

CURRICULUM VITAE

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(SENIOR *LECTURER*)

DEPARTMENT OF CROP AND SOIL SCIENCES

FACULTY OF AGRICULTURE

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

KNUST, KUMASI

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CURRICULUM VITAE

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1. EDUCATIONAL BACKGROUND

a. (i) Academic degrees earned with dates

Table 1.1: Academic Qualifications with dates

Academic Qualifications	Date
Doctor of Philosophy (Plant Science) , South Dakota State University, Brookings – USA	May 5, 2017
Master of Science (Agronomy, Plant Breeding option) , University of Ibadan, Ibadan – Nigeria	November 23, 2011
Bachelor of Science in Agriculture , Kwame Nkrumah University of Science and Technology, Kumasi-Ghana	June 23, 2008

b. (i) Institutions attended with dates

Table 1.2: Institutions attended with dates

Name of Institution	Date
South Dakota State University, Brookings – USA	August 2013 to May 2017
University of Ibadan, Ibadan – Nigeria	January 2010 to November 2011
Kwame Nkrumah University of Science and Technology, Kumasi-Ghana	August 2004 to June 2008

(ii) International Awards

Table 1.3: International Awards

Fellowships	Date
Program Manager, Trait Discovery Area of Inquiry, Innovations Lab for Crop Improvement, Cornell University, Ithaca, NY, USA	September 2022 to December 2024
Scholars exchange program, 18-month position as Research Associate IV at	April 2022 to

Colorado State University, Fort Collins, CO – USA	December 2024
The African Orphan Crops Consortium (AOCC) fellowship to attend the African Plant Breeding Academy (Class IV), University of California, Davis, CA, USA	May 2018 to December 2019
Graduate Research/Teaching Assistantship, South Dakota State University, Brookings – USA	August 2013 to May 2017
The Alliance for a Green Revolution in Africa (AGRA) scholarship award – MSc Scholarship, University of Ibadan, Ibadan – Nigeria	January 2010 to November 2011

2. UNIVERSITY TEACHING AND/ OR RESEARCH EXPERIENCE WITH DATES

a. (i) Academic ranks / Position(s) held

Table 2.1: Academic ranks / Position held

Academic ranks / Position held	Date
Senior Lecturer , Department of Crop and Soil Sciences, Faculty of Agriculture	August 01, 2022 to Date
Lecturer , Department of Crop and Soil Sciences, Faculty of Agriculture	August 01, 2018 to July 31, 2022
Assistant Lecturer , Department of Crop and Soil Sciences, Faculty of Agriculture (Granted leave of absence to pursue my doctoral study from August 2013 to August 2017)	August 31, 2012 to July 31, 2018

ii. Subjects taught since my last Promotion (2022)

Table 2.2: Postgraduate Level Courses Taught

Postgraduate Level		
Courses Taught	Department	Date
CS 753: Statistical Methods and Applications (PhD level)	Department of Crop and Soil Sciences	2024 to Date
PB 753: Genomics for Plant Breeding (PhD level)	Department of Crop and Soil Sciences	2024 to Date
PB 752: Advanced Quantitative Genetics (PhD level)	Department of Crop and Soil Sciences	2024 to Date
CS 586: Quantitative Genetics for Plant Breeding (MPhil level)	Department of Crop and Soil Sciences	2018 to Date
CS 582: Quantitative Methods (MPhil level)	Department of Crop and Soil Sciences	2018 to Date
CS 565: Research Methods (MPhil level)	Department of Crop and Soil Sciences	2021 to 2025

Table 2.3: Undergraduate Level Courses Taught

Undergraduate Level		
Courses Taught	Department	Date
CS 159: Genetics	Department of Crop and Soil Sciences	2012 to Date
AGB 353: Techniques in Molecular Genetics	Department of Crop and Soil Sciences	2017 to Date
BAS 459: Biotechnological Approaches in Animal and Crop Production	Institute of Distance Learning	2018 to Date

b. Supervision of students' project work/theses/research**Table 2.4: Summary of students' project work/theses/research since my last promotion**

Academic Level	Ongoing	Completed	Total
BSc	20	54	74
MPhil	8	3	11
PhD	8	6	14

i. Postgraduate supervision since last promotion (2022)**Table 2.5: PhD Supervision since my last promotion**

S/N	Name of Student	Research Topic	Academic Year	Status	Role
1	Ali Koura Abdoulaye	Breeding cowpea [<i>Vigna unguiculata</i> (L)Walp.] for resistance to <i>Striga gesnerioides</i> using molecular tools	2020/2021	Completed	Co-supervisor
2	David Appiah-Kubi	Breeding for drought-tolerant and low-P common bean varieties in Ghana	2018/2019	Completed	Co-supervisor
3	Emmanuel Yaw Owusu	Development of extra-early maturing, <i>Striga gesnerioides</i> (L.) Willd) and <i>Aphis craccivora</i> (Koch) resistance cowpea (<i>Vigna unguiculata</i> (L.) Walp) varieties using marker-assisted backcrossing	2018/2019	Completed	Co-supervisor
4	Patrick Attamah	Pyramiding of two different sources of Aphid resistance	2017/2018	Completed	Co-supervisor

		genes into farmer-preferred cowpea varieties in Ghana			
5	Asungre Anabire Peter	Farmer preference, combining ability and yield stability for high grain Fe and Zn content of early maturing Pearl Millet [<i>Pennisetum glaucum</i> , (L), R. Br] genotypes in Ghana	2017/2018	Completed	Co-supervisor
6	Richard Yaw Agyare	Assessment of genetic diversity and agronomic performance of Fonio (<i>Digitaria exilis</i> (Kippist) Stapf) accessions in Ghana	2020/2021	Completed	Co-supervisor
7	Isaac Tawiah	Introgression and validation of rymv1-5 allele to improve RYMV disease resistance in three farmers' preferred rice varieties	2020/2021	Ongoing	Co-supervisor
8	Godfried Ohene-Mensah	Alternaria leaf spot disease on cabbage (<i>Brassica oleracea</i> var. Capitata L.), and its management in the semi-deciduous forest zone of Ghana.	2020/2021	Ongoing	Co-supervisor
9	Fred Kormla Ablormeti	Characterization of <i>Agroathelia rolfsii</i> and MaxEnt predictive modeling of sclerotium wilt disease of tomato under different climate change scenarios	2020/2021	Ongoing	Co-supervisor
10	Hanif Lutuf	Epidemiology, characterization, and management of <i>Marasmius</i> bunch rot disease of oil palm (<i>Elaeis guineensis</i> Jacq.) caused by <i>Paramarasmius palmivorus</i> in Ghana	2020/2021	Ongoing	Co-supervisor
11	Gertrude Osei-Diko	Development of Taro Leaf Blight Disease-Resistant Genotypes through Mutagenesis	2024/2025	Ongoing	Main supervisor

