (Co-investigator) – project completed. Project coordinator: MSc Anna Jędras
03.2022-07.2022	Grant NCN OPUS 14 (2017/27/B/ST10/00898) , 558 360 PLN Hydrotalcite-like mineral composites obtained by transformation of selected minerals as hybrid sorbents for the removal of anions from multi-element aqueous solutions (Co-investigator) – project completed. Principal Investigator: Prof. Jakub Matusik

Conferences

Presentations

2023.07.24-27	<i>EUROCLAY 2023 International conference of European Clay Groups Association, Bari, Italy</i> Lecture: TiO ₂ -loaded nanotubular materials based on kaolin group minerals as spatially confined nanoreactors for photodegradation of deoxynivalenol.
2023.05.20-25	<i>The Clay Minerals Society 60th Annual Meeting, Austin, TX, USA</i> Lecture: A comparative photocatalytic study of TiO ₂ -loaded nanotubes derived from kaolin group minerals: evaluation of degradation efficiency using dyes as model pollutants.
2022.09.25-29	<i>10th Mid-European Clay Conference, Kliczków, Poland</i> Poster: Simultaneous removal of As(V) and safranin O dye by Mg/Al LDH-zeolite heterocoagulated materials in static and dynamic conditions.
2022.07.11-15	<i>XVII International Clay Conference, Istanbul, Türkiye</i> Poster: Hydrotalcite-zeolite heterocoagulated materials: towards materials with dual adsorption properties.

Presentations given by the co-authors

2023.07.24-27	<p><i>EUROCLAY 2023 International conference of European Clay Groups Association, Bari, Italy</i></p> <p>Co-author of lecture: Kaolinite-based nanotubes - current state of knowledge on synthesis, properties and applications.</p>
2023.05.20-25	<p><i>The Clay Minerals Society 60th Annual Meeting, Austin, TX, USA</i></p> <p>Co-author of poster: The effect of synthesis conditions on formation and properties of kaolinite-based nanotubes.</p>
2023.06.12-15	<p><i>Scandem 2023 73rd annual meeting of the Nordic Microscopy Society, Uppsala, Sweden</i></p> <p>Co-author of lecture: Unraveling the structure-property relationship of adsorbents and photocatalysts derived from 2D layered materials of natural and synthetic origin.</p>
2023.04.23-28	<p><i>EGU General Assembly 2023, Vienna, Austria</i></p> <p>Co-author of lecture: Impact of Pb²⁺ presence on precipitation of REE phosphates (analogs of rhabdophane) from aqueous solutions.</p>
2022.07.25-29	<p><i>XVII International Clay Conference, Istanbul, Turkey</i></p> <p>Co-author of poster: The characteristics of V(V) and P(V) adsorption by LDH derived from magnesite: kinetics, pH influence and competition with common anions.</p>
2022.07.11-15	<p><i>Goldschmidt Conference, Hawaii, USA</i></p> <p>Co-author of poster: As(V) scavenging from artificial and real wastewaters by mineral-derived Mg/Al and Mg/Fe LDH materials.</p>
2022.05.23-27	<p><i>EGU General Assembly, Vienna, Austria</i></p> <p>Co-author of lecture: The influence of the synthesis procedure on the morphology of REE-enriched Pb-apatite (pyromorphite).</p>
2021.06.21-24 (virtual)	<p><i>Sustainable Minerals'21</i></p> <p>Co-author of lecture: 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.</p>

Conference organization

- 2022 – 10th Mid-European Clay Conference, Kliczków, Poland – member of Organizing Committee.

Membership in international or national organizations and scientific societies

- 2023-now: The Clay Minerals Society (CMS) (**member**).
- 2022-now: Polish Clay Group (**member**).

- **2022-now:** Mineralogical Society of Poland (**member**).
- **2022-now:** Association Internationale pour l'Étude des Argiles (AIPEA) (**member**).

Internships completed in scientific institutions

2023.01.09	<i>Workshop on basic concepts and operational principles of HPLC, Shimadzu Corporation, Kraków, Poland.</i> Participant of the workshop
2022.05.09-18	<i>Workshop on Introduction to Quantitative X-ray Diffraction (QXRD) Analysis Course (online).</i> Participant of the workshop
2022.05.06	<i>Phosphorus Recovery - challenges and perspectives in V4 Workshop (online).</i> Participant of the workshop

Awards and distinctions

Year	Description
2023	Initiative for Excellence Research University scholarship for the best PhD candidates (3 rd edition, Działanie 5).
2023	1st prize for the best student oral presentation at EUROCLAY 2023 International conference of European Clay Groups Association, Bari, Italy.
2023	3rd prize for the best student oral presentation at The Clay Minerals Society 60 th Annual Meeting, Austin, TX, USA.
2022	AGH Doctoral Scholarship for being in the top 30% of PhD candidates with the highest recruitment score.
2022	Distinction in the 24 th contest for the best MSc thesis 'AGH UST Diamonds'.
2022	AIPEA Student Travel Funds award for the Conference: 17th International Clay Conference 2022, Istanbul, Turkey.
2018	AGH Rector Scholarship for academic achievements.

Kraków, 10th January 2024