



FIRZA KHALDA ALISA

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Fresh Graduate of Food Nanotechnology from Politeknik AKA Bogor with hands-on experience in food product development, nanomaterial synthesis, food analytical testing, and regulatory compliance. Skilled in product trials, quality evaluation, data analysis, and formulation optimization. Analytical, detail-oriented, fast learner, eager to contribute to R&D, product development, quality, or regulatory roles in the food and beverage industry.

EDUCATION

POLITEKNIK AKA BOGOR

2022-2026

Bachelor's degree, Food Nanotechnology, GPA 3,27/4

Thesis : Development of an Ag/MWCNTs/g-C₃N₄ Modified Screen-Printed Carbon Electrode (SPCE) as an Electrochemical Sensor for The Detection of Pb²⁺ Ions in Honey

WORK EXPERIENCE

2025| PT Suri Tani Pemuka (JAPFA GROUP) | Purwakarta

Aquaculture Technology & Development Intern

- Conducted the formulation, synthesis, and characterization of solid lipid nanoparticle for drug delivery system protein products. (Spectro Uv-Vis, FTIR, pH meter)
- Performed product formulation and evaluation to assess product quality and performance.
- Conducted microbiological testing to evaluate the microbiological quality and safety of products.
- Conducted protein content assay for product

2024 | Voter Data Officer (Pantarlih) | Depok

- Conducted voter data verification and validation to support the accuracy of electoral data.
- Collected and updated voter information in accordance with established procedures.

ORGANIZATION EXPERIENCE

2023–2026 | Vice Class Representative

Food Nanotechnology Study Program, Politeknik AKA Bogor

- Coordinated communication and information exchange among students within the cohort.
- Facilitated communication between students and academic staff regarding academic and cohort-related matters.

2024–2025 | Head of Institutional Affairs Commission

Dewan Perwakilan Mahasiswa (DPM), Politeknik AKA Bogor

- Led the Institutional Affairs Commission in overseeing and evaluating organizational work programs.
- Prepared and was responsible for evaluation reports on organizational work programs at Politeknik AKA Bogor.

PROJECTS

- The Effect of Chitosan Volume Variation: NaTPP: Green Tea Extract in the Synthesis of Green Tea Nanoparticles (*Camellia sinensis* L.) by Ionic Gelation Method (2024)
- Nanoencapsulation of Moringa Seed Oil (2024)
- Preparation of Nano TiO₂ Using Bay Leaf (*Syzygium polyanthum*) Extract as a Bioreducing Agent Using the Sol-Gel Method for Sunscreen Cream Made from VCO (Virgin Coconut Oil) (2024)
- Addition of Red Dragon Fruit Peel Nanoparticles (*Hylocereus polyrhizus* sp.) as a Natural Preservative in Wet Noodles (2024)
- Preparation of a Nanoemulsion of Natural Dye from Secang Wood Extract (*Caesalpinia sappan* L.) (2025)
- Analysis of Silver Nanoparticles (AgNPs) for the Detection of Chloramphenicol Using the Colorimetric Method (2025)
- Solid Lipid Nanoparticle synthesis for protein (2025)

KEY SKILLS & COMPETENCES

Languages - Bahasa Indonesia (Native), Bahasa Inggris (Conversational)

Skillset - Food and Nanotechnology Product Development, Food Analysis, Sensory Evaluation, Laboratory Documentation & Data Analysis, Analytical and Creative Thinking, Problem Solving, Teamwork, Adaptability

Toolset - Microsoft Office, Canva, Origin

Instrument - Particle Size Analyzer, BET, Uv-Vis spectroscopy, FTIR, pH meter, Turbidity meter, AAS, HPLC, GC, Moisture Adsorb, Viscometer, Potensiostat

LICENSE AND CERTIFICATION

- **ISO/IEC 17025 – Laboratory Competence**

certificate from BPSDMI : competence, impartiality, and consistent operation of testing and calibration laboratories

- **ISO 22000 – Food Safety Management System**

certificate from BPSDMI : food safety management systems (FSMS), including hazard control, prerequisite programs, HACCP principles, and food-chain communication

- **ISO 9001 – Quality Management System**

certificate from BPSDMI : quality management systems (QMS), including process management, customer focus, risk-based thinking, and continual improvement

- **Metal Nanoparticle Synthesis and Characterization – BNSP**

- **Polymer Nanoparticle Synthesis and Characterization – BNSP**

- **TOEIC Listening & Reading – Score: 680**

certificate from golden english

ACHIEVEMENT AND PUBLICATION

- **3rd Place, Student Creativity Program (PKM) – Politeknik AKA Bogor, Internal Competition**

Developed an IoT-based tapioca industrial wastewater treatment system using a microcrystalline cellulose/nanosilica biocomposite membrane integrated with a turbidity sensor.

- **Copyright Certificate Holder – Cookies Packaging Design**

Designed an innovative cookies packaging concept, “Cookiss,” and obtained an official copyright certificate for the original packaging design.

- **Scientific Article in SINTA 4-Accredited Journal – Peer-reviewed Publication**

Published a peer-reviewed scientific article on an IoT-based tapioca industrial wastewater treatment system using a microcrystalline cellulose/nanosilica biocomposite membrane and turbidity sensor.