12	Naomi Fosu Adoma	Investigating the Role of Panicle Morphology and Antifeedants in Modulating Bird Predation in Sorghum (<i>Sorghum bicolor</i>)	2024/2025	Ongoing	Main supervisor
13	Joseph Gyau	Development and Performance Evaluation of Mutant Onion (<i>Allium cepa</i> L.) Lines for Enhanced Adaptation under Tropical Conditions	2024/2025	Ongoing	Co-supervisor
14	Elizabeth Norkor Nartey	Development of Low Glycemic Index Rice for Diabetes Management in Ghana	2025/2026	Ongoing	Main supervisor

Table 2.6: MPhil Supervision since my last promotion

S/N	Name of Student	Research Topic	Academic Year	Status	Role
1	Abdallah Abdul-Rahaman	Agromorphological Characterization of Sorghum Landraces across Ghana's Sudan and Guinea Savannah Zones	2023/2024	Ongoing	Co-supervisor
2	Job Owusu	Genetic Analysis of Grain Number, Size and Weight in Rice (<i>Oryza sativa</i> L.)	2023/2024	Ongoing	Co-supervisor
3	Mark Majinye Nabre	Screening of Cowpea Genotypes for Nitrogen-Fixing Efficiencies	2023/2024	Ongoing	Co-supervisor
4	Comfort Obeng Boateng	Morphophysiological Evaluation of Okra (<i>Abelmoschus esculentus</i> [L.] Moench) Genotypes for Drought Tolerance	2023/2024	Ongoing	Co-supervisor
5	Emmanuel Opoku-Akromah	Multi-Environment Evaluation of Provitamin A Hybrid Maize for Stability and Adaptation Across Two Ghanaian Agro-Ecologies	2024/2025	Ongoing	Main supervisor
6	Victor Dzah	Evaluation Of Maize Hybrids For Agro-Morphological Traits	2024/2025	Ongoing	Co-supervisor

		And Grain Yield			
7	Alfred Mensah	Unraveling the Genetic Control of Earliness and Yield Components in Cowpea (<i>Vigna unguiculata</i> (L.) Walp)	2024/2025	Ongoing	Co-supervisor
8	Israel Tawiah Tetteh	Development of Trait-Predictive Markers for Awnness in <i>Sorghum bicolor</i> (L.) Moench	2024/2025	Ongoing	Main supervisor
9	Japheth Zacharia Neindow	Genetic variation for drought tolerance and oil quality traits in a groundnut population using sensing technologies	2019/2020	Completed	Co-supervisor
10	Naomi Fosu Adoma	Combining ability and characterization of yellow maize (<i>Zea mays</i> L.) inbred lines for low soil nitrogen tolerance	2020/2021	Completed	Main supervisor
11	Edwyn Kofi Yankson	Assessment of genetic gain for yield and yield-related traits of released rice varieties in Ghana	2019/2020	Completed	Main supervisor

ii. Undergraduate Supervision since my last promotion (2022)

Table 2.7: Supervision of undergraduate project work/dissertation

S/N	Name of Student	Research Topic	Academic Year	Status
1	Asare Adjei, Lucas	Awn formation and development in cereals: connecting the dots	2023/2024	Completed
2	Sebig, Evans Bondoug			
3	Benson, Michael			
4	Donkor, Gerald			
5	Agyiri, Edith Adwoa			
6	Akpor, Lawrence Naa Kai			
7	Yeboah, Williams			
8	Opoku Mensah, Lordina			
9	Yawdem, Godwin Amenuveve			
10	Annor, Michael	Implementing scalable tools, technologies, and methods for modernizing field experiments at KNUST	2023/2024	Completed
11	Yussif, Suweiba			
12	Donkoh, Kwesi			
13	Boateng, David			

14	Yeboah, Eugene			
15	Ankrah, Felix			
16	Batong, Yakubu			
17	Donkor, Bernard			
18	Kyei, Isaac Agyei Marfo			
19	Osei Kofi, Obed			
20	Agyemang, Serwaah Adelaide	How accurate are trained computer vision models for high-throughput phenotyping in cowpea?	2023/2024	Completed
21	Eshun, Eunice			
22	Nsowah, Deliver			
23	Senyegah, Alfred Junior			
24	Asante, Raymond			
25	Neinaja, Richmond Jagri			
26	Amponsah, Sharif			
27	Osei Poku, Kenneth			
28	Gyekye, Rudolf Nana			
29	Okyere, Raphael Osei-Boakye			
30	Idun, Asabea (Miss)	How accurate are trained computer vision models for high-throughput phenotyping in cowpea?	2024/2025	Completed
31	Annor, Lawrence			
32	Ayariga, Priscilla (Miss)			
33	Darko, Assumang Gideon			
34	Gyekyei, Huago Nii Victor			
35	Amoaning, Alexander Oteng			
36	Asare, Mark			
37	Hodogbe, Joshua			
38	Kaburi, Godfred Owusu-Boateng			
39	Owusu, Allan Appiah-Kubi			
40	Akyemvi, Pearl Francisca (Miss)	Screening for tannin for bird resistance in sorghum	2024/2025	Completed
41	Anjamwarika, Thomas			
42	Boafo, Samuel			
43	Dantey, Daniel Nii Etornam Kojo			
44	Takyi, Evelyn (Miss)			
45	Ayamba, David Avokba			
46	Dauda, Michael			
47	Obeng, Dufie Jessica (Miss)			

