

RANI ANDRIANI TUNGGAL

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A final-year Biochemistry student with hands-on experience in laboratory-based research and biomolecular analysis, including PCR, electrophoresis, and data interpretation. Experienced in supporting research activities, documentation, and sample preparation, with strong attention to detail and organizational skills. Actively involved in academic and team-based projects, demonstrating good communication, adaptability, and a proactive attitude. Highly motivated to learn and contribute effectively in a dynamic R&D environment.

EDUCATION

Institut Pertanian Bogor - Indonesia

Aug 2022 - Jul 2026 (Expected)

Bachelor of Biochemistry, 3.77/4.00

WORK EXPERIENCE

Biochemistry Departement - IPB University, Indonesia

Aug 2025 - Dec 2025

Biomolecular Characterization Laboratory Assistant

- Guided and supervised 12 students during laboratory practical sessions on carbohydrate, protein, lipid, and nucleic acid analysis, including starch and lipid hydrolysis, protein and nucleic acid denaturation, and biomolecule characterization
- Operated and assisted in the use of laboratory instruments, including a UV-Vis spectrophotometer, PCR machine, and agarose gel electrophoresis system, to support experimental activities

Biochemistry Departement - IPB University, Indonesia

Aug 2025 - Dec 2025

Nucleic Acid and Protein Engineering Laboratory Assistant

- Guided and supervised 11 students during gene isolation and cloning sessions of the amylase-coding gene from *Bacillus licheniformis*, covering genomic DNA extraction, PCR-based cloning, agarose gel electrophoresis, and plasmid DNA digestion
- Operated laboratory instruments including a PCR machine, NanoDrop spectrophotometer, centrifuge, and agarose gel electrophoresis system to support molecular biology experiments

Indonesian Oil Palm Research Institute - Bogor, Indonesia

Jul 2025 - Aug 2025

Biomolecule Laboratory Assistant-Internship

- Assisted analysis of 10+ salak leaf DNA samples using gradient PCR and agarose gel electrophoresis
- Assisted analysis of 41 oil palm leaf DNA samples using PCR and polyacrylamide gel electrophoresis (PAGE)
- Supported tissue culture research on oil palm self-DNA, contributing to sample preparation, observation, and overall laboratory workflow efficiency

Indonesian Oil Palm Research Institute - Bogor, Indonesia

Dec 2024 - Jan 2025

Biomolecule Laboratory Assistant-Internship

- Performed moisture and phosphate analyses on 30+ plant samples using gravimetric and UV-VIS spectrophotometry, and prepared essential laboratory buffers and chemical reagents to support biochemical workflows
- Conducted protein and xylanase activity assays on 10+ service samples, ensuring accurate data generation

Tropical Biopharmaca Research Center - Bogor, Indonesia

Jun 2024 - Aug 2024

Laboratory Assistant-Internship

- Conducted proximate and phytochemical analyses, including moisture/ash determination and antioxidant, flavonoid, and phenolic quantification using UV-VIS spectrophotometry
- Performed sample identification and characterization using FTIR spectroscopy and TLC for chemical fingerprinting
- Contributed to reliable analytical data that supported ongoing phytochemical research and sample authentication

ORGANIZATIONAL EXPERIENCE

Student Executive Board FMIPA - IPB University, Indonesia

Jan 2024 - Dec 2024

Business and Partnership Staff

- Planned the main work program concepts, G-astip and Tutor BEM FMIPA, by organizing profit-sharing arrangements and implementation systems for both programs
- Achieved over 20 G-astip customers and successfully engaged 5 students in the Tutor BEM FMIPA
- Achieved a profit of Rp8.000.000,- in 10 months of management from an initial capital of Rp400.000,-

IPB Sustainable Science Research Student Association - IPB University, Indonesia

Apr 2023 - Apr 2024

Secretary of the Administrative Affairs Bureau

- Documented meeting minutes and prepared evaluation reports for the Bureau of Administrative Affairs
- Monitored and reviewed the budget plan (RKAT) and meeting records under the Directorate of Talent, Partnership, and External Communication

HONOR & AWARDS

- **1st Place Winner, Scientific Essay Competition NEXT-G (2025):** Led the conceptualization and coordination of the "BioMine" project, developing Fe₂O₃/CDs nanocomposites from oil palm empty fruit bunches to create sustainable strategies for hazardous mining wastewater remediation
- **2nd Place Winner, Scientific Writing Competition 13th Airlangga Ideas Competition (2025):** “Fe₂O₃/CDs Nanocomposite Based on Oil Palm Empty Fruit Bunch Biomass as a Solution for Managing Hazardous and Toxic (B3) Liquid Waste from the Mining Industry in Indonesia” Prepared a manuscript that focuses on the development of sustainable nano-composites for environmental remediation of mining wastewater
- **3rd Place Winner, Business of The Year (Batiknese’s Creative Business) Student Entrepreneurship Program, IPB University (2024):** Served as Chief Product Officer, overseeing product design, material selection, and innovation for Batiknese’s bag collection—Magani Bag, Nala Bag, and Baswara Bag, integrating cultural heritage with modern aesthetics
- **National Finalist, 37th National Student Scientific Week (PIMNAS, PKM-PM) (2024):** Led a team of 5 in executing the "Independent Pilot" project at Rumah Azaki, overseeing the design, implementation, and impact evaluation of horticultural therapy sessions to enhance self-reliance and social skills for 20 individuals with intellectual and mental disabilities
- **Funding Recipient, National Student Creativity Program in Social Humanities Research (PKM-RSH) (2023):** Project Title: “Minimalism Fashion Lifestyle: A Manifestation to Reduce Impulsive Buying on E-Commerce Supporting the Economic Independence of Generation Z in Bogor Regency” Served as Secretary, managing project documentation, reporting, and coordination of empirical research on consumer behavior and sustainable fashion practices