

ELISNA TRIJAYANTI

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Results-oriented Biology graduate with proven institutional research experience at BRIN, specializing in advanced laboratory analytics, experimental architecture, and quality-driven sample processing. Possesses a strong multidisciplinary foundation spanning biotechnology, plant tissue culture, metabolomics, and data-driven scientific interpretation. Highly adaptable professional recognized for managing high-throughput laboratory operations and translating complex biological data into clear, actionable technical reports.

EDUCATION

Bachelor of Biology, Maulana Malik Ibrahim State Islamic University of Malang

Sept 2022 – Present

- GPA: 3.48/4.00 (144 + 20 credits)
- Related courses: Plant tissue culture, economic botany, phytohormones, genetic engineering, numerical taxonomy
- Internship and Final Project at BRIN
- Research funding for the Faculty of Science and Technology in the field of zoology

PROJECT EXPERIENCE

BRIN Internship (Horticulture Research Center)

August 2025–March 2026

- Conducted in vitro culture research on two genotypes of *Labisia* spp. using MS medium over three culture periods, with 4–6 variations in plant growth regulator (PGR) concentrations in each period.
- Managed a large-scale experimental design with 8–10 replicates per treatment, in which each culture unit consisted of 5 explants with an initial weight of 0.4–0.5 grams.
- Prepare, formulate, and produce 2–4 liters of culture medium per day using various combinations of plant growth regulators (PGRs), and package the medium into 15–50 culture bottles (250–500 mL) according to the experimental design.
- Prepare and optimize PGR stock solutions (auxins, cytokinins, and amino acids) at a concentration of 1000 ppm using specific solvents appropriate for the characteristics of each compound, to ensure the accuracy of the formulation and the success of the in vitro culture treatments.
- Conduct observations and evaluations of 500–1,000 explants to generate accurate quantitative data for evaluating the culture's response to plant growth regulator (PGR) treatments.
- Conduct morphological and microscopic observations using a microscope to document growth characteristics and generate visual evidence to support the research.
- Processed and validated data from 3 research periods through statistical analysis, including testing assumptions about data distribution, to ensure the validity of the quantitative analysis.
- Processed, analyzed, and visualized research data using RStudio to produce informative and easy-to-understand interpretations of the data.
- Conducted pre-sterilization and sterilization of *Allium sativum* and *Alocasia cuprea* explants from six genotypes using species-specific protocols.
- Prepared 15–30 plant metabolomic samples for GC-MS analysis across 2–6 genotypes using oven-drying and liquid nitrogen extraction methods.
- Performed standardized sample extraction, dissolution, and technical replication (2–5 replicates/sample) to ensure analytical accuracy and reproducibility.
- Analyzed GC-MS metabolomic data from 3–6 plant genotypes with biological replicates to identify metabolite profiles and genotype-specific compounds.
- Performed metabolite curation, data standardization, and bioinformatic analysis using MetaboAnalyst and KEGG for pathway interpretation and biological insight generation.
- Genomic DNA was extracted from 3–6 plant genotypes using the GTNA Genomic Mini Kit (Plant) according to the manufacturer's protocol, with some modifications.
- Performed isolation and purification of endophytic bacteria from 6 *Alocasia* spp. genotypes, involving 18 biological samples, 54 culture plates, and approximately 270 tissue explants, using PDA and NA media.

Lab Assistant

Sept 2023–Present

- Supervised and mentored 35–50 students per session, providing instruction in laboratory techniques and scientific concepts.
- Assisted in laboratory preparation and practical mentoring using 4–10 histological specimens in collaboration with faculty supervisors.
- Assessed and graded 50–100 laboratory reports and assignments, ensuring accurate evaluation and record management.

- Developed 20–30 assessment questions and managed student performance data for final grade compilation and academic reporting.
- Performed breeding and maintenance of approximately 50 *Drosophila melanogaster* mating pairs, producing 400–600 F1 offspring to support laboratory sessions for over 120 undergraduate students.
- Prepared and produced 3 liters of banana-based culture medium, yielding 20–40 culture bottles to support optimal *Drosophila* growth and reproduction.
- Trained student cohorts in advanced microbiological execution, including aseptic isolation techniques, structural slide preparation utilizing Lactophenol Cotton Blue, and macro/microscopic identification of 4 fungal divisions, with a strict focus on commercial Basidiomycetes lines (*Volvariella volvacea* and *Auricularia auricula*).
- Appointed by the faculty board to lead, manage, and supervise 30 student practitioners across 6 intensive mycological and protist practical blocks, maintaining a 100% compliance rate with laboratory Standard Operating Procedures (SOPs) and bio-safety protocols
- Served as the primary Quality Assurance Auditor for academic research output, systematically reviewing and grading 180+ comprehensive technical laboratory reports (30 students × 6 experimental topics) to validate data accuracy and taxonomic alignment before final grade submission.

ORGANIZATIONAL EXPERIENCES

Co-Coordinator, Entrepreneur Division (HMPS Biologi Semut Merah) November 2023 - June 2025

- Developed partnerships with 4–10 vendors to secure sponsorships and negotiate cost-efficient procurement strategies.
 - Managed the sale of 200–500 products and services to support students' academic needs.
 - Increased organizational revenue by 2.5× through the implementation of a zero-capital pre-order (PO) business model.
 - Coordinated entrepreneurial activities, vendor relations, and business operations to enhance organizational financial performance.
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SKILLS

Languages	: Indonesian (Native), English (Intermediate)
Technical Skills	: Plant Tissue Culture, Metabolomics (GC-MS), Microbial Culture, Microscopy, Sample Preparation, Aseptic Techniques, Experimental Design, Quality Control
Data Analysis Tools	: SPSS, RStudio, MetaboAnalyst, KEGG, Microsoft Excel, ImageJ
Analytical Skills	: Statistical Analysis, Data Visualization, Metabolomic Data Analysis, Multivariate Analysis (PCA, Heatmap, Clustering), Scientific Data Interpretation, Research Data Management
Soft Skills	: Analytical Thinking, Problem Solving, Leadership, Project Management, Teamwork, Scientific Communication, Attention to Detail