48	Quansah, Maame Adwowa Atta (Miss)			
49	Gyimah, Dickson			
50	Okyere, Oheneba Yaw			
51	Ampofo, Julian Nyarko Dartey	Implementing scalable tools, technologies, and methods for modernizing field experiments at KNUST	2024/2025	Completed
52	Asare, Prince Addae			
53	Twumasi-Ampofo, Boateng			
54	Laryea, Jeffrey Edmund Nii Adjete			
55	Ayiku-Martey Kingsford Cophy	Designing an In-House Relational Database System for Seed Inventory and Germplasm Management	2025/2026	Ongoing
56	Charles Osei Bonsu			
57	Obeng Elijah			
58	Ndebugri Lazarus Abugbilla			
59	Mumuni Abdul Waris Amangri	Validation of Computer Vision-Based Models for High-Throughput Phenotyping	2025/2026	Ongoing
60	Nyarko Benjamin Kwesi			
61	Nyabo Bright			
62	Manah Theophilus Kwashie			
63	Owusuwaa Benedicta Manful			
64	Yormasah Winfred Dogbey	Identification of Trait-Predictive Markers for Awnness in <i>Sorghum bicolor</i> (L.) Moench	2025/2026	Ongoing
65	Doughan Richard Kweku			
66	Seshimey Dzornunye			
67	Blessing Chidinma Chibueze Mark			
68	Lartey Claudia Naa Anorkor			
69	Martey Bernard Tetteh			
70	Adin Francis Kwasi			
71	Narh Joseph Ago			
72	Oppong Douglas Obeng			
73	Alhusuna Musah			
74	Agyemang Desmond Opoku			

c. Other professionally related experience(s)

Table 2.8. Professionally related experiences

Date	Experience
May 29, 2026	Member, Special Committee to Coordinate Inter-College Quiz Competition
May 15, 2026	Postgraduate Coordinator, Department of Crop and Soil Sciences, KNUST.
April 23, 2026	External Assessor (Promotions), University of Cape Coast (UCC), Cape Coast
September 2, 2025	Member, Screening and Selection Team for 41st National Farmers' Day Celebration, Ministry of Food and Agriculture
August 21, 2025	External Assessor (PhD Thesis), University of Cape Coast (UCC), Cape Coast
June 25, 2025	Reviewer, Theoretical and Applied Genetics Journal, Elsevier
June 16, 2025	Member, Welfare Committee, Department of Crop and Soil Sciences, KNUST
June 9, 2025 to May 31, 2027	Non-Professorial Member on the College Board, College of Agriculture and Natural Resources, KNUST
June 3, 2025	Reviewer, Scientific African Journal, Elsevier
May 12, 2025	Member, PhD Curriculum Development Team, Nkabom Project, KNUST
March 20, 2025	Chairman, Visibility, Website Design and Management Committee, Faculty of Agriculture, KNUST
March 3, 2025	Member, Outreach and Admissions Committee, Faculty of Agriculture, KNUST
February 13, 2025	Member, Department Trainer on Online Teaching, Department of Crop and Soil Sciences, KNUST
January 20, 2025	Member, Grantsmanship/Research Consultancy Committee, Faculty of Agriculture, KNUST
January 20, 2025	Member, Alumni & Industry Linkage Committee
January 1, 2025 to December 31, 2028	Principal Investigator, Green Evolution Project-KNUST
March 15, 2024	Facilitator, GRASAG-KNUST Research Clinic and Conference, KNUST
February 25, 2024 to March 2, 2024	Guest Speaker, Feed the Future Innovation Lab for Crop Improvement (ILCI) project meeting, held in San Jose, Costa Rica, February 25-March 2, 2024, at the Crowne Plaza Hotel
January 15, 2024	Member, Quiz Committee for 70th Anniversary, Faculty of

	Agriculture, KNUST
January 2024 to Date	Academic Tutor, Faculty of Agriculture, KNUST.
November 10, 2023	Institutional Rep for KNUST, Meeting on Genome Editing and Biotechnology Through Strategic Partnership Alliances, and Linkages with Universities and Colleges, AUDA-NEPAD, Accra, Ghana
June 12, 2023	Research Scholar, Colorado State University (CSU), Fort Collins, CO, USA.
May 26, 2023	Facilitator, Initiation of MoU between KNUST and University of Arkansas at Pine Bluff
January 4, 2023 to January 31, 2025	Examination Officer, MPhil Crop Science - IDL, Department of Crop and Soil Sciences
August 22, 2022 to December 31, 2024	Program Manager for Trait Discovery Objective Area of Inquiry, Feed The Future Innovation Lab for Crop Improvement, Cornell University, Ithaca, NY, USA
May 5, 2021	External Assessor, Panel for Appointments and Promotions Board, Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Kumasi.
January 1, 2021 to August 2023	Assistant Faculty Examinations Officer, Faculty of Agriculture, KNUST.
November 12, 2020 to July 7, 2021	Chairman/member, Committee for Development of a Start-up Business plan (1D1S) for the Department of Crop and Soil Sciences, KNUST.
October 7, 2020	Member, Accreditation Committee, Department of Crop and Soil Sciences, KNUST.
September 18, 2020	Chairman/member, Committee for selecting MPhil applicants for admission into postgraduate degree programs in the Department of Crop and Soil Sciences, KNUST.
September 14, 2020 to October 30, 2020	Secretary/member, Committee for Industry and Alumni Relations of the Faculty of Agriculture, KNUST
March 5, 2020 to Date	Reviewer, Ghana Journal of Agricultural Science (GJAS), Accra
December 1, 2019 to December 31, 2020	Faculty Coordinator for Marking MCQs, Faculty of Agriculture, KNUST.
August 30, 2019 to August 2022	Postgraduate Coordinator, Department of Crop and Soil Sciences, KNUST.
August 30, 2019 to September 30, 2019	Secretary/member, Committee for development of IDL program in MPhil Crop Science in the Department of Crop and Soil Sciences, KNUST

June 28, 2019 to August 1, 2019	Secretary/member, Committee for the development of curriculum for Ph.D. Plant Breeding program in the Department of Crop and Soil Sciences, KNUST.
April 18, 2019	Speaker, Career Counseling Day, Fijai Senior High School, Takoradi.
February 1, 2019 to November 30, 2019	Assistant Faculty Coordinator for Marking MCQs, Faculty of Agriculture, KNUST.
November 5, 2018 to Date	External Assessor, University for Development Studies, Tamale
September 15, 2017 to Date	Deputy Patron, Association of Agricultural Biotechnology Students (AABS), KNUST.
August 31, 2012 to Date	Hall fellow, University Hall, KNUST.

