

# CURRICULUM VITAE

September 2025

## NAME

**Mahougnon Lewis Spencer A. GNANGLE, Jr.**

**Nationality:** Beninese

## TITLE, RESPONSIBILITY, AND ACADEMIC AFFILIATION

**Agronomist, Plant Breeding**

Research Assistant

[Genetics, Biotechnology, and Seed Science Unit](#) (GBioS/PAGEV/FSA/UAC)

## CONTACT DETAILS

Laboratory of Crop Production, Physiology and Plant Breeding (PAGEV),  
Faculty of Agricultural Sciences (FSA), University of Abomey-Calavi (UAC)

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LinkedIn: [Lewis-Spencer GNANGLE](#)

## DOMAIN OF INTEREST

Genetics, Plant Breeding, Genomics, Bioinformatics, Data Management, Project Management, Monitoring and Evaluation, Seed Sciences.

## EDUCATION / QUALIFICATION

**October 2023-September 2024: Research Master, Specialization in Genetics, Biotechnology and Plant Breeding**

Doctoral School of Agricultural and Water Sciences (ED-SAE), University of Abomey-Calavi, Republic of Benin.

Graduated in July 2025

**Thesis subject :** Performance evaluation, genetic stability and adaptability of fourteen tomato lines in Benin

**Key subjects studied:** Molecular Genetics, Quantitative Genetics, Plant Breeding, Biotechnology, Cellular Genetics and Epigenetics, Seed Technology, Management of Phytogenetic Resources.

**2015-2021: Agricultural Engineering Degree in Plant Sciences:** Graduated in April 2021 with **First Class Honors** and **Congratulations of Examination board**, Faculty of Agricultural Sciences, **University of Abomey-Calavi**, Republic of Benin.

**Key subjects studied:** Crop Improvement, Biotechnology, Plant Ecophysiology, Photosynthesis, Plant Nutrition, Crop Protection, Management of Soil Fertility, Statistics, Data Analysis, Data Management, English classes

**Thesis subject :** *Agronomic performance, yield and yield components assessment in local and introduced sesame (Sesamum indicum L.) accessions in Southern Benin.*

**2015-2019: General Agronomy**, Faculty of Agricultural Sciences, University of Abomey-Calavi, Republic of Benin.

**Key subjects studied:** Crop Improvement, Biotechnology, Crop Physiology, Photosynthesis, Plant Nutrition, Crop Protection, Conservation and Management of Soil Fertility, Statistics, Natural Resource Management, Agricultural Economy, Food and Nutrition Sciences, Animal Breeding, English classes

## MOST RECENT SPECIFIC TRAINING / CAPACITY BUILDING

**January 27 to 07 February 2025: Training on Gap Analysis for Genebank. Alliance Bioversity & CIAT - America Hub, Cali-Palmira, Colombia**

Organized by : **BOLDER Project (Building Opportunities for Lesser-known Diversity in Edible Resources)** at **Alliance Bioversity & CIAT and Crop Trust**

**Subjects learnt :** R libraries for database management (dplyr, tidyverse); Spatial data and GIS using R; Introduction to Geographical Quality Score using shiny app; Concept of Species niche and Species Distribution Modelling (SDM);

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Commands in R to fit Species Distribution Modelling (SDM); Gap analysis application for Landrace accessions and Crop Wide Relatives.

**November 18 to 22 2024: Regional Training Course on Genomics and Plant Breeding. University of Abomey-Calavi, Republic of Benin**

Organized by : **Genetics, Biotechnology and Seed Science Unit (GBioS)**

Partners : **World Vegetable Center – National Taiwan University – Wageningen University and Research**

[Certificate link](#)

**Subjects learnt :**

**Advanced Molecular Biology for Plant Breeders** (Structure, functions and variations of nucleic acids ; Gene expression analysis for functional genomic studies ; Molecular markers for plant genotyping ; Evaluation of genetic resources and genetic diversity analysis ; Molecular data analysis)

**Genome, Bioinformatics, and Applications** (Introduction to Genome project, genome sequencing, and sequencing technologies ; Omics approaches, comparative genomics, metagenomics and epigenomics ; GWAS ; Genomic Selection (GS) ; Landscape genomics for plant breeders ; Introduction to Bioinformatics ; Sequence signature databases ; Disease gene prioritization, Data mining)

