Co-funded by the European Union

Call for scholarship applications for PhDs and MSc positions in the framework of the Intra Africa ORPHAN project

UNA Université Nangui Abrogoua

Université d'Abomey-Calavi

Jomo Kenyatta University of Agriculture and Technology

Ebonyi State University

University of Zimbabwe

UCLouvain

Call for scholarship applications for PhDs and MSc positions in the framework of the Intra Africa ORPHAN project

ORPHAN Project:

Mobility for high skilled scientists and entrepreneurs on orphan crops in higher education for accelerated climate change solutions in Africa

1- Context

The sub-Saharan Africa (SSA) region is on a very low pace of the achievements the nutrition and sustainable development goals. The alarming food and nutritional security situation in the region caused by the growing population in SSA and worsen by the negative effects of climate change on agri-food systems calls for innovative approaches. Yet, SSA is endowed with a huge diversity of species known as orphan crops that have the potential to address food scarcity caused by climate change due to their adaptability and nutritional value in low-input agricultural systems. Despite this potential, modern agricultural systems in SSA depends only on 1% of the crop diversity available to feed 60% of the population. Orphan crops have benefited from very limited modern scientific and technological advances. ORPHAN (Mobility for high skilled scientists and entrepreneurs on orphan crops in higher education for accelerated) Scholarship Project is an initiative of five highly qualified public universities from three African regions and one university in Europe to advance knowledge on orphan crops through digital agriculture. This Project is coordinated by University Nangui Abrogoua (Côte d'Ivoire, West Africa). The different partners include University of Abomey-Calavi (Republic of Benin, West Africa); Ebonyi State University (Nigeria, West Africa); Jomo Kenyatta University of Agriculture and Technology (Kenya, Eastern Africa), the University of Zimbabwe (Zimbabwe, Southern Africa) and Catholic University of Louvain (Belgium, European Union country) as Technical partner.

ORPHAN is funded by the Intra-Africa Program of the Education, Audiovisual and Culture Executive Agency (EACEA) of the European Commission

The objectives of ORPHAN project are to:

1) Train 12 high-profile PhD graduates, 32 MSc graduates, 10 academic staff and 10 trainees with skills in plant breeding, food technology and nutrition to address current and future challenges related to climate change and agrifood systems with a focus on promising orphan plant species of Africa;

2) Harmonize training programs and research agenda on the improvement of the value chain of orphan crops for food and nutrition security in Africa;

3) Enhance national – regional – international collaboration and programmatic agenda that promotes orphan crops research and training for agricultural innovations in Africa through cross regional mobility.

2-Priority species per country and related topics

Selected crops per country are presented in the Table 1:

Table 1. Selected crops per country along with key words for PhDs and MSc subjects

Countries	Crops	Key words for PhD candidates	Key words for MSc candidates
Côte d'Ivoire	Taro	Genotyping, nutritional value, chemical composition, Xanthosoma sagittifolium, Colocasia esculenta	Genotyping, nutritional value, chemical composition, Xanthosoma sagittifolium, Colocasia esculenta
	Bambara groundnut	Genotyping, yield improvement, formulation of a complementary food	Genotyping, yield improvement, formulation of a complementary food
	wild custard apple (Annona senegalensis)	Distribution, genetic diversity, regeneration, nutritional value of the apple	Distribution, genetic diversity, regeneration, nutritional value of the apple
	Amaranth (Amaranthus hybridus)	Genetic diversity, biochemical analysis, protein value	Genetic diversity, biochemical analysis, protein value
Republic of Benin	Taro	Value chains-nutritional value-ethnography-processing-potential nutritional	nutritional value- processing-sensorial and sociocultural acceptability -
	Bambara groundnut	Genotyping, Agronomic practices for yield improvement, Nutrient Management, photosynthesis, value chains approach	Genotyping, Agronomic practices for yield improvement, Nutrient Management, photosynthesis, value chains approach
	Mungbean	Value chains-nutritional value-ethnography-processing-potential nutritional	nutritional value- processing-sensorial and sociocultural acceptability