3. DETAILS OF RESEARCH/PROJECTS UNDERTAKEN SINCE LAST PROMOTION

a. Research conducted (topics with dates)

Research studies conducted since my last appointment are presented in Tables 3.1 and 3.2 below.

Table 3.1a. Research conducted - Ongoing

S/ N	Title of Research	Date
1	Development of Low Glycemic Index Rice for Diabetes Management in Ghana	January 2026 to Date
2	Designing an In-House Relational Database System for Seed Inventory and Germplasm Management	January 2026 to Date
3	Designing Cross-Species Spacers with Zero Off-Targets for Editing	January 2026 to Date
4	Development of Taro Leaf Blight Disease-Resistant Genotypes through Mutagenesis	January 2025 to Date
5	Investigating the Role of Panicle Morphology and Antifeedants in Modulating Bird Depredation in Sorghum	January 2025 to Date
6	Leveraging Mendelian sampling variance and Marker-Assisted Selection for Rapid Trait Introgression	January 2025 to Date
7	Development and Performance Evaluation of Mutant Onion (<i>Allium cepa</i> L.) Lines for Enhanced Adaptation under Tropical Conditions	January 2025 to Date
8	Multi-Environment Evaluation of Provitamin A Hybrid Maize for Stability and Adaptation Across Two Ghanaian Agro-Ecologies	January 2025 to Date
9	Development of Functional Trait-Predictive Markers for Panicle Morphology Traits in <i>Sorghum bicolor</i> (L.) Moench	January 2025 to Date

10	Morphophysiological Evaluation of Okra (<i>Abelmoschus esculentus</i> [L.] Moench) Genotypes for Drought Tolerance	January 2024 to Date
11	Breeding pipeline simulation and optimization in R	January 2024 to Date
12	Development of open-source software for pangenome-enabled trait discovery and breeding	January 2024 to Date
13	Agromorphological Characterization of Sorghum Landraces across Ghana's Sudan and Guinea Savannah Zones	January 2023 to Date
14	Genetic Analysis of Grain Number, Size and Weight in Rice (<i>Oryza sativa</i> L.)	January 2023 to Date
15	Screening of Cowpea Genotypes for Nitrogen-Fixing Efficiencies	January 2023 to Date
16	Unraveling the Genetic Control of Earliness and Yield Components in Cowpea (<i>Vigna unguiculata</i> (L.) Walp)	January 2022 to Date
17	Validation of Computer Vision-Based Models for High-Throughput Phenotyping in Cowpea and Sorghum	January 2022 to Date
18	Introgression and validation of rymv1-5 allele to improve RYMV disease resistance in three farmers' preferred rice varieties	January 2021 to Date

Table 3.1b. Research conducted – Completed

S/ N	Title of Research	Date
1	Genomic approaches to build <i>de novo</i> elite breeding gene pools from locally adapted landraces	January 2023 to January 2026
2	Delivering trait-enhanced varieties to African smallholders through a pangenomic breeding network	January 2023 to January 2026
3	Development of fast, user-friendly software for machine- and human-readable labels in agricultural research and development	December 2022 to March 2024
4	Breeding cowpea [<i>Vigna unguiculata</i> (L)Walp.] for resistance to <i>Striga gesnerioides</i> using molecular tools	January 2021 to October 2024
5	Assessment of genetic diversity and agronomic performance of Fonio (<i>Digitaria exilis</i> (Kippist) Stapf) accessions in Ghana	January 2021 to December 2023
6	Combining ability and characterization of yellow maize (<i>Zea mays</i> L.) inbred lines for low soil nitrogen tolerance	January 2021 to December 2023
7	Assessment of genetic gain for yield and yield-related traits of released rice varieties in Ghana	January 2021 to December 2024
8	Genetic variation for drought tolerance and oil quality traits in a groundnut population using sensing technologies	January 2020 to May 2022
9	Breeding for drought-tolerant and low-p common bean varieties in	January 2019 to

	Ghana	December 2023
10	Development of extra-early maturing, <i>Striga gesnerioides</i> (L.) Wild) and <i>Aphis craccivora</i> (Koch) resistance cowpea (<i>Vigna unguiculata</i> (L.) Walp) varieties using marker-assisted backcrossing	January 2019 to December 2023
11	Pyramiding of two different sources of Aphid resistance genes into farmer-preferred cowpea varieties in Ghana	January 2018 to October 2022
12	Farmer preference, combining ability and yield stability for high grain Fe and Zn content of early maturing Pearl Millet [<i>Pennisetum glaucum</i> , (L), R. Br] genotypes in Ghana	January 2018 to October 2022

b. Publications arising out of research since my last promotion

i. Refereed journal papers with exact references

Table 3.1c. Refereed journal papers with exact references

S N	Article title	Publisher	Indexing	Date
1	<p>Fall, S. T., Kena, A.W., Rice, B. R., Kanfany, G., Diatta, C., Kane, N. A., Fritz, A. K., & Morris, G. P. (2026). Genomic approaches to build <i>de novo</i> elite breeding gene pools from locally adapted landraces. Theoretical and Applied Genetics, 139(1), 28. https://doi.org/10.1007/s00122-025-05124-2</p>	Springer Nature	Crossref, Scopus, Web of Science, British Library, PubMed, MEDLINE, Europe PMC, Embase, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	January 2026
2	<p>Ablormeti, F. K., Souza, P. G. C., Awuah, R. T., Kwoseh, C. K., Agbetiamah, D., Kena, A. W., Aidoo, K. A. S., Lutuf, H., Sossah, F. L., da Silva, R. S., & Aidoo, O. F. (2025). Modeling global habitat suitability of <i>Agroathelia rolfsii</i> causing Sclerotium wilt disease of tomato with emphasis on Ghana. Scientific Reports, 15(1), 34034. https://doi.org/10.1038/s41598-025-12259-1</p>	Springer Nature	Crossref, Scopus, Web of Science, British Library, DOAJ, ROAD (Open Access Serials), PubMed, MEDLINE, Europe PMC, Embase, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	September 2025