**Plant Breeding** (Market intelligence and Demand-led breeding ; Mating design & analysis ; Breeding methods ; Experimental designs ; On-farm evaluation ; Citizen science and METs)

**Practices on DNA extraction, quantification and qualification using Nanodrop ; GWAS ; Genomic Selection (GS) ; Introduction to Shell ; Introduction to Bioinformatics and RNA Seq Data analysis ; METs data analysis**

**October 06 to 09 2024 : Hybrid Production Training. World Vegetable Center WCA – CH, Cotonou, Benin**

Organized by : **World Vegetable Center West Africa and Central Africa Regional Office**

[Certificate link](#)

**Subjects learnt :** Introduction to Hybrid Vigor; Selection of Parental Lines and Identification of Heterotic groups; Sterility system and maintenance of parental lines; Theory on tomato hybrid production and tomato hybridization practice; Theory on pepper hybrid production and pepper hybridization practice; Hybrid variety maintenance and seed health and quality.

**December 2023 :** Field training on **vegetables** including chili pepper, tomato, cleome crossing methods led by **Dr Carlos HOUDEGBE and MSc Eliel SOSSOU at GBioS Unit experimental farm.**

**October-November 2023:** Initiation to “**Project Monitoring and Evaluation**” led by Dr Fassinou Hotegni V. Nicodeme at the University of Abomey-Calavi

**Training Instructor:** Dr Fassinou Hotegni Nicodeme, Regional Programme Manager at Nuffic, the Netherlands.

**Key subjects:** Project identification, Theory of Change elaboration (inputs, outputs, outcomes and impact), Performance Indicators Tracking Table design and monitoring, Tips for a good project writing

**September to November 2023:** Online training “**Statistics and R**”. **eDX course-HarvardX.**

**Instructor:** Rafael Irizarry (Professor of Biostatistics, Harvard T.H. Chan School of Public Health). [Certificate link.](#)

**June to July 2023:** Training on “**Design and Database Management**”. Organize by MasterCard Foundation Program at the University Abomey-Calavi (UAC).

**Instructor:** PhD Sylvain KPENAVOUN CHOGOU (Agricultural Economist), **Expert in Database Management**, Lecturer at Faculty of Agronomic Sciences, University of Abomey-Calavi, Republic of Benin.

**Key subjects:** MS Access for database management, programming questionnaire with Excel sheet on KoboToolBox/KoboCollect, Questionnaire programming with CSPro.

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**June 01 to June 03 2022:** Online UIUC Spring Workshop on “**Applied Quantitative Genetics for Plant Breeders**”. ILLINOIS, College of Agricultural, Consumer and Environmental Sciences.

**Key subjects:** Principles and techniques of quantitative genetics to improve breeding efficiency ; Selection theory ; Genomic Selection ; GWAS ; MAS.

**March 2022:** Online training “**Introduction to Statistics with R**”. Fun MOOC – University Paris Saclay.

**Instructors:** Bruno Falissard (Professor, Paris-Saclay University) and Christophe Lalanne (Statistician, University of Paris VII). [Certificate link](#)

**Key subjects:** Position measurements, Statistical tests, Graphic representations, Programming with R, Association between variables.

**February 2022:** Training on **Statistical Data Analysis for Post Graduate Students and Staff using R Programming Language**, from 7th - 19th February 2022. **Organized by RUFORUM.**

**Training Instructors:** Prof. Susan Balaba Tumwebaze, Dr. Thomas Odong and Dr. Hellen Namaweje.

**Contact person:** Prof Adipala Ekwamu, RUFORUM (Executive Secretary). [Certificate link](#)

**Key subjects:** Exploratory data analysis, Relationship between variables, Experiments (experimental designs) and surveys, ANOVA, Correlation and Regression analysis, generalized linear model, Mixed models, multivariate analysis.

**December 2021:** Online training on “**Google Data Studio / Looker Studio - Creating Interactive Dashboards**”. Coursera Project Network.

