

AULIA RIZKIYA AL FADILA

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PROFILE

Detail-oriented and analytical Chemistry graduate from Institut Teknologi Bandung (GPA 3.52/4.00) with proven experience in quality control, chemical analysis, and laboratory management systems. Demonstrated technical expertise in advanced instrumentation (AAS, FTIR, GC, HPLC), sample verification, and high-level statistical data evaluation (ANOVA, F-test, CV Horwitz). Backed by certified awareness training in ISO/IEC 17025:2017, ISO 14001:2015, ISO 45001:2018, and strong leadership capabilities in managing large-scale operations. Aspiring to leverage technical precision, a strong compliance mindset, and root-cause analysis skills. Specialist to ensure product excellence, regulatory alignment, and process optimization in high-standard industrial operations.

EDUCATION

Institut Teknologi Bandung | Bachelor of Science in Chemistry

August 2022 – July 2026

- **GPA:** 3.52/4.00 (Cum Laude)
- Awarded Dean's List (Academic Excellence), Bachelor's Program in Chemistry
- Achieved 2nd Place in National Scientific Essay Competition – Constellations Chemistry Competition, organized by Ikatan Mahasiswa Kimia (IMK), Universitas Sumatera Utara (2024)
- Contributed to 3 community outreach programs with faculty members, delivering chemistry education for high school students and local communities (2023–2026)

PROFESSIONAL EXPERIENCE

Laboratory Teaching Assistant | Chemistry Undergraduate Study Program, ITB

August 2025 – June 2026

- Supervised chemistry laboratory sessions for 8 student groups (7–8 students/group) across four courses: Analytical Chemistry I (titration), Separation Methods & Electrometry (Gas Chromatography), Environmental Chemistry (titration & AAS), and Metabolism & Genetic Information (PCR, Photosynthesis, Lac Operon).
- Evaluated student's laboratory techniques, reports, and readiness, and guided overall laboratory activities to ensure procedural accuracy and safety each session.

Basic Chemistry Course Tutor | Direktorat Persiapan Bersama (Ditsama), ITB

September 2025 – December 2025

- Tutored Basic Chemistry as a remedial class for approximately 40–80 students whose initial assessment scores fell below ITB's standard, covering one semester of material including quiz and examination exercises.

Chemist Analyst Intern | Center for Geological Survey Laboratory, Kementerian ESDM

July 2025 – August 2025

- Conducted homogeneity and stability testing on Ag, Cu, Zn, and Au reference samples for interlaboratory proficiency testing, performing sample preparation and elemental analysis using Flame and Graphite Furnace Atomic Absorption Spectroscopy (AAS), in accordance with ISO/IEC 17025:2017 and ISO Guide 35 standards.
- Evaluated data using F-test, CV Horwitz, and one-way ANOVA, confirming sample homogeneity and identifying stability issues in one of two sample batches, findings documented in a formal internship report.
- Assisted analytical measurements using ICP-OES, SEM-EDS, XRD, and XRF instruments, and observed geological age determination through fission track analysis.

LICENSE AND CERTIFICATION

ISO 14001:2015 Awareness Training

2026

- Gained foundational understanding of environmental management systems, covering environmental aspects and impacts, regulatory compliance, waste management, resource efficiency, and continuous improvement in accordance with ISO 14001:2015.

ISO 45001:2018 Awareness Training

2026

- Gained foundational understanding of occupational health and safety management systems, covering hazard identification and risk assessment, operational controls, incident prevention, and continual improvement in accordance with ISO 45001:2018.

SNI ISO/IEC 17025: 2017 Awareness Training

2025

- Gained foundational understanding of general requirements for the competence of testing and calibration laboratories, covering quality management systems, technical competence, and result validity in accordance with SNI ISO/IEC 17025:2017

Training on Calculation and Evaluation of Test Uncertainty Estimation Based on ISO/IEC Guide 98-3: 2008 (ISO GUM) & EURACHEM/CITAC Guide CG4 2012

2025

- Learned systematic approaches to identify uncertainty sources and calculate measurement uncertainty for laboratory test results, following international guidelines (ISO GUM and EURACHEM/CITAC CG4)

SKILLS

Languages: Indonesian (native), English (professional working proficiency).