3	<p>Appiah, A., Akromah, R., Kena, A. W., Annor, B., Amoah, S., Owusu, E. Y., & Karikari, B. (2025). Genetic diversity among Ghanaian Okra (<i>Abelmoschus esculentus</i> L.) Germplasm using Morphological and Molecular markers. <i>Ecological Genetics and Genomics</i>, 35, 100347. https://doi.org/10.1016/j.egg.2025.100347</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	June 2025
4	<p>Owusu, E. Y., Kusi, F., Kena, A. W., Kassim, Y. B., Annor, B., Awuku, F. J., Attamah, P., Appiah, A., Lamini, S., Kuor, F., & Akromah, R. (2025). Gains in genetic enhancement of early maturing advanced breeding lines of cowpea [<i>Vigna unguiculata</i> (L.) Walp]. <i>Ecological Genetics and Genomics</i>, 35, 100339. https://doi.org/10.1016/j.egg.2025.100339</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	June 2025
5	<p>Koura, A. A., Kena, A. W., Annor, B., Adejumobi, I. I., Sayadi Maazou, A.-R., Awuku, F. J., Attamah, P., Boukar, O., & Richard, A. (2024). Genome-Wide Association Studies Reveal New Candidate Genes Associated with Resistance to <i>Striga gesnerioides</i> in Cowpea [<i>Vigna unguiculata</i> (L.) Walp.] Accessions from sub-Saharan Africa. <i>Ecological Genetics and Genomics</i>, 100267. https://doi.org/10.1016/j.egg.2024.100267</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	September 2024

6	<p>Attamah, P., Kusi, F., Kena, A. W., Awuku, F. J., Lamini, S., Mensah, G., Zackaria, M., Owusu, E. Y., & Akromah, R. (2024). Pyramiding aphid resistance genes into the elite cowpea variety, Zaayura, using marker-assisted backcrossing. <i>Heliyon</i>, 0(0). https://doi.org/10.1016/j.heliyon.2024.e31976</p>	Elsevier	<p>Crossref, Scopus, Web of Science, British Library, DOAJ, ROAD (Open Access Serials), PubMed, MEDLINE, Europe PMC, Embase, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health</p>	June 2024
7	<p>Agyare, R. Y., Kaczmarek, T., Leclerc, C., Puozaa, D. K., Tengey, T. K., Bonsu, S. K., Kombiok, J. M., Causse, S., Guillerminet, T., Kena, A. W., Adjebeng-Danquah, J., Barnaud, A., Billot, C., & Akromah, R. (2025). Revealing Ghana's unique fonio genetic diversity: Leveraging farmers' knowledge for sustainable conservation and breeding strategies. <i>Genetic Resources and Crop Evolution</i>, 72(1), 235–253. https://doi.org/10.1007/s10722-024-01974-9</p>	Springer Nature	<p>Crossref, Scopus, Web of Science, British Library, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health</p>	April 2024
8	<p>Kena, A., Ogoe, E., Cruet-Burgos, C., Agyare, R., Adoma, N., Annor, B., Raymundo, R., & Morris, G. (2024). Introducing <i>qrlabelr</i>: Fast user-friendly software for machine- and human-readable labels in agricultural research and development. <i>Gates Open Research</i>, 8(28). https://doi.org/10.12688/gatesopenres.15268.1</p>	F1000 Research Ltd	<p>PubMed, PubMed Central, Europe PMC, Scopus, British Library, Crossref, DOAJ, Embase,</p>	March 2024

			CABI databases, CAB Abstracts, Global Health	
9	<p>Koura, A.A., Kena, A.W., Annor, B., Adejumobi, I. I., Maina, F., Maazou, A.-R. S., Razakou, I. B. Y. A., Attamah, P., Kusi, F., Boukar, O., & Akromah, R. (2024). DArTseq-based genome-wide SNP markers reveal limited genetic diversity and a highly structured population in assembled West African cowpea germplasm. <i>Scientific African</i>, 23, e02065. https://doi.org/10.1016/j.sciaf.2024.e02065</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, DOAJ, ROAD (Open Access Serials), CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	March 2024
10	<p>Asare, S., Kena, A.W., Amoah, S., Annor, B., Osekre, E. A., & Akromah, R. (2023). Screening of maize inbred lines and evaluation of hybrids for their resistance to fall armyworm. <i>Plant Stress</i>, 8, 100148. https://doi.org/10.1016/j.stress.2023.100148</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, DOAJ, ROAD (Open Access Serials), CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	June 2023

11	<p>Annor, B., Kena, A. W., & Asare Bediako, K. (2023). Variability among West African okra (<i>Abelmoschus</i> spp. L.) accessions based on quantitative traits. <i>Ecological Genetics and Genomics</i>, 26, 100156.</p> <p>https://doi.org/10.1016/j.egg.2022.100156</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	March 2023
12	<p>Owusu, E. Y., Kusi, F., Kena, A. W., Akromah, R., Awuku, F. J., Attamah, P., & Mensah, G. (2022). Generation mean analysis of the key earliness-related traits in cowpea (<i>Vigna unguiculata</i> (L.) Walp). <i>Scientific African</i>, e01289.</p> <p>https://doi.org/10.1016/J.SCIAF.2022.E01289</p>	Elsevier	Crossref, Scopus, Web of Science, British Library, DOAJ, ROAD (Open Access Serials), CABI databases, CAB Abstracts, FAO-AGRIS (International), Global Health	September 2022

c. Contribution in co-authored publications

See Table 8.2 on pages 35 to 38

4. EXHIBITION/POSTERS

Table 4.1: List of posters presented

Title	Conference/Seminar	Date
<i>qrlabelr</i> : User-Friendly Companion Software to Aid Digital Data Capture in Crop Improvement	1 st Green Evolution Annual General Meeting, Boulder, Colorado, USA	Mar. 2 - 8, 2024
A Decade of AGRA-funded Capacity Building Efforts at the Dept. of Crop & Soil Sciences, KNUST	70 th Anniversary Celebration, Faculty of Agriculture, KNUST, Kumasi	Feb. 13 - 15, 2024
Artificial Intelligence (AI) is for Agriculture, Too	70 th Anniversary Celebration, Faculty of Agriculture, KNUST, Kumasi	Feb. 13 - 15, 2024