**Training Instructor:** ELINGUI Pascal Uriel SME/DevOps, AI Expert.

**Key subjects:** Data importation, appendix of data sources, data visualization.

**July 2021:** Training on “**Methods and tools for writing a literature review**”, 2<sup>nd</sup> to 4<sup>th</sup> July 2021. Forest Biology and Ecological Modelling Research Unit (UR-BioME), Laboratory of Ecology, Botany and Plant Biology (LEB), University of Parakou, Benin. [Certificate link](#)

**Key subjects:** Systematic review writing, Meta-analysis and Narrative synthesis using ROSES methodology with CADIMA

**June 2021:** Training on “**Methods and tools for writing a Bibliometric analysis**”, 18<sup>th</sup> to 20<sup>th</sup> June 2021. Forest Biology and Ecological Modelling Research Unit (UR-BioME), Laboratory of Ecology, Botany and Plant Biology (LEB), University of Parakou, Benin. [Certificate link](#)

**Training Leader:** Dr BIAOU S.S. Honoré.

**Key subjects:** use of VosViewer, CiteSpace and Bibliometrix (with Biblioshiny R package) ; Research on article database including: **Web of Science, Scopus, Dimension, Lens.**

### PERSONAL GROWTH TRAINING

**July to August 2024:** Online training on “**Managing Yourself and Your Time**”. Kaya Humanitarian Leadership Academy. Certificate of completion awarded the 17<sup>th</sup> August 2024. [Certificate link](#)

**August to September 2020:** Online training on “**Self-awareness: Know yourself**”. Kaya Humanitarian Leadership Academy. Certificate of completion awarded the 30<sup>th</sup> September 2020. [Certificate link](#)

**August to September 2020:** Online training on “**Personal Development Skills**”. Kaya Humanitarian Leadership Academy. Certificate of completion awarded the 30<sup>th</sup> September 2020. [Certificate link](#)

### CONSULTANCIES JOBS

**September to November 2024:** Assessed agroecological innovations and evidences in West Africa

**Countries :** Niger, Burkina-Faso and Mali

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### **Role: Associate Consultant**

**Client:** OXFARM through Inades-Formation; Cote d'Ivoire

**Tasks completed:** Review agroecological practices in West Africa, design of questionnaire, digitalization of questionnaire using KoboToolbox, interview with indirect stakeholders in Burkina, Mali and Niger

**February 2023 to April 2023:** Vegetables seed prospection collect mission in the framework of vegetables safeguarding

### **Role: Associate Consultant**

**Client:** Taiwan Africa Vegetable Initiative (TAVI) project (WorldVeg Center, Tanzania) through GBioS Unit, Benin.

**Tasks completed:** (1) Production of Terms of references; Organization and supervision seed prospection and collection missions; (2) Database management; (3) Seed management activities; (4) Activities report writing.

**October 2022 – December 2022:** Fruits and vegetables for healthy diets (FRESH project), GBioS Unit, Benin.

### **Role: Associate Consultant**

**Client:** Fruits and vegetables for healthy diets (FRESH) project (WorldVeg Center, Benin) through GBioS Unit, Benin

**Tasks completed:** (1) Production of Terms of references; Organization and supervision seed prospection and collection missions; (2) Manage databases; (3) Seed management activities; (4) Activities report writing.

## WORK EXPERIENCES

**June 2024 to November 2024:** **Research Fellow** at World Vegetable Regional Center regional for West and Central Africa – Coastal and Humid Regions (WCA-CH), Cotonou, Benin.

Experimental work on tomato: “**Performance evaluation of new tomato lines across multi environment in Benin**”.

**Tasks:** (1) Monitoring field trials; (2) Data collection, (3) Statistical data of analysis Multi Environmental Trials with R.

**Contact person:** Mathieu A.T. AYENAN, PhD in Plant Breeding, Associate Scientist - Vegetable Breeder at **World Vegetable Center** (West and Central Africa - Coastal and Humid Regions)

[mathieu.ayenan@worldveg.org](mailto:mathieu.ayenan@worldveg.org)

**October 2022 - March 2023:** Data Manager and Monitoring, Cowpea Atlas Project: “**Analysis of sociocultural and/or economic motivators or barriers to cowpea utilization at various stages and scales within production and market systems in West Africa, Phase 2: Development of Virtual Cowpea Atlas Platform in West Africa**”. Funded by

[Legume Lab/USAID](#)

**Responsibilities:** (1) Organization and supervision of data collection; (2) Management of national and regional databases (Benin, Niger, Nigeria and Senegal); (3) Definition of data collection models; (4) Data processing, analysis and visualization; (5) Project activities monitoring and reporting. [Project completion report](#)

**Contact person:** Ousmane N. COULIBALY, PhD in Agricultural Economy, Senior Consultant

[o.coulibaly1995@gmail.com](mailto:o.coulibaly1995@gmail.com)

**December 2021 to June 2024:** Assistant [CalaviGen](#) Seed Genebank Curator, Database Manager, Genetics, Biotechnology, and Seed Science Unit (GBioS/PAGEV/FSA/UAC).

