

INGGRIT AYUNINGTYAS

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SUMMARY

Bachelor of Science in Chemistry from the University of Jember (2025) with an understanding and skills in chemical analysis, laboratory research, laboratory techniques, and the ability to collect, analyze, and present data with precision. Developing expertise through PKM research projects, final research projects, and as a laboratory assistant in Physical Chemistry and Organic Chemistry. Operated modern laboratory instruments (FTIR, UV-Vis Spectroscopy) and analyzed scientific data using OriginLab and Microsoft Excel. Interested in a career in Quality Management (Quality Control / Quality Assurance), Research and Development (RnD), Laboratory Analyst, Laboratory Assistant, and Chemical Analyst.

EXPERIENCES AND ACADEMIC PROJECTS

Program Mahasiswa Berdesa (Promahadesa) – University of Jember

Jember | April - November, 2024

- Developing a natural dye extractor machine based on organic waste for batik MSMEs, increasing extraction time efficiency by $\pm 50\text{--}75\%$ compared to the manual stirring method.
- Implementing the principles of chemical extraction and color fixation (alum, lime, tunjung) to increase the color fastness of natural batik so that it does not fade easily.
- Developing 1 operational and maintenance module for the machine.
- Conducting technical training and demonstrations on machine usage for 8–10 SME practitioners.

Program Kreativitas Mahasiswa (PKM) - Kemendikbud Ristek

Jember | April - August, 2024

- Lead a research team (4 members and 1 supervising lecturer) in planning, executing experiments, and evaluating research results according to the program timeline.
- Develop tobacco stem waste-based biochar through a pyrolysis process, yielding a 43.4% yield.
- Activating and modifying biochar using HCl and $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$, which increased the nitrate adsorption capacity to 56.76 mg/g ($\pm 66\%$), higher than unmodified biochar.
- Conducted batch adsorption testing (10–50 ppm) and quantitative analysis based on UV-Vis spectrophotometry.
- Applied laboratory work procedures and occupational health and safety, including solution preparation, iodometric titration, and pH control, and operated chemical laboratory instruments (UV-Vis, FTIR, furnace, shaker).

Intern of Quality Control – PT. Hanwha Mining Services Indonesia, Site Imasco Tambang Raya

Jember | January - February, 2024

- Controlled ANFO mixing (94.5% AN : 5.5% FO) to maintain *zero oxygen balance*, contributing to $\pm 63\%$ reduction in fume incidents (7/19 blasts).
- Monitored ammonium nitrate quality (moisture & agglomeration) to minimize incomplete reactions and hazardous emissions.
- Analyzed post-blast emissions (NO_x , CO) and environmental factors (water presence & blast hole conditions) to support mitigation recommendations.
- Evaluated limestone fragmentation using WipFrag, ensuring $\geq 80\%$ material < 80 cm to improve downstream operational efficiency.

Practical Assistant – University of Jember

Jember | September, 2023 - December, 2024

- Laboratory Teaching Assistant for Organic and Physical Chemistry courses.
- Prepared laboratory equipment, chemicals, and conducted preliminary experiment testing.
- Assisted and supervised 38–40 students per session in laboratory procedures and safety practices.
- Supported experiments including organic synthesis, physical property analysis, and titration.
- Ensured compliance with laboratory SOPs, safety standards, and data accuracy.
- Assisted in data analysis, calculations, and laboratory report evaluation.

ACADEMIC BACKGROUND

Bachelor of Science in Chemistry – University of Jember

Jember | 3.50/4.00 – 2025

Thesis : Modification of Biochar from Corn Cobs Activated with H_3PO_4 Using FeCl_3 for Nitrate Ion Adsorption in Water.

ORGANIZATIONAL EXPERIENCE

General Secretary – HIMAKI “Zirkonium”

University of Jember | February - December, 2023

- Coordinating the organization's administration and supporting the Chairperson in managing 29 administrators and implementing 11 work programs during one term.
- Managing the secretariat by handling approximately 148 incoming letters and 109 outgoing letters, as well as documenting the terms of reference and activity reports.
- Compiling and maintaining a database of approximately 280 active members and 93 alumni of the Chemistry Department, Faculty of Mathematics and Natural Sciences, University of Jember.

Organizational Development Staff, External Department – HIMAKI “Zirkonium”

University of Jember | February - December, 2022

- Coordinated the organization's delegation program, managed 81 external invitations with a 94% realization rate (76 activities carried out).
- Developed a social media-based KTI education strategy, supporting increased participation and a positive image of the organization at the faculty and national levels.

SKILLS & LANGUAGE

- **Soft Skills:** Teamwork, Leadership, Time Management
- **Hard Skills:** Microsoft Office (Word, Excel), OriginLab, Canva, Laboratory Technique (operate FTIR and UV-Vis instruments, quantitative and qualitative chemical analysis, filtration, titration, extraction, using a pH meter, analytical scales, and basic laboratory equipment)
- **Languages:** Indonesian (active), English (passive)

CERTIFICATION & RELEVANT COURSES

- Good Laboratory Practice (GLP) – University of Jember | 2024
- Computer Based English Proficiency (CBEPT) – University of Jember | 2025