Kenya	African nightshade (Solanum scabrum & villosum)	Genetic diversity and Variety development and nutritional contents of existing and new varieties	Nutrient and anti-nutrient characteristics of African nightshade varieties
	Finger millet	Nutritional analysis with emphasis on Amino acid content of finger millet varieties	Amino acid content in registered varieties
	Jute mallow (Corchorus olitorius)	Nutritional and Health characteristics of jute mallow	Nutrition and Health benefits of Jute mallow varieties
	Bambara groundnut	Genetic diversity and Variety development and nutritional contents of existing and new varieties	Nutritional contents of existing and new varieties in Kenya
Nigeria	Yam	Breeding for consumer acceptability; flower synchronisation, phenology and pollen fertility; photosynthesis; nutritional properties, tuber flesh oxidation and post-harvest losses	Flower synchronization, phenology and pollen fertility; Photosynthesis; nutritional properties.
	Bambara Groundnut	Genetic and agro-morphological diversity; Photosynthesis; Nutrient profiling, protein digestibility, Storage; Value chains	Genotype x environment interaction analysis for yield and quality traits; Nutrient profiling; Photosynthesis; flower phenology and pollen fertility
	Sesame	Genotyping, agro-morphological diversity, Agronomic practices for yield improvement, Nutrient profiling, photosynthesis, and value chains	Exploration, utilization and etymology; Agro-morphological diversity; Photosynthesis; flower phenology and pollen fertility; Functional foods and Value chains;
	Amaranth	Genotyping, agro-morphological diversity; Photosynthesis; flower phenology and pollen fertility; Nutrient profiling, and Value chains	Exploration, utilization and etymology; Genetic diversity assessment, stability and adaptability; Photosynthesis; flower phenology and pollen fertility; Nutrient profiling; value chain approach.

Zim-babwe	Finger millet	Genomic prediction and genomic associations. Nutrition analysis for suitability in feed, food and beverages	Characterization, Genotype x environment interaction analysis for yield and quality traits
	Taro	Genetic Diversity and genomic analysis. Processing and Nutrition analysis.	Genotype x environment interaction analysis for yield and quality traits.
	Bambara Groundnuts/ Cowpeas/ Sesame	Marker assisted selection; and Pre-breeding	Marker assisted selection; and Pre-breeding
	Grain amaranth	Genetic analysis, gene action for yield and quality	Genetic diversity assessment, stability and adaptability

Students are invited to develop their research proposal on a selected crop listed in Table 1. We will develop cross-country and cross region collaboration with these focal areas: grains (Finger millet), Legumes (Bambara groundnut), roots and tubers (Taro, yam), Leafy greens (Amaranth) and oil crops (sesame).

P.S. The hosting university reserves the right to change the crop and/or modify the subject depending on the gap in the literature.

3- Scholarship: duration and financial support

- For PhD students, the maximum duration of a scholarship is 36 months for **degree seeking mobility**,
- For MSc students, the maximum duration of a scholarship is 12 months for **credit seeking mobility**,

The scholarship includes subsistence allowances (including the return ticket of the students during his mobility and settling-in allowances), participation costs, contribution to research costs and insurance in line with EACEA procedures.

- **PhD students will receive a monthly stipend of 1230 Euros. This includes (1) travels cost to and from the host institution and (2) settling allowance.**
- **MSc students will receive a monthly stipend of 890 Euros. This also includes (1) travels cost to and from the host institution and (2) settling allowance.**

Research costs, tuitions fees, costs related to training, participation to conferences and insurance costs are covered by the host institution following EACEA guidelines.
Note that participation to conferences and special training has to be approved by the supervision team in the host institution.

4- Eligibility

To apply to this call, students should have proficiency in Plant breeding, Biotechnology or Human Nutrition and Food Technologies or related fields (depending on selected crops and key words, refer to Table 1). Students showing interest in applying digital technologies to above mentioned fields are encouraged to apply. In addition, to be eligible for a scholarship "students" must comply with the below criteria at the time of the application for a scholarship:

a) at the time they apply for a scholarship, candidates must be national of and resident in an African country.

b)be registered/admitted in or having obtained a degree in a HEI from:

*b-1) one of the HEIs included in the ORPHAN consortium (**Target group 1**). This target group includes students from all partner universities as follows:*

- University Nangui Abrogoua, Côte d'Ivoire
- University of Abomey-Calavi, Republic of Benin
- Jomo Kenyatta University of Agriculture and Technology, Kenya
- Ebonyi State University, Nigeria
- University of Zimbabwe, Zimbabwe

*b-2) HEI not included in the ORPHAN consortium but established in an EACEA eligible country (**Target group 2**).* This target group includes students registered/admitted in or having obtained a degree from another HEI other than University Nangui Abrogoua, University of Abomey-Calavi, Jomo Kenyatta University of Agriculture and Technology, Ebonyi State University, University of Zimbabwe, but established in Africa.

c) have sufficient knowledge of the language of the courses in the host countries.

d) Should also meet the enrolment criteria of the university he/she would want to apply to.