5. CONFERENCES/ SEMINARS AND WORKSHOPS AT WHICH PAPERS WERE READ

Table 5.1: List of Conferences at which papers were read

S/N	Conference/ seminar	Papers presented	Date
1	Artemis Project, Annual Meeting and Workshop, Arusha, Tanzania	Alexander Kena and Geoff Morris. 2022. Identifying specific areas for technological innovations in phenotyping in cowpea and sorghum.	Sept. 15 – 22, 2022
2	ILCI Annual Meeting, at Dakar (Saly), Senegal.	Alexander Kena , Clara Cruet Burgos, and Geoff Morris. 2022. Using R to visualize the predictions for your trait hypotheses.	Oct. 2 – 8, 2022
3	Artemis Project, Annual Meeting and Workshop, Cali, Colombia	Alexander Kena and Geoff Morris. 2022. Validating the accuracy of trait-based models trained for HTP field phenotyping of stand count and pod count in cowpea.	Oct. 2 – 5, 2023
4	ILCI Annual Meeting, San Jose, Costa Rica	Alexander Kena and Thierry Tovignan. 2024. <i>qrlabelr</i> : Companion Software to Aid Digital Data Capture	Feb. 25 – Mar. 1, 2024
5	ILCI Annual Meeting, San Jose, Costa Rica	Alexander Kena , Clara Cruet Burgos, and Geoff Morris. 2024. Better Breeding Operations with <i>qrlabelr</i> .	Feb. 25 – Mar. 1, 2024

6	ILCI Trait Discovery Breeding Excellence Cohort_2024 for Africa NARs breeders, Fort Collins, CO, and Manhattan, KS, USA.	Alexander Kena. 2024. Introducing <i>panGenomeBreedr</i> : R package for pangenome-enabled breeding	Jul. 22 – Aug. 4, 2024
7	2 nd Annual Green Evolution Meeting, Impact Building, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana	Alexander Kena. 2024. Fostering Sustainable Global North-South Radical Collaborations for Transformative Impact	January 12 – 18, 2025

6. LIST OF ALL PUBLICATIONS

i. Publications with exact references

1. Fall, S. T., **Kena, A.**, Rice, B. R., Kanfany, G., Diatta, C., Kane, N. A., Fritz, A. K., & Morris, G. P. (2026). Genomic approaches to build de novo elite breeding gene pools from locally adapted landraces. *Theoretical and Applied Genetics*, 139(1), 28. <https://doi.org/10.1007/s00122-025-05124-2>
2. Ablormeti, F. K., Souza, P. G. C., Awuah, R. T., Kwoseh, C. K., Agbetiamah, D., **Kena, A. W.**, Aidoo, K. A. S., Lutuf, H., Sossah, F. L., da Silva, R. S., & Aidoo, O. F. (2025). Modeling global habitat suitability of *Agroathelia rolfii* causing Sclerotium wilt disease of tomato with emphasis on Ghana. *Scientific Reports*, 15(1), 34034. <https://doi.org/10.1038/s41598-025-12259-1>
3. Agyare, R. Y., Kaczmarek, T., Leclerc, C., Puozaa, D. K., Tengey, T. K., Bonsu, S. K., Kombiok, J. M., Causse, S., Guillerminet, T., **Kena, A. W.**, Adjebeng-Danquah, J., Barnaud, A., Billot, C., & Akromah, R. (2025). Revealing Ghana's unique fonio genetic diversity: Leveraging farmers' knowledge for sustainable conservation and breeding strategies. *Genetic Resources and Crop Evolution*, 72(1), 235–253. <https://doi.org/10.1007/s10722-024-01974-9>
4. Appiah, A., Akromah, R., **Kena, A. W.**, Annor, B., Amoah, S., Owusu, E. Y., & Karikari, B. (2025). Genetic diversity among Ghanaian Okra (*Abelmoschus esculentus* L.) Germplasm using Morphological and Molecular markers. *Ecological Genetics and Genomics*, 35, 100347. <https://doi.org/10.1016/j.egg.2025.100347>
5. Maina, F., Faye, J. M., **Kena, A. W.**, Diatta, C., Tankari, M. I., Ardaly, O. A., Diakite, O. S., Ibrahim, A. M., Moussa, O. A., Harou, A., Abdou, R., Sene, J. P., Bodian, S., Ndour, M., Sambakhe, D., Sine, B., Kadanga, P., Akata, E., Ouedraogo, N., ... Morris, G. P. (2025). Delivering trait-enhanced varieties to African smallholders through a pangenomic breeding network (p. 2025.08.07.667917). bioRxiv. <https://doi.org/10.1101/2025.08.07.667917>
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7. Ohene-Mensah, G., Kwoseh, C. K., **Kena, A. W.**, & Adomako, J. (2025). Occurrence of cabbage leaf spot disease caused by *Alternaria brassicicola* in Ghana. *Journal of Plant Pathology*. <https://doi.org/10.1007/s42161-025-01947-6>
8. Owusu, E. Y., Kusi, F., **Kena, A. W.**, Kassim, Y. B., Annor, B., Awuku, F. J., Attamah, P., Appiah, A., Lamini, S., Kuor, F., & Akromah, R. (2025). Gains in genetic enhancement of early maturing advanced breeding lines of cowpea [*Vigna unguiculata* (L.) Walp]. *Ecological Genetics and Genomics*, 35, 100339. <https://doi.org/10.1016/j.egg.2025.100339>
9. Koura, A.A., **Kena, A.W.**, Annor, B., Adejumobi, I. I., Maina, F., Maazou, A.-R. S., Razakou, I. B. Y. A., Attamah, P., Kusi, F., Boukar, O., & Akromah, R. (2024). DArTseq-based genome-wide SNP markers reveal limited genetic diversity and a highly structured population in assembled West African cowpea germplasm. *Scientific African*, 23, e02065. <https://doi.org/10.1016/j.sciaf.2024.e02065>
10. Attamah, P., Kusi, F., **Kena, A. W.**, Awuku, F. J., Lamini, S., Mensah, G., Zackaria, M., Owusu, E. Y., & Akromah, R. (2024). Pyramiding aphid resistance genes into the elite cowpea variety, Zaayura, using marker-assisted backcrossing. *Heliyon*, 0(0). <https://doi.org/10.1016/j.heliyon.2024.e31976>
11. **Kena, A.**, Ogoe, E., Cruet-Burgos, C., Agyare, R., Adoma, N., Annor, B., Raymundo, R., & Morris, G. (2024). Introducing *qrlabelr*: Fast user-friendly software for machine- and human-readable labels in agricultural research and development. *Gates Open Research*, 8(28). <https://doi.org/10.12688/gatesopenres.15268.1>
12. Koura, A. A., **Kena, A. W.**, Annor, B., Adejumobi, I. I., Sayadi Maazou, A.-R., Awuku, F. J., Attamah, P., Boukar, O., & Richard, A. (2024). Article: Genome-Wide Association Studies Reveal New Candidate Genes Associated with Resistance to *Striga gesnerioides* in Cowpea [*Vigna unguiculata* (L.) Walp.] Accessions from sub-Saharan Africa. *Ecological Genetics and Genomics*, 100267. <https://doi.org/10.1016/j.egg.2024.100267>
13. Sovi, S., Adomako, K., Kyei, B., **Kena, A. W.**, Olympio, O. S., & Aggrey, S. E. (2024). A comparative study of population structure and genetic diversity of commercial and indigenous chickens from different agro-ecological zones in Ghana using SilicoDART and SNP markers. *Gene*, 929, 148823. <https://doi.org/10.1016/j.gene.2024.148823>
14. Annor, B., **Kena, A. W.**, & Asare Bediako, K. (2023). Variability among West African okra (*Abelmoschus* spp. L.) accessions based on quantitative traits. *Ecological Genetics and Genomics*, 26, 100156. <https://doi.org/10.1016/j.egg.2022.100156>
15. Asare, S., **Kena, A.**, Amoah, S., Annor, B., Osekre, E. A., & Akromah, R. (2023). Screening of maize inbred lines and evaluation of hybrids for their resistance to fall armyworm. *Plant Stress*, 8, 100148. <https://doi.org/10.1016/j.stress.2023.100148>
16. Appiah-Kubi, D., Asibuo, J. Y., Butare, L., Yeboah, S., Appiah-Kubi, Z., **Kena, A. W.**, Tuffour, H. O., & Akromah, R. (2022). Heat Stress Tolerance: A Prerequisite for the Selection of Drought- and Low Phosphorus-Tolerant Common Beans for Equatorial Tropical Regions Such as Ghana. *Plants* 2022, Vol. 11, Page 2352, 11(18), 2352. <https://doi.org/10.3390/PLANTS11182352>