**Responsibilities:** (1) Manage the Genebank database; (2) Organize and monitoring vegetable and legume seed prospecting and collection missions; (3) Data entry, data management, and reporting (4) Co-management of [TAVI](#), [FRESH](#), [SAFE-PGR](#) projects (5) Seed management activities (drying, cleaning, packaging, storage...) and reporting.

**Contact person:** Dédéou A. TCHOKPONHOUÉ, PhD in Plant Breeding

[dedeoutchokponhoue@gmail.com](mailto:dedeoutchokponhoue@gmail.com)

**June 2021 to September 2022:** Data manager and Monitoring, Cowpea Atlas Project: “**Analysis of sociocultural and/or economic motivators or barriers to cowpea utilization at various stages and scales within production and market systems in West Africa, Phase 1: Mapping Cowpea Data Sources and Gaps in West Africa**”. Funded by [Legume Lab/USAID](#).

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**Responsibilities:** (1) Organization and supervision of data collection; (2) Management of national and regional databases (Benin, Niger, Nigeria and Senegal); (3) Definition of data collection models; (4) Data processing, analysis and visualization; (5) Project activities monitoring and reporting.

**Contact person:** Ousmane N. COULIBALY, PhD in Agricultural Economy, Senior Consultant

[o.coulibaly1995@gmail.com](mailto:o.coulibaly1995@gmail.com)

**June 2021: Field agent**, Taiwan Africa Vegetable Initiative (TAVI) Project: “**Multiplication of traditional African vegetables seeds**”. Funded by **Word Vegetable Center**.

**Tasks:** (1) Interviews with farmers about traditional vegetables (uses and seed conservation) and data collect data; (2) Vegetables seed samples collection; (3) Report writing.

**Avril 2021 to Present: Research Assistant**, Genetics, Biotechnology, and Seed Science Unit (GBioS/PAGEV/FSA/UAC).

**Responsibilities:** (1) Field experimentation design; (2) Phenotypic data collection; (3) Data analysis; (4) Project proposal writing; (5) Research proposal writing and execution; (6) Reporting.

**February 2020 to March 2021: Research Fellow** at Unit of Genetics, Biotechnology, and Seed Science (GBioS/PAGEV/FSA/UAC).

Experimental work on sesame (*Sesamum indicum*, L.): “**Agronomic performances, yield and yield components assessment in introduced and local Sesame (*Sesamum indicum*, L) genotypes in Southern Benin**”.

**Tasks:** (1) Design and monitoring field trials in multiple environments in southern Benin; (2) Phenotypic data collection, (3) Statistical data analysis with R; (4) Thesis writing and defense.

### CONFERENCES ATTENDED

**20 February to 24 February 2023: Feed the Future, Legume System Innovation Lab Global Annual Convening**, Livingstone, Zambia

**28 May 2021:** Conference on “**Identification of predatory reviews in the publication process of scientific research results**”. 5pm to 6pm. Faculty of Agronomic Sciences, University of Abomey-Calavi, Republic of Benin.

**Oral presentation** of PhD Sylvain KPENAVOUN CHOGOU (Agricultural Economist), Lecturer at Faculty of Agronomic Sciences, University of Abomey-Calavi, Republic of Benin.

**28 May 2021:** Conference on “**Territorial dimension in Agroecology**”. 2pm to 3pm30. Laboratory of Genetics, Biotechnology and Seed Sciences (GBioS), Faculty of Agronomic Sciences, University of Abomey-Calavi, Republic of Benin.

**Oral presentation** of Jean-Baptiste Molina from the University of Liege, Professional Master in Anthropology and Sustainable Development and in Agroecology.

