

GHINA ATHYAH WAHID

Research Scientist | Molecular Biology & Genomics | Microbiologist

Depok, Indonesia | +62 878-8787-6860 | ghinaathya94@gmail.com | www.linkedin.com/in/ghina-athyah

PROFESSIONAL SUMMARY

Molecular biology researcher and R&D scientist with 5+ years of experience spanning genomics, metagenomics, microbiology, and clinical molecular diagnostics. Skilled in end-to-end sequencing workflows from DNA/RNA extraction and PCR/RT-qPCR through Nanopore (ONT MinION) library preparation, basecalling, and bioinformatic analysis (Kraken2, NanoFilt, EPI2ME) applied to microbiome and antimicrobial resistance research. Author of 7 international scientific publications, including 2 first-author Scopus-indexed articles (Q2 & Q3). Complemented by hands-on experience in laboratory quality assurance (ISO 17025, ISO 9001, GLP/GMP) built while supporting a molecular diagnostics laboratory, bringing rigor and regulatory awareness to research work. MSc in Biochemistry (IPB University, BRIN scholarship, degree-by-research).

CORE COMPETENCIES

Research & Molecular Biology: Microbiological Analysis, Bacterial Culture & Identification, PCR, RT-qPCR, DNA/RNA Extraction, 16S rRNA & Nanopore (ONT MinION) Sequencing, Metagenomics, Microbiome Profiling, Antimicrobial Resistance Research, Whole Genome Sequencing, Field Sample Recruitment & Informed Consent, Healthcare Worker Training

Bioinformatics & Data Analysis: Dorado Basecalling, NanoFilt, NanoPlot, Kraken2 Taxonomic Classification, EPI2ME (wf-16s), Statistical Analysis (Chi-square, Fisher's Exact, Diversity Indices), R/Excel Data Analysis

Quality Systems: QMS, ISO 17025, ISO 9001, GLP, GMP, CAPA, Root Cause Analysis, Internal Audit, Controlled Document Management, Regulatory Compliance

Software: Bioinformatics Software Suite, LIMS, Microsoft Excel/Word/PowerPoint, Google Workspace

EDUCATION

Master of Science (S2), Biochemistry

2023 – 2026

IPB University, Sekolah Pascasarjana

- GPA 3.44/4.00 · BRIN Master's Scholarship (Degree-by-Research Program)
- Thesis: Prevalence of *Streptococcus pneumoniae* Colonization and Its Association with Nasopharyngeal Microbiota Diversity in Children Under Five, based on 290 nasopharyngeal specimens with full-length 16S rRNA Nanopore sequencing

Bachelor of Science (S1), Biology

2016 – 2020

Pakuan University

- GPA 3.11/4.00 · Thesis: Evaluation of the Antifungal Activity of *Cananga odorata* Essential Oil Against *Aspergillus flavus*

RESEARCH & WORK EXPERIENCE

QA Laboratory Specialist

Mar 2025 – Jun 2026

Nusantics

- Managed the Quality Management System across 3 legal entities, maintaining SOPs, controlled documents, and quality records for a molecular diagnostics laboratory
- Prepared and compiled full certification documentation (SOPs, quality manuals, records, evidence packages) end-to-end for ISO 17025, ISO 9001, CPAKB, CDAKB, CPOIB, and CDOIB, and represented the lab during Ministry of Health surveillance audits - achieving successful certification/re-certification across all schemes
- Investigated and resolved 10+ CAPA and non-conformance cases; oversaw laboratory inventory, equipment maintenance, and calibration across Jakarta and Banyuwangi sites

Research Assistant

Mar 2023 – Feb 2025

PRBM Eijkman Research Center, BRIN

- Led molecular and microbiological research in genomics, metagenomics, bioinformatics, microbiome analysis, and antimicrobial resistance, processing 500+ clinical and research samples
- Performed bacterial culture and identification (including optochin sensitivity testing), DNA/RNA extraction, PCR, and sequencing library preparation; ran bioinformatic pipelines for taxonomic classification and diversity analysis