The consortium involves Francophone and Anglophone countries and will promote bilingual aptitude in students throughout the implementation of the project. Language courses will be offered to help students improve their skills.

Students having benefited from scholarship(s) under the previous intra-Africa Academic Mobility Scheme are eligible to receive scholarship under this current call.

Nationals are not allowed to apply to the scholarships to study in the partner institution in their home country.

5- Number of available scholarships for this first call

The ORPHAN project is opened to all students from the partner universities (Target Group 1) and those from other African universities (Target Group 2). **Currently, twelve (12) PhDs, and sixteen (16) MSc are available.**

6- Submission

The Scholarship application form (here) together with other required documents should be sent as a unique PDF attachment to emails indicated below (see section 8-deadline). Other required documents are listed in the application form and include:

1. Cover letter
2. Student research proposal or detailed research concept note (for PhD and MSc)
3. National ID or copy of passport data page
4. Certificate of previous degree(s) /or a proof that the degree(s) has been completed
5. All transcripts/academic records (please note that all selected candidates will receive final admission after they have provided suitable transcripts)
6. Proof of enrolment or eligibility for enrolment for MSc degree (that is research component of MSc) from home institution (for MSc applicants)
7. A support letter from home HEIs (from an authority of the University, Vice chancellor or Dean or Vice Dean or Head of Department/School)
8. Two recommendation letters
9. Curriculum Vitae.

10. Proof of socio-economic vulnerability (if relevant) attested by an authority of the home HEI. The letter should be on the HEI letterhead with email and contact of the signatory person.
11. Any other supporting documents

In order to meet the general selection requirements for MSc Mobility Grant (maximum 12 months' scholarship mainly for research), the applicant must have completed the first two semesters of a Master of Science course in Plant breeding, Biotechnology, Nutrition and Food Technology or related fields in his home country. It is obligatory that the students have their first year MSc recognition and academic transcripts and **a proof that he/she has completed the course work of the MSc before proceeding on the scholarship**.

For PhD degree, applicants should hold an MSc degree in either Plant breeding, Biotechnology or Nutrition, Food Technology or related fields.

For the choice of the host university, the students are allowed to only apply for the University Nangui Abrogoua (Côte d'Ivoire), University of Abomey-Calavi (Republic of Benin), Jomo Kenyatta University of Agriculture and Technology (Kenya), Ebonyi State University (Nigeria), University of Zimbabwe (Zimbabwe) (see list of programmes within each University below).

7- Contact

Due to difference in the partners higher education system, specific academic arrangements will be performed to assure that scholars are admitted in the right program and can make benefit of the mobility. These arrangements will be fixed on a case-by-case basis between the host HEI and Coordinating Institution.

For more information, please contact

Table2. Contact of the local coordinators/contact person

Countries	Universities	Contact Person
Côte d'Ivoire	University Nangui Abrogoua	Prof. Kévin Kouamé Koffi, kevinkouamekoffi@gmail.com
Republic of Benin	University of Abomey-Calavi	Prof. Nadia Fanou Fogny, nadia.fanou@uac.bj Prof Enoch Achigan-Dako e.adako@gmail.com Dr. Nicodème Fassinou Hotègni, nicodemef@gmail.com
Kenya	Jomo Kenyatta University of Agriculture and Technology	Prof. Mary Abukutsa, abukutsa.mary@gmail.com
Nigeria	Ebonyi State University	Prof. Happiness Oselebe, h.oselebe@ebsu.edu.ng Prof. Catherine V. Nnamani, nnamanicatherine@ebsu.edu.ng
Zimbabwe	University of Zimbabwe	Prof. Edmore Gasura, gasurae@yahoo.com

8- Deadline

Applications should be submitted to: orphan2427@gmail.com and copied Prof Nadia Fanou Fogny, nadia.fanou@uac.bj and Mr. Christel Azon, christelazon@gmail.com, not later than **July 12, 2024**. Shortlisted candidates will be contacted and invited for interviews.

ORPHAN fosters diversity and gender equity at the work place. Therefore, female candidates and persons from socio-economic vulnerable groups are strongly encouraged to apply.