### FELLOWSHIP, PRIZES AND GRANTS

**2024 :** Participation of mobilization of **3000 USD** to implement development and agroecological transition project with local farmers. **Funded by AL for Agribusiness**

**2024 :** Mobilization of **5000 USD** for Entrepreneurship from **TEF (Tony Elumelu Foundation) Program**.

**2020 :** Congratulations of the Dean of the FSA of the Faculty of Agricultural Sciences (FSA) for being Major student in Crop Sciences and in the 5-year Agro class, University of Abomey-Calavi (UAC)

**2019 :** Congratulations of the Dean of the FSA of the Faculty of Agricultural Sciences (FSA) for being Major student in the 4-year Agro class, University of Abomey- Calavi (UAC)

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**2018** : Honor roll awarded by the Dean of the Faculty of Agricultural Sciences (FSA) for being 3rd in the 3-year Agro class, University of Abomey- Calavi (UAC)

**2017** : Honor roll awarded by the Dean of the Faculty of Agricultural Sciences (FSA) for being 3rd in the 2-year Agro class, University of Abomey- Calavi (UAC)

## PUBLICATIONS

- 1- Christel F. Azon, Nicodème Fassinou Hotègni, Eurydice Olga Deedi Sogbohossou, **Lewis Gnanglè**, Guillaume Bodjrenou, Charlotte O. Adjé, Komivi Dossa, Clément Agbangla, Florent J.B. Quenum, Enoch G. Achigan-Dako (2023). **Genotype × Environment Interaction and stability analysis for seed yield and yield components in sesame (*Sesamum indicum* L.) in Benin Republic using AMMI, GGE biplot and MTSI** .Published in Heliyon (2023) Volume 9, Issue 11, e21656 <https://doi.org/10.1016/j.heliyon.2023.e21656>
- 2- Azon, Christel Ferréol; Fassinou, Nicodème Hotègni; Adjé, Charlotte O.; **Lewis Spencer Gnanglè**; Benjamin, Evelyne; Mhuruyengwe, Ruvarashe Loveness; Salaou, Mouizz; Houdegbe, Aristide Carlos; Sogbohossou, Deedi Olga; Sedah, Paulin; Dossa, Komivi; Agbangla, Clément; Quenum, Florent J.B.; Achigan-Dako, Enoch G.,. **“Molecular Diversity and Agronomic Performance of Sesame (*Sesamum indicum*) Cultivars in Benin: Local Cultivars and Lines Introduced From China”**. Published in Plant-Environment Interactions, Wiley (2024) <http://dx.doi.org/10.1002/pei3.70024>
- 3- Belmira Y. Moustapha, MSc; Dédéou A. Tchokponhoue, PhD; **Lewis S. Gnangle**, MSc; Mouizz A. Salaou, MSc; Smith Dossou; Augustin K.N Aoudji. **“Social norms effects on the communication practices of women in agribusiness in Benin”**. *Under review in Journal of Rural Studies*

## PERSONAL SKILLS

### LANGUAGE

| Mother tongue(s)  | Fongbé                                                                                                                                                |         |                    |                   |         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------|-------------------|---------|
| Other language(s) | UNDERSTANDING                                                                                                                                         |         | SPEAKING           |                   | WRITING |
|                   | Listening                                                                                                                                             | Reading | Spoken interaction | Spoken production |         |
| English           | B1                                                                                                                                                    | B1      | B1                 | B1                | B1      |
| French            | C1                                                                                                                                                    | C1      | C1                 | C1                | C1      |
|                   | Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1and C2 Proficient user<br><i>Common European Framework of Reference for Languages</i> |         |                    |                   |         |

### COMPUTER SKILLS

Good command of **MS OFFICE software** (Word, Excel, PowerPoint, Access),  
Good command of **R programming language for statistical analysis**,  
Good command of **KoboToolbox, KoboCollect** and **questionnaire programming through Excel sheet**,  
Good command of **Field Book for field layout design and data collection**,  
Minimum command of **SQL language for data management**,  
Minimum command of **RMarkdown**,  
Minimum command of **Bioconda tools through Bash/Unix for Bioinformatics**.

### SPECIFIC SKILL

Driver license B

### COUNTRIES VISITED SO FAR

**African countries** : Benin (Home country), Togo, Niger, Ghana, Senegal, Zambia, Burkina-Faso, Ethiopia  
**American countries** : Colombia, Panama  
**European countries** : France

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### REFERENCES

**Enoch ACHIGAN-DAKO, PhD**

Full Professor in Genetics and Plant Breeding  
Vice-President [African Plant Breeders Association](#)  
Director of [Genetics, Biotechnology, and Seed Science Unit](#) (GBioS/PAGEV/FSA)  
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**Nicodeme FASSINOU HOTEgni, PhD**

Associate Professor in Plant Physiologist  
Deputy Director of [Genetics, Biotechnology, and Seed Science Unit](#) (GBioS/PAGEV)  
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I certify that the information provided are accurate and verifiable.