

FARA AGHNIYAR RACHMAN

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PROFILE

Chemistry graduate from Universitas Gadjah Mada with hands-on experience in organic **synthesis**, **analytical** testing, **formulation**, and **quality control** across pharmaceutical, energy, and personal care projects. Proficient in operating key analytical instruments including **HPLC**, **GC-MS**, **FTIR**, **TGA**, **SEM**, and **PSA**, with strong exposure to industrial testing standards and Good Laboratory Practice (GLP). Eager to apply laboratory rigor and troubleshooting skills to R&D, QC, or Laboratory Analyst roles.

EDUCATION

Universitas Gadjah Mada | Faculty of Mathematics and Natural Sciences

Aug 2022 - July 2026

Bachelor of Science in Chemistry | GPA: 3.61

Recognition:

- Graduated with Cumlaude Distinction & served as Laboratory Assistant for Organic & General Chemistry
- Kemendikbudristek PKM-RE Research Funding Awardee.

WORK & RESEARCH EXPERIENCE

Laboratory of Organic Chemistry, UGM | Yogyakarta

Oct 2025 - July 2026

Undergraduate Researcher (Thesis Project)

- Developed and validated a high-purity (> **90%**) chemical candidate for targeted cancer treatment, successfully enhancing drug effectiveness while significantly improving compound safety profiles.
- Operated advanced analytical instruments including **TLC Scanner**, **PSA**, and **SEM** to characterize chemical properties and ensure rigorous quality control.

Laboratory of Organic & General Chemistry, UGM | Yogyakarta, Indonesia

Sept 2025 - June 2026

Teaching Assistant

- Mentored and supervised **200+** undergraduate students across weekly organic and general chemistry laboratory practicums, enforcing **Good Laboratory Practice (GLP)** and strict **chemical safety** standards.
- Guided students through fundamental wet chemistry techniques, including **titrations**, organic **extractions**, **reflux** setups, and qualitative **analysis**.
- Evaluated weekly pre-lab, post-lab reports, and practical exams for 200+ students, delivering timely and structured technical feedback.

PT Pertamina (Persero) Technology Innovation

Jakarta, Feb - May 2025

RnD Internship

- Evaluated **100+ trial formulations** across various solvent and additive blends to optimize Pour Point Depressant (PPD) performance, successfully lower PPD using **ASTM D97** standards.
- Operated **FTIR**, **TGA**, **viscometers**, and **flash/pour point** testers to analyze thermal stability, degradation behavior, and rheological trends under simulated pipeline conditions.
- Processed multi-batch performance data using **OriginLab** and **Excel** to provide quantitative recommendations for final chemical product selection.

Dinas Kesehatan Bangkalan, Jawa Timur

Bangkalan, July 2024

Environmental Health Intern

- Conducted physicochemical and biological testing across **15 drinking/clean water samples** evaluating parameters such as pH, turbidity, TDS, and microbiological safety.
- Verified test results against national water **safety standards (Permenkes RI)**, preparing systematic laboratory reports to support regional public health monitoring.

Researcher / Grant Awardee

- Secured Kemendikbudristek research funding to valorize durian seed waste
- Successfully formulated a functional skincare product with maximal SPF protection, strong antioxidant activity, and proven lowest in vivo erythema score.
- Managed digital content and public dissemination across [social media](#) platforms, driving user engagement to achieve **1.1K+ followers** and **13K+ account impressions**.

Lingkar Studi Sains (LSiS) FMIPA UGM**Feb 2022 - Feb 2023***Research Staff*

- Synthesized Graphene Oxide (GO) from banana frond biomass via modified Hummers' method for water filtration, interpreting **FTIR** and **UV-Vis** data to compare functional group profiles with pure graphite.
- Co-authored the research paper draft, conducting literature gap analysis and comparative discussion for planned preprint submission.

LEADERSHIP & ORGANIZATIONAL EXPERIENCE

Bimbel Lentera, Yogyakarta**Jan 2026 - Present***Founder & Managing Lead*

- Managed an independent tutoring business, leading a small staff team and mentoring **20+** students.
- Handled end-to-end operations, from tutor scheduling and curriculum design to client communications and digital marketing.

Keluarga Mahasiswa Kimia (KMK) FMIPA UGM**Jan 2022 - Dec 2024***Treasurer - Human Resource Development*

- **Coordinated** internal member development programs and team-building initiatives for **150+** chemistry students, driving organizational participation and retention.
- [Awarded](#) **Best Staff of the Year (2023)** for outstanding commitment, performance, and leadership contribution across organizational projects.

KKN-PPM UGM Cihampelas | West Bandung**June 2025 - Aug 2025***Head of Publication, Decoration, and Documentation Division*

- **Led a 6-member** Design & Documentation sub-team within a 30-member cross-functional KKN unit across **2 villages**, directing end-to-end visual identity, logo creation, and weekly publication workflows.
- Managed cross-platform media output across [Instagram](#) and [TikTok](#) by publishing **100+** posts and stories, driving high engagement with a viral hit exceeding **130K+** views.

ACHIEVEMENTS

- PKM-RE Research Funding Awardee – Kemendikbudristek RI (2023)
- Best Staff of the Year – Keluarga Mahasiswa Kimia (KMK) FMIPA UGM (2023)
- 1st Place Winner – National Photography Competition by Majalah Mata Air (2024)

TECHNICAL SKILLS & COMPETENCIES

- **Soft skills:** Leadership, Communication, Team work, Human Resource, and Time Management.
- **Analytical Instruments & Characterization:** HPLC, FTIR / ATR-IR, Thermogravimetric Analysis (TGA), GC-MS, UV-Vis Spectrophotometer, SEM, Particle Size Analyzer (PSA), TLC Scanner, Rotational Viscometer, Pour Point & Flash Point Tester, pH Meter, Rotary Evaporator.
- **Laboratory Techniques & Wet Chemistry:** Organic Synthesis, Trial Formulation, Solvent Extraction, Thin Layer Chromatography (TLC), Titration (Acid-Base, Complexometric), Sample Preparation, Nanoparticle Preparation, Molecular Docking, Physicochemical Quality Testing.
- **Scientific & Computational Software:** OriginLab, ChemDraw, ChemSketch, MestReNova, Autodock Vina, QualX, GaussView 6, MS Excel (Data Modeling).
- **Design & Multimedia Tools:** Figma, Canva, Adobe Photoshop, CapCut (Visual branding for campus events).
- **Languages:** Indonesian (Native), English (Professional Working Proficiency).