Scientific CV

Personal details

First and last name: **Klaudia Dziewiątka**

Scientific websites and databases:

- **WWW**: www.mba-group.agh.edu.pl
- **ORCID**: 0000-0003-2793-7103 *(https://orcid.org/0000-0003-2793-7103)*
- **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)*
- **LinkedIn**: *https://www.linkedin.com/in/klaudia-dziewiątka-50915a211*

Education – diplomas and degrees

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

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

2024-2025	**Grant IDUB AGH (Action 4, no. 9793)**, 750 000 PLN University grant system for research projects carried out with the participation of doctoral students - Excellence Initiative – Research University Development of effective and selective mineral adsorbents for immobilization of emerging mycotoxins - towards detoxification of feed and food (Co-investigator) – in progress. Principal Investigator: Prof. Jakub Matusik
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**, 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

2024.09.15-20	*11th Mid-European Clay Conference 2024, Pilsen, Czech Republic* **Lecture:** Photodegradation of zearalenone with kaolinite nanotubes-based photocatalysts: mechanisms and pathways.
2024.09.15-20	*11th Mid-European Clay Conference 2024, Pilsen, Czech Republic* **Poster:** Nanotubular photocatalysts based on kaolin group minerals for zearalenone degradation: key electrochemical, structural, and morphological insights.

2024.08.18-22	*Americal Chemical Society Fall Meeting 2024, Denver, CO, USA* **Poster:** Exploring the mechanisms and pathways of zearalenone mycotoxin photodegradation by kaolinite nanotubes-based composites.
2024.04.14-19	*EGU General Assembly 2024, Vienna, Austria* **Poster:** Efficient photodegradation of zearalenone: Unraveling the potential of photocatalysts based on kaolin group minerals.
2023.07.24-27	*EUROCLAY 2023 International conference of European Clay Groups Association, Bari, Italy* **Lecture:** TiO_2-loaded nanotubular materials based on kaolin group minerals as spatially confined nanoreactors for photodegradation of deoxynivalenol.
2023.05.20-25	*The Clay Minerals Society 60th Annual Meeting, Austin, TX, USA* **Lecture:** A comparative photocatalytic study of TiO_2-loaded nanotubes derived from kaolin group minerals: evaluation of degradation efficiency using dyes as model pollutants.
2022.09.11-15	*10th Mid-European Clay Conference, Kliczków, Poland* **Poster:** Simultaneous removal of As(V) and safranin O dye by Mg/Al LDH-zeolite heterocoagulated materials in static and dynamic conditions.
2022.07.25-29	*XVII International Clay Conference, Istanbul, Türkiye* **Poster:** Hydrotalcite-zeolite heterocoagulated materials: towards materials with dual adsorption properties.

Presentations given by the co-authors

2024.08.18-22	*Americal Chemical Society Fall Meeting 2024, Denver, CO, USA* **Co-author of poster:** Sustainable kaolinite-supported photoactive materials for enhanced photodegradation of zearalenone: in-depth assessment of physical and electrochemical properties.
2023.07.24-27	*EUROCLAY 2023 International conference of European Clay Groups Association, Bari, Italy* **Co-author of lecture:** Kaolinite-based nanotubes - current state of knowledge on synthesis, properties and applications.
2023.05.20-25	*The Clay Minerals Society 60th Annual Meeting, Austin, TX, USA* **Co-author of poster:** The effect of synthesis conditions on formation and properties of kaolinite-based nanotubes.
2023.06.12-15	*Scandem 2023 73rd annual meeting of the Nordic Microscopy Society, Uppsala, Sweden* **Co-author of lecture:** Unraveling the structure-property relationship of adsorbents and photocatalysts derived from 2D layered materials of natural and synthetic origin.

2023.04.23-28	*EGU General Assembly 2023, Vienna, Austria* **Co-author of lecture:** Impact of Pb^{2+} presence on precipitation of REE phosphates (analogs of rhabdophane) from aqueous solutions.
2022.07.25-29	*XVII International Clay Conference, Istanbul, Turkey* **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.
2022.07.11-15	*Goldschmidt Conference, Hawaii, USA* **Co-author of poster:** As(V) scavenging from artificial and real wastewaters by mineral-derived Mg/Al and Mg/Fe LDH materials.
2022.05.23-27	*EGU General Assembly, Vienna, Austria* **Co-author of lecture:** The influence of the synthesis procedure on the morphology of REE-enriched Pb-apatite (pyromorphite).
2021.06.21-24 (virtual)	*Sustainable Minerals'21* **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.

Conference organization

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

Membership in international or national organizations and scientific societies

- **2024-now**: Americal Chemical Society (ACS) (**member**).
- **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

2024.03.12-2024.06.11	*SOLARIS – Synchrotron Radiation for Science (e-course).* **Participant of the e-course**
2023.11.15 - 2023.12.14	*Reduction and assessment of antimicrobial resistance and emerging pollutants in water and wastewater treatment system (e-course), organized by REWA project partners, University of Oulu.* **Participant of the e-course**
2023.01.09	*Workshop on basic concepts and operational principles of HPLC, Shimadzu Corporation, Kraków, Poland.* **Participant of the workshop**

2022.05.09-18	*Workshop on Introduction to Quantitative X-ray Diffraction (QXRD) Analysis Course (online).* **Participant of the workshop**
2022.05.06	*Phosphorus Recovery - challenges and perspectives in V4 Workshop (online).* **Participant of the workshop**

Awards and distinctions

Year	Description
2024	**Initiative for Excellence Research University** scholarship for the best PhD candidates (4th edition, Działanie 5).
2024	**1st prize for the best student poster presentation** at 11th Mid-European Clay Conference 2024, Pilsen, Czech Republic.
2023	**Initiative for Excellence Research University** scholarship for the best PhD candidates (3rd 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 60th 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 24th 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, 16th January 2025