- Led field sample recruitment, including obtaining informed consent and administering structured questionnaires to caregivers, and delivered hands-on training to healthcare workers (nurses) on nasopharyngeal specimen collection and handling protocols
- Collaborated with multidisciplinary teams of researchers, clinicians, and field staff on PCV (pneumococcal conjugate vaccine) immunization impact studies, integrating laboratory findings with epidemiological data
- Contributed to 7 international publications, including 2 first-author, Scopus-indexed articles (Q2 & Q3); and presented research at international scientific conferences.

Laboratory Analyst

Feb – Dec 2022

Center for Virology, Cancer and Pathobiology Research (PRVKP), FK UI – RSCM National General Hospital

- Processed 1,000+ clinical samples daily for molecular diagnostic testing via RNA extraction and RT-qPCR
- Troubleshoot assay failures through re-extraction and repeat RT-qPCR while maintaining quality documentation

Laboratory Administrator

Jun 2021 – Feb 2022

Helix Laboratorium & Klinik

- Managed LIS data entry, inventory, and turnaround-time monitoring for 1,000+ daily samples, and generated operational performance reports while maintaining regulatory-compliant patient documentation

PUBLICATIONS

- Nasopharyngeal carriage of *Streptococcus pneumoniae* and associated microbiome profiles among Bajau and Sasak children under five in Indonesia. *Infection & Chemotherapy*, 2026.
- Pneumococcal Vaccination Impact on Nasopharyngeal Microbiota Diversity in Children. *Microbes and Infectious Diseases*, 2026.
- Unveiling the prevalence of macrolide resistance genes in *Streptococcus pneumoniae* isolates from Indonesia. *Microbes & Immunity*, 2026.
- Genomic analysis of virulence, antimicrobial resistance, and capsular polysaccharide locus of group B *Streptococcus* isolated from Indonesia. *The Microbe*, 2025.
- Pneumococcal Transposon Profiling Associated with Macrolide, Tetracycline, and Chloramphenicol Resistance from Carriage Isolates of Serotype 19F in Indonesia. *Infect Genet Evol*, 2024.
- A New Serotyping Method of *Streptococcus pneumoniae* Based on CRISPR/Cas9-Targeted Sequencing. *Journal of Molecular Diagnostics*, 2024.
- Whole Genome Sequencing Data of *Streptococcus pneumoniae* Isolated from Indonesian Population. *Data in Brief (Elsevier)*, 2024.
- Efektivitas Antifungi Minyak Atsiri Kenanga (*Cananga odorata*) terhadap *Aspergillus flavus*. *Fitofarmaka: Jurnal Ilmiah Farmasi*, 2022.

PROFESSIONAL TRAINING & CONFERENCES

- ISO/IEC 17043:2023 – Proficiency Testing & Interlaboratory Comparison Training (2025)
- Good Manufacturing Practice for Medical Devices (CPAKB) Training (2025)
- Good Distribution Practice for Medical Devices (CDAKB) Training (2025)
- Good Documentation Practice (GDP) Training (2025)
- Internal Auditor Training – ISO 19011:2018 (2025)
- ISO 9001:2015 Quality Management System Awareness Training (2025)
- Applied Biosystems QuantStudio 5 Real-Time PCR Calibration Training (2025)
- Poster Presenter, 3rd ISBMB International Seminar / 28th ISBMB National Seminar (2025)
- Biomedical Research in Indonesia: The Potential of Athymic Nude Mouse Training (2024)
- Good Clinical Practice (GCP) Training (2022)
- Biosafety, Biosecurity & Good Laboratory Practice (GLP) Training (2022)
- ISO 22000:2018, GMP & HACCP (Good Safety Management Series) Training (2021)

LANGUAGES

Bahasa Indonesia (Native) • English (Intermediate Working Proficiency)