

Yasmin Hasna Khairunnisa

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Sinduadi, Mlati, Sleman, Special Region of Yogyakarta, Indonesian (55284)

SUMMARY

As a highly motivated fresh graduate student with a strong foundation in scientific research and laboratory work, I am eager to expand my knowledge, learn new concepts, and apply my skills in real-world settings. I recently completed my laboratory research and successfully defended my undergraduate thesis. My academic background encompasses a diverse range of laboratory experiences in organic, inorganic, analytical, and physical chemistry. With a keen interest in the practical applications of chemistry, particularly in the context of sustainability and industrial development, I am willing to contribute to the advancement of safe, effective, and environmentally responsible chemical solutions.

EDUCATION

Gadjah Mada University (2021 – 2025)

International Undergraduate Program in Chemical Science Major

- GPA: 3.54 (*Cumlaude*)
 - Focused on exploring inorganic chemistry, and interested in the fields of materials chemistry, industrial chemistry, and environmental chemistry.
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EXPERIENCES

Material and Chemical Research Intern at PT Pertamina (Persero) – Jakarta, Indonesia

(August 2025 – Now)

- Accepted as an intern at PT Pertamina (Persero) in the Portfolio Strategy and Business Development Function – Material and Chemical Research through MAGENTA BUMN 2025.
- Performed the formulation of emulsified acid as retarded acid, a liquid foaming agent, sand fracturing, micro-cracking, and pigging foam for oil and gas well applications.
- Supporting laboratory-scale testing to evaluate the performance and stability of various formulations under simulated well conditions.
- Prepared comprehensive reports documenting the methodologies, results, and recommendations, while also providing administrative support.

Chemical Analyst Intern at Balai Besar Standardisasi dan Pelayanan Jasa Industri Kulit, Karet, dan Plastik (BBSPJIKKP) – Yogyakarta, Indonesia (June 2025)

- Participated in a one-month internship at BBSPJIKKP under the Indonesian Ministry of Industry, and was placed in a laboratory specializing in chemical and environmental commodity testing.
- Conducted comprehensive chemical analyses on leather samples, including tests for formaldehyde, chromium oxide, hexavalent chromium (Cr VI), ash content, and oil-fat content, using standardized procedures in accordance with relevant ISO methods.
- Performed environmental wastewater analyses, such as sulfide tests, ammonia tests, COD, BOD, and determination of oil-fat content.

Student Researcher at Laboratorium Penelitian dan Pengujian Terpadu UGM (LPPT-UGM)

– Yogyakarta, Indonesia (November 2024 - May 2025)

- Gained hands-on experience conducting independent laboratory tests using instruments such as FTIR and SEM, as well as performing antibacterial activity assessments.

Researcher at Inorganic Laboratory, Chemistry UGM – Yogyakarta, Indonesia (September 2024

– April 2025)

- Conducted research on “Green Synthesis of ZnO/Ag Nanocomposite using Guava Leaf Extract (*Psidium guajava*) as Bioreductor and Capping Agent for enhanced Antibacterial Performance on Cotton Bandages.”
- Focused on the synthesis and optimization of ZnO nanoparticles and ZnO/Ag nanocomposites under various parameters, the coating of cotton bandages, material characterization, and antibacterial testing.

Quality Control Intern at PT Dion Farma Abadi – Central Java, Indonesia (February 2024 - May 2024)

- Contributed actively in the quality control analysis (refractive index, pH, viscosity, density, LOD, moisture content, water content, IR identifications, and others), focusing on drug analysis for making skincare and cosmetic products, especially for the raw material, bulk product, and finished product.
- Prepared detailed reports, retaining samples, and supporting other quality control procedures.
- Responsible for conducting final research topic entitled “Analysis the Levels of Clindamycin Phosphate Compound in a Cream Sample using High-Performance Liquid Chromatography.”

11th International Conference of the Indonesian Chemical Society 2023 (ICICS 2023) – Jambi, Indonesia (November 2023)

First Place in International Scientific Poster Competition

- Participated in the scientific poster competition with the main theme “Strengthening the Role of Chemistry as Basic Science in Supporting the Downstreaming of Agro-Industrial Products.”
- Contributed actively in developing a visionary scientific poster about “Non-Thermal Plasma (NTP)” and delivered an interesting presentation to judges from the Indonesian Chemical Society (HKI).
- Earned 1st place, competed against 15 finalist teams from other universities.

