



EBENEZER NTIRIAKWA

PERSONAL INFORMATION

Heimfelder Straße
21075 Hamburg
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KEY SKILLS

Protein and Enzyme

Biochemistry: Protein purification, enzyme kinetics, substrate specificity assays.

Analytical Techniques: SDS-PAGE, chromatography (affinity, ion exchange, gel filtration), spectrophotometry, LC-MS/MS.

Molecular Biology: PCR/qPCR, cloning, gene expression profiling, bacterial transformation.

Microbiological Techniques: Culturing, sample preparation, contamination control, enzyme activity screening.

Data Analysis: Statistical evaluation (R, Python), bioinformatics basics, reproducibility optimization.

Project Management: Coordination of research tasks, reporting, team supervision, documentation.

Languages: German (C1), English (C2), French (A2).

PROFESSIONAL SUMMARY

Research scientist with a PhD in Biological Chemistry and over seven years of experience in protein biochemistry, enzymology, and analytical method development. Skilled in enzyme activity assays, molecular biology, and mass spectrometry-based analysis. Experienced in designing and optimizing workflows for reproducibility, data accuracy, and efficiency. Strong team collaborator with a structured, reliable, and results-oriented working style.

WORK EXPERIENCE

- 06/2025-09/2025 **Applied Data Science & AI Bootcamp**
- Built predictive ML models for biological datasets using scikit-learn and PyTorch.
 - Applied docking, molecular dynamics, and simulation workflows in Python.
 - Developed and deployed ETL pipelines with version control and reproducibility.
- 10/2017-03/2025 **Scientific researcher at the University of Hamburg**
- Developed and optimized affinity-based proteomics workflows to identify and characterize enzymes in plant systems.
 - Expressed and purified recombinant proteins from *E. coli*; analyzed enzyme kinetics and substrate specificity.
 - Applied mass spectrometry for quantitative metabolite and protein profiling.
 - Reduced analysis time by 28% and improved reproducibility across experiments through workflow optimization.
 - Supervised MSc/BSc students and coordinated cross-departmental research projects.
 - Documented results in detailed reports and presented findings at group and departmental meetings.
- 07/2017-09/2017 **Intern – Field Trials and Remote Sensing, Dow AgroSciences GmbH, Rastadt**
- Supported biochemical and microbiological analyses for disease resistance studies.
 - Prepared samples and performed assays under GLP-like standards.
 - Assisted with data recording and reporting for internal evaluations.
- 03/2012-06/2016 **Research assistant at the University of Kiel**

VOLUNTEERING & MEMBERSHIPS

Former president of the
Ghanaian Student
Association in Kiel

Former English language
coordinator at PIASTA in
Hamburg

Member of the German Society
for Plant Sciences

LICENSES

Class B EU Driver's License

PERSONAL REFERENCES

- PD Dr. Klaus von Schwartzberg
klaus.von.schwartzberg@uni-
hamburg.de
- Prof. Dr. Sigrun Reumann
sigrun.reumann@uni-
hamburg.de

- Conducted DNA- and protein-based diagnostic assays for crop disease resistance projects.
- Supported field and lab trials, ensuring accurate data collection and reporting.

10/2010-09/2011 **Bachelor of Science in Agriculture (Crop Science),
University of Ghana, Legon**

- Performed DNA extraction and SSR genotyping in maize, rice, and sorghum.
- Coordinated multi-location banana field trials for disease resistance breeding.
- Characterization of different fungal strains in the plant pathology lab.

EDUCATION

10/2019-01/2025 **PhD in *Biological Chemistry*, University of Hamburg**
Topic: Development of a new affinity-based proteomics method for Arabidopsis leaf peroxisomes

10/2011-06/2014 **Master of Science in *AgriGenomics*, University of Kiel**
Topic: Control of flowering in Arabidopsis through activation of flowering time repressors from sugar beet by FLP-FRT recombination

05/2006-09/2010 **Bachelor of Science in *Agriculture (Crop Science)*,
University of Ghana, Legon**
Topic: Molecular characterization of Sorghum accessions using SSR primers

PUBLICATIONS

1. Amoako FK, Ntiriakwa EK, et al. Comparative Transcriptomic Analysis of Nodular Responses to Phytic Acid in *Vicia faba*. (DOI: <https://doi.org/10.21203/rs.3.rs-6417689/v1>)
2. Ntiriakwa EK, Reumann S, et al. Establishment of BioID-based Proteomics for Arabidopsis Peroxisomes. (In preparation)
3. Ntiriakwa EK. PhD Thesis: Development of a New Affinity-Based Proteomics Method. (University of Hamburg, 2024)