



# FRAME

Fostering Research & Intra-African  
knowledge transfer Through  
Mobility & Education



## FRAME Project Description

The project, Fostering Research and Intra-Africa knowledge transfer through Mobility and Education (FRAME) aims at strengthening research and education exchange to help finding solutions to the challenges of Food, Energy and Water Security (F.E.W.S) in Africa amid increased pressure from climate change, population, development and related impacts. FRAME has five African university partners (i.e. Buea, Cameroon; Hawassa, Ethiopia; KNUST, Ghana; Free State, South Africa and NUST, the applicant and coordinator, Namibia) with University of Twente, Faculty of ITC and Namibia Qualification Authority as technical and associate partners respectively.

The objective of FRAME is to implement mobility via a strong graduate research and studies programme (GRSP) on Food, Energy, and Water Security (F.E.W.S) with a suite of academic programmes that contribute to this topic. The GRSP model is based on the research plan built on the needs of partner countries and using university centres as hosts of the mobility beneficiaries. Using GRSP, FRAME seeks to foster an integrated approach that encourages multi and trans-disciplinarily research aimed at contributing to the capacity required to improve F.E.W.S in partner countries.

The composition of the graduate degree programmes on offer and the existing overlap in thematic fields allows for academic mobility and research in this scheme that is beneficial for each partner. For example, countries with a similar defined need in agricultural sciences (Namibia, Cameroon, Ethiopia, Ghana) still offer different areas of specialisation within their programmes: Crop production/crop protection, Agronomy, Agroforestry, Soil Science, Agricultural economics, and Animal science. Ghana, South Africa and Namibia offer expertise in Energy technologies which others tap into while Namibia has a strong and proven natural resources management track record that is shared with partner universities.

Some of the programmes chosen are research based aimed to increase research skills and capacity of students and also increase research outputs. Through the combined areas within the consortium, the diversity of the programmes is targeted considerable so that students can either expand their study spectrum or to acquire specialisations. In case of non-degree mobility, mobility up to 9 months are offered to comply with an area that matches the previous degree of the applicant to enhance future academic career options and employability.

## Description and Number of Positions

Type: Master

Number: 2 scholarships

Position Duration: 24 months

Mobility Scholarship duration: 24 months

Position: This programme was designed to address the problems of:

- Limited number of skilled engineers in renewable energy technologies including solar photovoltaic (PV), wind and biofuels; and
- Low knowledge of RE Technology on the part of key actors in the public and private sectors, including energy policy makers and small/medium scale entrepreneurs.



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Academic Mobility Scheme of  
the European Union



**At the end of the programme the student should be better equipped to:**

- Conduct research based on sound methodological foundations
- Assess alternative cleaner energy alternatives to fossil fuels;
- Conduct a technical and economic assessment of cleaner energy alternatives, and propose policies to implement them;
- Utilise the knowledge acquired and experience to address problems associated with the energy industry;
- Solve real life energy problems;
- Write technical reports;
- Communicate effectively in official /leadership, management and team working environment.

### Host Academic Programme

#### Graduation Requirements

For the award of the MPhil RETs, the student must have:

- obtained a minimum pass mark of 50 % in any examination;
- achieved a minimum credit of 57 credit hours;
- obtained a minimum CWA of 55.00; and
- submitted and successfully defended a thesis.

#### Employment:

A significant percentage of our graduates are already employed, however, for the few who may be looking for jobs, employment opportunities exist in the following areas:

- Generation Companies like the Volta River Authority, and Aboadze Thermal Power Company;
- Government Ministries like the Ministry of Energy and the Ministry of Power;
- Regulatory institutions in the Ghana and the West African sub-region like the West Africa Power Pool, the Energy Commission of Ghana, the Public Utilities and Regulatory Commission;
- Grid Management Companies like the Ghana Grid Company Limited;
- The several renewable energy companies springing up in the country and the sub-region.

### Description of Host

The Mechanical Engineering department focuses on the principles of mechanics and energy and their application to the design of machines and devices as well as their control. The department has five specializations: thermofluids and energy systems, industrial engineering, design and manufacturing, applied mechanics, and automobile engineering. Research interests mainly lie in:

- Resource assessment and feasibility studies
- Development of models and tools for renewable energy implementation and management
- Materials for the manufacture of batteries and PV system components
- Energy and its relationship with digital development
- Energy efficiency and other cross cutting issues

For more details please follow this link <https://mech.knust.edu.gh/>



## Position requirements

### Admission Requirements

- i. Applicants with a minimum of second class lower degree or its equivalent from a recognised university in the following areas:
- ii. BSc Engineering;
- iii. BSc Physics, BSc Chemistry, BSc Mathematics, BSc Environmental Science;
- iv. Candidates must have a minimum of two years working experience in the renewable energy industry;
- v. In addition, candidates with second class lower degrees must pass an interview.

## Scholarship Position Benefits

- Settling Allowance  
600 €
- Monthly Subsistence Allowance  
600 €
- Allowance for female scholarship holders  
(per academic year only for mobility equal or longer than 2 academic years) 600 €
- Research Costs  
(per academic year only for mobility equal or longer than 10 months) 600 €
- Insurance Costs  
75 €/ per month
- Travel and Visa Costs

## Who can apply (Scholarship Eligibility)

All applicants must have studied and obtained a qualification at any African Higher Education Institution. In addition:

- **Target Group 1 (TG 1):** Nationals and/residents of African countries who are staff, alumni and or students registered in one of the Partner Universities at the time of application
- **Target Group 2 (TG 2):** Nationals and residents of Africa, registered in or having obtained a university degree or equivalent in a higher education institution of such countries and not included in the Partnership.

## Application Documents

- BSc transcripts
- 2 References
- BSc certificates

## Contacts Details

### The Administrator of the Mechanical Engineering Department

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Contact could be made between: 09:00 – 16:00 GMT

**FRAME Coordinator at the Kwame Nkrumah University of Science and Technology**

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Visit the FRAME website: <https://frame.nust.na/> and click on the call for further details.



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