

Scientific CV

Personal details

First and last name: **Anna Jędras**

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/HJY-7979-2023>
- **ResearchGate:** <https://www.researchgate.net/profile/Anna-Jedras>
- **Scopus:** 57946778100 (<https://www.scopus.com/authid/detail.uri?authorId=57946778100>)
- **LinkedIn:** <https://www.linkedin.com/in/anna-jedras-663159211/>

Education – diplomas and degrees

2022-present	<p>PhD in Earth and Environmental Sciences AGH, WGGiOŚ PhD thesis: <i>Mineral composites derived from layered crystal structures for the photodegradation of organic pollutants in a dynamic flow-through reactor</i> Supervisor: prof. Jakub Matusik</p>
2021-2022	<p>MSc title AGH, WGGiOŚ Branch: Engineering and Environmental Protection, specialization: Mineral Functional Materials MSc thesis: <i>Impregnation of montmorillonite with LDH materials of different chemistry – towards adsorbents with dual adsorption properties</i> Supervisor: prof. Jakub Matusik</p>
2017-2021	<p>B.Eng. title AGH, WGGiOŚ Branch: Environmental Engineering B.Eng. thesis: <i>Examination and assessment of surface water quality in selected areas of the industrial city of Sosnowiec</i> Supervisor: dr Sylwia Zelek-Pogudz</p>

Research interest

- Chemical and mineralogical characterization of layered minerals (clay minerals, LDH).
- Modification of minerals in order to obtain functional mineral materials e.g. adsorbents, catalysts, photocatalysts.
- Determination of adsorption properties of mineral-based materials derived mainly from layered minerals.
- Synthesis, structural, and mechanical properties of nanocomposites based on clays.

- Photoactive mineral-based nanomaterials.
- Chemical and mineralogical characteristics of synthetic phosphate minerals containing rare earth elements.

Research grants

2024-present	<p>Grant IDUB - University mini-grants for research work carried out by AGH doctoral students - 5th edition, 13 898 PLN</p> <p>Modification of the LDH/GCN heterostructure to increase the efficiency of estrogens photodegradation from aqueous solutions: towards technologies for effective water purification.</p> <p>(Principal investigator) – in progress.</p>
01-03.2024	<p>Grant NCN OPUS 22 (2021/43/B/ST10/00868), 838 140 PLN</p> <p>Nanotubular materials based on kaolin group minerals for the photodegradation of selected mycotoxins in aqueous environment</p> <p>(Co-investigator) – in progress.</p> <p>Principal Investigator: Prof. Jakub Matusik</p>
2022	<p>Grant IDUB – Support for Students’ Research Groups, 24 000 PLN</p> <p>Synthetic analogues of phosphoschultenites (Pb,REE)HPO₄ rich in REE – basic research for technologies of the future.</p> <p>(Project coordinator) – project completed.</p>

Conferences

Presentations

2024.09.15-20	<p><i>11th Mid-European Clay Conference, Pilsen, Czech Republic.</i></p> <p>Lecture:</p> <p>Synthesis challenges of LDH/GCN heterostructures for the photodegradation of estrone</p>
2024.08.18-22	<p><i>ACS Fall 2024: Elevating Chemistry, Denver, CO, USA.</i></p> <p>Poster:</p> <p>LDH/GCN heterostructures for enhanced photodegradation of estrone: exploring synthesis impact on the material properties</p>
2024.04.14-19	<p><i>European Geoscience Union General Assembly 2024, Vienna, Austria</i></p> <p>Poster:</p> <p>Zn-Cr LDH/g-C₃N₄ heterostructure for estrone photodegradation: what is the effect of synthesis methods on materials’ properties and degradation efficiency?</p>
2023.07.24-27	<p><i>EuroClay 2023 - International Conference of European Clay Groups Association, Bari, Italy</i></p> <p>Lecture:</p> <p>Visible light-induced degradation of dyes by layered double hydroxides supported on clay minerals: the synergistic effect of adsorption-photocatalysis</p>

2023.05.20-25	<i>2023 The Clay Minerals Society Annual Meeting, Austin, TX, USA</i> Lecture: Layered double hydroxides supported by clay minerals as photocatalysts for visible light-driven degradation of organic pollutants
2022.09.11-15	<i>10th Mid-European Clay Conference, Kliczków, Poland</i> Poster: Heterocoagulated materials based on smectite and layered double hydroxides of different chemistry with dual adsorption properties
2022.07.25-29	<i>XVII International Clay Conference, Istanbul, Türkiye</i> Poster: Impregnation of smectite with layered double hydroxides of different chemistry for simultaneous removal of Cr(III) and acid blue dye

Presentations given by the co-authors

2024.08.18-22	<i>ACS Fall 2024: Elevating Chemistry, Denver, CO, USA.</i> Co-author of poster: Exploring the mechanisms and pathways of zearalenone mycotoxin photodegradation by kaolinite nanotubes-based composites
2023.04.23-28	<i>European Geoscience Union General Assembly 2023, Vienna, Austria</i> Co-author of presentation: Impact of Pb ²⁺ presence on precipitation of REE phosphates (analogues of rhabdophane) from aqueous solutions
2022.05.23-27	<i>European Geoscience Union General Assembly 2022, Vienna, Austria</i> Co-author of presentation: The influence of the synthesis procedure on the morphology of REE enriched Pb-apatite (pyromorphite)

Conference organization

- **2024** - *European Geoscience Union General Assembly 2024* - Conference Assistant
- **2023** – *European Geoscience Union General Assembly 2023* - Conference Assistant
- **2022** – *10th Mid-European Clay Conference, Kliczków, Poland* – member of the Organizing Committee

Membership in international or national organizations and scientific societies

- **2024-present:** American Chemical Society (**member**)
- **2022-present:** The Clay Minerals Society (**member**)

Internships completed in scientific institutions

2023.11-12	<i>Reduction and assessment of antimicrobial resistance and emerging pollutants in water and wastewater treatment systems, REWA project (online)</i> Participant of e-course
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2023.10-12	<i>International Internship Pilot Programme at Dong Hwa University, Taiwan - electrochemical studies of photocatalysts</i> Intern
2023.01.09	<i>Workshop on basic concepts and operational principles of HPLC, Shimadzu Corporation, Kraków, Poland</i> Participant in the workshop
2022.05.09-18	<i>Workshop on Introduction to Quantitative X-ray Diffraction (QXRD) Analysis Course (online)</i> Participant in the workshop
2022.05.06	<i>Phosphorus Recovery - challenges and perspectives in V4 Workshop (online)</i> Participant in the workshop
2021.11.22-26	<i>MonGOS Winter School 2021, Kraków, Poland</i> Participant in the workshop

Awards and distinctions

Year	Description
2024	Initiative for Excellence Research University scholarship for the best PhD candidates (IDUB Działanie 5, 4 th edition)
2024	AGH Rector Scholarship for scientific achievements
2023	Initiative for Excellence Research University scholarship for the best PhD candidates (IDUB Działanie 5, 3 rd edition)
2023	AGH Rector Scholarship for scientific achievements
2023	Student Travel Award – EuroClay 2023 - International Conference of European Clay Groups Association
2023	Student Travel Award - 2023 The Clay Minerals Society Annual Meeting (Clay Minerals Society)
2022	Scholarship for being in the top 30% of PhD candidates with the highest recruitment score
2022	Student Travel Award - 17th International Clay Conference (Clay Minerals Society)
2021	1st prize awarded at the MonGOS Winter School 2021, group challenge for designing a wastewater treatment plant of the future
2019-2022	AGH Rector Scholarship for academic achievements

Kraków, 7th January 2025