

# ZESSICA ANASTASYA SIHOMBING

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Bogor, Indonesia

An innovative chemistry freshgraduate from Institut Pertanian Bogor with comprehensive hands on experience in analytical, organic, inorganic, physics, and bio chemistry. Proven ability to optimize laboratory workflows and conducted 100+ product testing during an internship at PT Riset Perkebunan Nusantara with ISO 17025 standard. Proficient in the application of QC tools with basic and advanced laboratory techniques until high instrumentation. Dedicated professional with a track record of coordinating cross-functional teams and managing successful academic events with problem solving skills and multitasking capabilities

## Work Experiences

**IPB University - Bogor, Indonesia** Jul 2026 - Present

*Research Assistant*

- Collaborated to conduct advanced electrochemical research, focus in material exploration like nanomaterials for detection capsaicin in real sample (food product, analgesic product)
- Synthesized and characterized material (metal, carbon, polymer) such as MWCNT-OH, high entropy oxides (HEO), polyoxometalates (POMs), layered double hydroxide (LDH)
- Developed process characterization and scientific data analysis (SEM, TEM, XRD, XPS)

**PT Matrix Tutoring - Bogor, Indonesia** Sep 2025 - Jun 2026

*Chemistry Tutor*

- Delivered comprehensive chemistry tutoring sessions, successfully improved to an 85% success rate in their examinations
- Prepared engaging teaching materials, interactive modules, and practice assessments to simplify complex scientific concepts with over 50+ targeted practice questions per month

**PT Riset Perkebunan Nusantara (Oil Palm Research Institute)** Sep 2025 - Nov 2025

*Quality Control (Intern)*

- Conducted daily verification of active ingredients across 100+ pesticide products, focused to ensuring strict compliance with brand specifications and quality standards
- Operated High Performance Liquid Chromatography (HPLC) and Atomic Absorption Spectrophotometry (AAS) to analyze 150+ active ingredients in pesticide formulations and soil samples
- Successfully implemented an innovative programs to align document management system with ISO 17025 to optimize 20+ analyst workflows

**PT Riset Perkebunan Nusantara (Tea & Kina Research Institute) -** Dec 2024 - Jan 2025

**Bandung, Indonesia**

*Research & Development (Intern)*

- Researched natural compounds for biopesticides and formulated various formulation trials using the selected raw materials, (Research projects : "Analysis of NPK Zn Nutrients and Flavonoids in Babadotan and Kipahit Plant-Based Pesticide Extracts")
- Executed comprehensive sample preparation and extraction techniques
- Operated high-precision analytical instruments, including Atomic Absorption Spectrophotometry (AAS) and Spectrophotometer UV-Vis

**IPB University** Jan 2024 - Dec 2024

*Laboratory Assistant*

- Supervised and mentored with over 100+ students for chemistry laboratory session with courses in general chemistry, bio-material analysis, and method validation
- Demonstrated proper analytical techniques and provided practical applications for complex topics in laboratory

## Education Level

**Institut Pertanian Bogor - Bogor, Indonesia** Aug 2022 - Jul 2026

*Bachelor of Chemistry, 3.52/4.00*

- Core course: Organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, food chemistry, method validation, biochemistry
- Thesis title: "Modified Electrode of High Entropy Oxides and Multiwalled Carbon Nanotubes for Capsaicin Detection"

## Organisational Experience

**Pekan Kreativitas Mahasiswa (PKM)** Jan 2025 - Jul 2025

*Team Leader*

- Lead a team with strong initiative and ownership in developed an innovative human development project and successfully advancing to

the national Simbelmawa selection stage

- Designed to over 20+ work programs with creative and critical thinking, demonstrably improving project direction and team alignment
- Acted as a communicator with external partner to support project execution to 50+ residents at a mental health rehabilitation

#### Unit Kegiatan Mahasiswa (UKM) Persatuan Mahasiswa Kristen

Jan 2024 - Dec 2024

##### *Division Vice Coordinator*

- Assisted the division coordinator to leading 70+ members
- Successfully implemented 30+ programs as the vice division coordinator for human development
- Actively carry out social activity programs like in orphanages

#### Ormawa Eksekutif IPB

Nov 2022 - Nov 2023

##### *Staf of Student Advocacy and Welfare Department*

- Successfully implemented 30+ programs focused on student welfare
- Resolved over 200+ student issues related to academic affairs, financial aid, and campus facilities by bridging communication with the university management
- Successfully applied strong negotiation and problem-solving skills to advocate for student welfare and resolving grievances with an estimated 80%

### Skills, Achievements & Other Experience

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- **Projects** 🕒 (2024): Proyek Kemanusiaan : Dosen Pulang Kampung
- **Projects** 🕒 (2022): 7 Habits of Highly Effective New College
- **Hard Skills:** Physical Chemistry, Organic Chemistry, Process Characterization, Scientific Problem Solving, Data Sciences, Titrimetry, Reagent Control, Document Management System, Instrumentation (High Performance Liquid Chromatography, Atomic Absorption Spectrophotometer, Uv-Vis Spectrophotometry, Potensiostat), Scientific Software (Origin, Pstrace), Quality Control (QC Tools), Calibration, Office (Word, Excel, Powerpoint)
- **Soft Skills:** Public Speaking, Communication Skill, Research Skill, Analytical Thinking, Management Experience, Creative Thinking, Critical Thinking, Adaptability, Team Work, Collaboration,
- **Languages** 🌐: Indonesian (native) and English (working proficiency)