Instruments: UV-Vis Spectrophotometry, Fourier Transform Infrared (FTIR), Atomic Absorption Spectroscopy (AAS), Gas Chromatography (GC), High Performance Liquid Chromatography (HPLC).

Software: OriginLab, ChemDraw, ACD/ChemSketch, Microsoft Office (Word, Excel, PowerPoint)

Laboratory & Technical Skills: Advanced Laboratory Operations, Wet Chemistry Techniques, Statistical Data Evaluation, Method Verification, Sample Preparation & Extraction, Laboratory Safety & Hazardous Waste Management (B3).

Others: Scientific Writing, Research Project Coordination, Mentoring & Technical Training, Team Leadership, Critical Thinking.

RESEARCH PROJECTS

Adsorption of Crystal Violet Using Gelatin Adsorbent Modified with Glyoxal
Institut Teknologi Bandung | Thesis

August 2025 – May 2026

- Engineered a novel, eco-friendly biopolymer adsorbent achieving 82.27 mg/g dye removal capacity, outperforming several previously reported synthetic and composite adsorbents.
- Applied advanced material characterization techniques (FTIR, SEM-EDS) to validate molecular-level structural modification and adsorption performance.
- Modeled adsorption behavior using kinetic, isotherm, and thermodynamic analysis, demonstrating a spontaneous, energy-efficient removal process.
- Designed a simpler, greener synthesis route (natural biopolymer + non-toxic crosslinker) as a sustainable alternative to conventional wastewater treatment adsorbents

Homogeneity and Stability Testing of Ag, Cu, Zn, and Au Samples

Juli 2025 – August 2025

Laboratory of Pusat Survei Geologi, Ministry of Energy and Mineral Resources | Intership

- Conducted sample preparation, acid digestion, dilution, and elemental analysis using Flame AAS and Graphite Furnace AAS.
- Evaluated sample homogeneity using F-test and Horwitz CV and stability using one-way ANOVA at a 95% confidence level.
- Applied SNI ISO/IEC 17025:2017 requirements to assess the suitability of samples for interlaboratory comparison.
- Determined that UJ B met the stability criteria and was suitable for use as an interlaboratory comparison sample, while UJ A required further evaluation.

ORGANIZATIONAL EXPERIENCE

Coordinator of Sangkuriang Female Dormitory | ITB Dormitory

June 2025 – June 2026

- Coordinated 24 dormitory tutors in delivering student development and character-building programs for 450+ residents of Sangkuriang Dormitory.
- Collaborated with approximately 140 tutors and coordinators across multiple ITB dormitories in planning, implementing, and evaluating student mentoring and character-habitation programs.

Head of Knowledge Management | Himpunan Mahasiswa Kimia (HMK) 'AMISCA' ITB

May 2025 – April 2026

- Led the Knowledge Management Department, which supports members in developing and applying chemical knowledge through academic, professional, and community-based programs, overseeing 3 divisions (Professional Development, Research & Competition, and Community Service).
- Oversaw 4+ community service programs with external partners across West Java communities and 3 certified professional trainings (ISO Integrated Management System (ISO 9001, 14001, 45001), Hazardous Waste Management (B3), ISO/IEC 17025:2018), while supporting a research incubation program (INKA) and member project exhibitions.

Public Relations Team | Chemistry Undergraduate Study Program - FMIPA ITB

July 2024 – June 2026

- Designed social media content and event materials, and edited videos for Chemistry Study Program activities, represented the program as booth staff during ITB Open House.

Design Team | Himpunan Kimia Indonesia (HKI) Jabar-Banten

March 2025 – June 2026

- Produced visual materials (certificates, banners, pamphlets, thumbnails) and edited videos to support publication and documentation of HKI Jabar-Banten seminars and training programs

Secretary-Treasurer Event Department | Parade Wisuda Oktober ITB

September 2023 – November 2023

- Managed budgeting and administrative documentation across 4 divisions within the Event Department, supporting the coordination of 10+ programs for ITB's university-wide October graduation celebration.