17. Asungre, P. A., Akromah, R., **Kena, A. W.**, & Gangashetty, P. (2022). Assessing the adaptability and stability of new pearl millet hybrids for grain yield, grain iron and zinc content in Ghana using AMMI analysis. *Journal of Crop Science and Biotechnology* 2022, 1–14. <https://doi.org/10.1007/S12892-022-00147-3>
18. Owusu, E. Y., Kusi, F., **Kena, A. W.**, Akromah, R., Attamah, P., Awuku, F. J., Mensah, G., Lamini, S., & Zakaria, M. (2022). Genetic control of earliness in cowpea (*Vigna unguiculata* (L.) Walp). *Heliyon*, 8(7), e09852. <https://doi.org/10.1016/J.HELIYON.2022.E09852>
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23. **Kena, A. W.**, Ewool, M. B., & Akromah, R. (2021). Development of High Pro-Vitamin A Enriched Hybrid Maize Varieties in Ghana. In G. Acquaah (Ed.), *Principles of Plant Genetics and Breeding* (pp. 232–235). John Wiley and Sons. <https://www.wiley.com/en-gh/Principles+of+Plant+Genetics+and+Breeding%2C+3rd+Edition-p-9781119626329>
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27. Amoah, N. K. A., Akromah, R., **Kena, A. W.**, Manneh, B., Dieng, I., & Bimpong, I. K. (2020). Mapping QTLs for tolerance to salt stress at the early seedling stage in rice (*Oryza sativa* L.) using a newly identified donor 'Madina Koyo.' *Euphytica*, 216(10), 156. <https://doi.org/10.1007/s10681-020-02689-5>
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i. Copies of selected publications for external assessment

1. Fall, S. T., **Kena, A.W.**, Rice, B. R., Kanfany, G., Diatta, C., Kane, N. A., Fritz, A. K., & Morris, G. P. (2026). Genomic approaches to build *de novo* elite breeding gene pools from locally adapted landraces. *Theoretical and Applied Genetics*, 139(1), 28. <https://doi.org/10.1007/s00122-025-05124-2>
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3. Appiah, A., Akromah, R., **Kena, A. W.**, Annor, B., Amoah, S., Owusu, E. Y., & Karikari, B. (2025). Genetic diversity among Ghanaian Okra (*Abelmoschus esculentus* L.) Germplasm using Morphological and Molecular markers. *Ecological Genetics and Genomics*, 35, 100347. <https://doi.org/10.1016/j.egg.2025.100347>
4. Owusu, E. Y., Kusi, F., **Kena, A. W.**, Kassim, Y. B., Annor, B., Awuku, F. J., Attamah, P., Appiah, A., Lamini, S., Kuor, F., & Akromah, R. (2025). Gains in genetic enhancement of early maturing advanced breeding lines of cowpea [*Vigna unguiculata* (L.) Walp]. *Ecological Genetics and Genomics*, 35, 100339. <https://doi.org/10.1016/j.egg.2025.100339>
5. Koura, A. A., **Kena, A. W.**, Annor, B., Adejumobi, I. I., Sayadi Maazou, A.-R., Awuku, F. J., Attamah, P., Boukar, O., & Richard, A. (2024). Genome-Wide Association Studies Reveal New Candidate Genes Associated with Resistance to *Striga gesnerioides* in Cowpea [*Vigna unguiculata* (L.) Walp.] Accessions from sub-Saharan Africa. *Ecological Genetics and Genomics*, 100267. <https://doi.org/10.1016/j.egg.2024.100267>
6. Attamah, P., Kusi, F., **Kena, A. W.**, Awuku, F. J., Lamini, S., Mensah, G., Zackaria, M., Owusu, E. Y., & Akromah, R. (2024). Pyramiding aphid resistance genes into the elite cowpea variety, Zaayura, using marker-assisted backcrossing. *Heliyon*, 0(0). <https://doi.org/10.1016/j.heliyon.2024.e31976>
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ii. Journals in which papers are published