Academic programmes within each HEI are presented below:

LIST OF ACADEMIC PROGRAMMES*
Project Acronym: ORPHAN

Beneficiary name	Country**	Type of programme**	Name of the programme	Thematic field of study	Details on the accreditation obtained (institution and date)
University Nangui Abrogoua	Côte d'Ivoire	Master	MSc in Genetics and Bioresources Improvement	Agricultural science and Food security	Ministry of Higher Education and Scientific Research, 2014
University Nangui Abrogoua	Côte d'Ivoire	Master	MSc in Biochemistry and Food Technology	Agricultural science and Food security	Ministry of Higher Education and Scientific Research, 2014
University Nangui Abrogoua	Côte d'Ivoire	Doctorate	PhD in Genetic and Bioressources improvement	Agricultural science and Food security	Ministry of Higher Education and Scientific Research, 2014
University Nangui Abrogoua	Côte d'Ivoire	Doctorate	PhD in Biochemistry and food technology	Agricultural Sciences and Food security	Ministry of higher Education and scientific Research, 2001
University of Abomey-Calavi	Benin	Master	MSc in Biotechnology and Plant Breeding	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
University of Abomey-Calavi	Benin	Master	MSc in Human Nutrition and Food Security	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
University of Abomey-Calavi	Benin	Master	MSc in Agricultural and Food Sciences and Technologies	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
University of Abomey-Calavi	Benin	Doctorate	PhD in Plant Genetic Resources and Crop Protection	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
University of Abomey-Calavi	Benin	Doctorate	PhD in Human Nutrition and Food Security	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
University of Abomey-Calavi	Benin	Doctorate	PhD in Food Sciences and Technologies	Agricultural science and Food security	Service d'Etudes et d'Orientation Universitaire, 2003
Ebonyi State University	Nigeria	Master	MSc in Plant Breeding & Genetics	Agricultural science and Food security	National Universities Commission (NUC), Nigeria, 1999
Ebonyi State University	Nigeria	Doctorate	PhD in Plant Breeding & Genetics	Agricultural science and Food security	National Universities Commission (NUC), Nigeria, 1999
Ebonyi State University	Nigeria	Master	MSc in Food Science & Technology	Agricultural science and Food security	National Universities Commission (NUC), Nigeria, 1999

Ebonyi State University	Nigeria	Doctorate	PhD in Food Processing & Nutrition	Agricultural science and Food security	National Universities Commission (NUC), Nigeria, 1999
Jomo Kenyatta University of Agriculture and Technology	Kenya	Master	MSc in Plant Breeding	Agricultural science and Food security	COMMISSION OF UNIVERSITY EDUCATION -2011
Jomo Kenyatta University of Agriculture and Technology	Kenya	Master	MSc in Horticulture	Agricultural science and Food security	COMMISSION FOR UNIVERSITY EDUCATION 2012
Jomo Kenyatta University of Agriculture and Technology	Kenya	Master	MSc Food Science and Nutrition	Agricultural science and Food security	COMMISSION FOR UNIVERSITY EDUCATION 2016
Jomo Kenyatta University of Agriculture and Technology	Kenya	Doctorate	PhD in Plant Breeding	Agricultural science and Food security	COMMISSION FOR UNIVERSITY EDUCATION 2011
Jomo Kenyatta University of Agriculture and Technology	Kenya	Doctorate	PhD in Horticulture	Agricultural science and Food security	COMMISSION FOR UNIVERSITY EDUCATION 2012
Jomo Kenyatta University of Agriculture and Technology	Kenya	Doctorate	PhD in Food Science and Nutrition	Agricultural science and Food security	COMMISSION FOR UNIVERSITY EDUCATION 2017
University of Zimbabwe	Zimbabwe	Master	MSc. in Plant Breeding and Biotechnology	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2006
University of Zimbabwe	Zimbabwe	Master	MSc. In Horticulture	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2006
University of Zimbabwe	Zimbabwe	Master	MSc. In Food Science and Nutrition	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2006
University of Zimbabwe	Zimbabwe	Doctorate	PhD. In Plant Breeding	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2010
University of Zimbabwe	Zimbabwe	Doctorate	PhD. In Food Science and Nutrition	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2010
University of Zimbabwe	Zimbabwe	Doctorate	PhD. in Agronomy	Agricultural science and Food security	Zimbabwe Council for Higher Education (ZIMCHE), 2010