Innovation Chemist Contest – Penang, Malaysia (July 2023)

- Participated and contributed actively in the contest held by the School of Chemical Sciences, Universiti Sains Malaysia, with the theme “Controlling Industrial Pollution for A Better Tomorrow.”
- Actively involved in visionary research and papers on “Green Chemistry of Sustainable Waste Treatment in Cosmetic Bulk Stores: A Pathway to Eco-friendly Cosmetic Industry.”
- Delivered interesting presentations and outlined strategies systematically with several teams representing diverse universities and countries.

Summer Program Learning Through Chemistry at USM – Penang, Malaysia (May 2023)

- Participated in the summer program organized by the School of Chemical Sciences, Universiti Sains Malaysia, which was held for a week in Penang, Malaysia.
- Contributed directly to training, interpretation, and application of NMR spectroscopy instruments.

- Performed in laboratory microscale sessions, where several laboratory works were carried out in microscale applications.
- Involved in the International Day festival, which was attended by several countries and attended by all international students, where Indonesian culture and traditional toys were introduced at this event.
- Participated in the "Upcycling Innovation Project", which focused on processing plastic waste from the surrounding environment.

UGM Chemistry Guest Lecture from Nanyang Technological University – Yogyakarta, Indonesia (May 2023)

- Discussed with one of the lecturers from NTU about biochemistry, focused on the title "Conversion of Unactivated Carbohydrates to Multi-functional Heterocycles."

VOLUNTEERING EXPERIENCE

KKN-PPM UGM - Treasurer (July- August 2024)

- Entrusted as treasurer of the KKN-PPM UGM team "Semanak Kertek" in Wonosobo, Central Java, for the program themed "Pemberdayaan Masyarakat dalam Upaya Penanganan Kemiskinan Ekstrem Berbasis Potensi Lokal di Desa Bojadari dan Desa Kertek, Kecamatan Kertek."
- Responsible for managing financial operations, ensuring proper fund allocation for work programs, systematically recording all incomes and expenditures, and preparing detailed financial reports.

PROFESSIONAL SKILLS:

Publication:

Khairunnisa, Y.H., Kunarti, E.S., and Nuryono, N., 2026, Green Synthesis of ZnO/Ag Nanocomposite using *Psidium guajava*: A Study on Characterization and Potential Clinical Applications as Advanced Antibacterial Agents on Cotton Bandages, *Indones. J. Chem.*, 26(2), 560 – 571.

Certification:

- Kesehatan dan Keselamatan Kerja di Laboratorium – Chemistry, UGM (2021)
- Manajemen Penelitian – Chemistry, UGM (2024)
- Good Laboratory Practice (GLP) – Makin Ahli (2025)
- Integrasi ISO/IEC 17025:2017 dan ISO 9001:2015 – Teman Lab (2025)
- Awareness Training Occupational Health & Safety Management System Based on ISO 45001:2018 – Makin Ahli (2025)
- Awareness Training Environmental Management System Based on ISO 14001:2015 – Makin Ahli (2025)
- Cara Pembuatan Kosmetik yang Baik (CPKB) dan Cara Pembuatan Obat yang Baik (CPOB) – Teman Lab (2025)

Laboratory Techniques:

- Performed chemistry laboratory applications, including titration, reflux, distillation, crystallization, synthesis, Thin-layer Chromatography (TLC), COD analysis, and NO₂ analysis.

- Experienced in handling laboratory equipment, such as pH meter, UV-Vis Spectrophotometer, Abbe refractometer, digital refractometer, RT Viscometer, LV Viscometer, Moisture Content Analyzer, Karl Fischer Titration, FTIR, SEM, XRD, and HPLC.
- Interpreting laboratory instrument data varying from AAS, XRD, GC, UV-Vis spectrometry, FTIR, SEM, TEM, and HPLC.
- Operating computational application related to chemistry involving Origin, QualX, GaussView 5.0, Autodock, Chimera, and Discovery Studio Visualizer.

Technical Skills: Microsoft Word (proposal, paper), Microsoft Excel (data analysis, graph plotting), Microsoft PowerPoint, Google Drive, Google Sheets, Google Forms, Microsoft Teams Canva.