- *Ecological Genetics and Genomics*
- *Gates Open Research*
- *Genetic Resources and Crop Evolution*
- *Heliyon*
- *Plant Stress*
- *Scientific African*
- *Scientific Reports*
- *Theoretical and Applied Genetics*

7. RECORD OF SERVICE TO THE COMMUNITY

Table 7.1: List of Services rendered to the Community

a. Service to the University	Period
i. Administrative experience	
Postgraduate Coordinator , Department of Crop and Soil Sciences, KNUST.	May 15, 2026
Non-Professorial Member on the College Board , College of Agriculture and Natural Resources, KNUST	June 9, 2025 to May 31, 2027
Examination Officer , MPhil Crop Science - IDL, Department of Crop and Soil Sciences	January 4, 2023 to January 31, 2025
Deputy Patron , Association of Agricultural Biotechnology	September 15, 2017 to Date

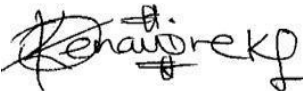
Students (AABS), KNUST.	
Hall fellow , University Hall, KNUST.	August 31, 2012 to Date
ii. Statutory and non-statutory (Membership & positions held)	
Chairman	
Chairman , Visibility, Website Design and Management Committee, Faculty of Agriculture, KNUST	March 20, 2025
Member	
Member , Special Committee to Coordinate Inter-College Quiz Competition	May 29, 2026
Team Lead , Screening and Selection Team for 42nd National Farmers' Day Celebration, Ministry of Food and Agriculture	September 8, 2026
Member , Screening and Selection Team for 41st National Farmers' Day Celebration, Ministry of Food and Agriculture	September 2, 2025
Member , Welfare Committee, Department of Crop and Soil Sciences, KNUST	June 16, 2025
Member , PhD Curriculum Development Team, Nkabom Project, KNUST	May 12, 2025
Member , Outreach and Admissions Committee, Faculty of Agriculture, KNUST	March 3, 2025
Member , Department Trainer on Online Teaching, Department of Crop and Soil Sciences, KNUST	February 13, 2025
Member , Grantsmanship/Research Consultancy Committee, Faculty of Agriculture, KNUST	January 20, 2025
Member , Alumni & Industry Linkage Committee	January 20, 2025
Member , Quiz Committee for 70th Anniversary, Faculty of Agriculture, KNUST	January 15, 2024
Tutorship/ Mentorship	
Academic Tutor , Faculty of Agriculture, KNUST.	January 2024 to Date
iii. Financial/ Material Resource Mobilization	
i. Financial Resources	

Grantsmanship subaward for the Green Evolution Project funded by the Gates Foundation. Total Grant Award = US\$239,948.00	January 1, 2025 to November 30, 2028
Total Financial Mobilization = US\$239,948.00	
ii. Material Resource Mobilization	
Successfully mobilized GHS 61,490 to fund the fencing of the Breeding Pipeline Research Field at the Animal Science Department, thereby securing critical research infrastructure.	March 24, 2026
Provided GHS24,800 in financial support to acquire an RT-PCR Thermal Cycler for the Biotechnology Lab, directly enhancing advanced teaching and research capabilities.	August 22, 2025
Total Material Mobilization = GHS86,290.00	
b. Service to National & International Communities	
External Assessor (Promotions) , University of Cape Coast (UCC), Cape Coast	April 23, 2026
External Assessor (PhD Thesis) , University of Cape Coast (UCC), Cape Coast	August 21, 2025
Principal Investigator , Green Evolution Project-KNUST	January 1, 2025 to December 31, 2028
Facilitator , GRASAG-KNUST Research Clinic and Conference, KNUST	March 15, 2024
Institutional Rep for KNUST , Meeting on Genome Editing and Biotechnology Through Strategic Partnership Alliances, and Linkages with Universities and Colleges, AUDA-NEPAD, Accra, Ghana	November 10, 2023
Research Scholar , Colorado State University (CSU), Fort Collins, CO, USA.	June 12, 2023
Program Manager for Trait Discovery Objective Area of Inquiry, Feed The Future Innovation Lab for Crop Improvement, Cornell University, Ithaca, NY, USA	August 22, 2022 to December 31, 2024
Guest Speaker , Feed the Future Innovation Lab for Crop Improvement (ILCI) project meeting, held in San Jose, Costa Rica, February 25-March 2, 2024, at the Crowne Plaza Hotel	February 25, 2024 to March 2, 2024

i. Reviewer for local & international journals	
Reviewer, Theoretical and Applied Genetics Journal, Elsevier	June 25, 2025
Reviewer, Scientific African Journal, Elsevier	June 3, 2025
iii. Membership of Professional Associations	
University Teachers Association of Ghana (UTAG)	October 2010 – Date
Crop Science Society of America (CSSA)	November 2015 to Date
American Society of Plant Biologists (ASPB)	March 2016 to Date
African Plant Breeders Association	October 2019 to Date

REFEREES

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SIGNATURE OF APPLICANT..... DATE: June 12, 2026