# UNIVERSITY OF NAIROBI
# EXTERNAL JOB VACANCIES (PROJECT POSITION)

Applications are invited for the following position:

**TECHNOLOGY KNOWLEDGE TRANSFER SPECIALIST, THE KNOWLEDGE TRANSFER PARTNERSHIP PROJECT (KTP), FACULTY OF ENGINEERING – AD/4/20/23 (1 POST)**

**The Project**

The University of Nairobi in collaboration with Solargen Technologies have received funding from Aston University for the African Agriculture Knowledge Transfer Partnership (AAKTP) project which aims to develop a sustainable, efficient, carbon free and cost-effective Smart Irrigation System for use in Kenya and other African countries. The project proposes the design of Smart Irrigation System which will be powered by a hybrid energy module consisting of solar photovoltaic and a micro wind turbine. It will have sophisticated control systems that will enable it to be customized to adapt to seasonal climate, soil conditions and crop water requirements. The design of the hybrid energy powered Smart Irrigation System will be carbon free, innovative and complex due to strong coupling between the wind energy, solar energy and water irrigation management. The project will be the first of its kind to combine these technologies in the agriculture sector. The project will leave a legacy capability to develop further hybrid power devices to support the regional agricultural industry. To successfully implement the assignment, the Project seeks to competitively fill the above position.

**The position**

Reporting to the Project teams at the University of Nairobi, Aston University and Solargen Technologies Ltd, Nairobi, the position entails designing and developing the hybrid energy Smart Irrigation System, with the support of the IUK-KTNs Knowledge Transfer Advisers. It also involves documentation of all developmental steps with technical reports and procedures to ensure the new capability is embedded in the company.

**Location**

This is a full-time position based partly in Nairobi and Kajiado. The KTP Technology Specialist will be based predominantly at Solargen Technologies in Nairobi but will also have access to facilities at University of Nairobi and remote access to facilities at Aston University in the UK. Some travel to key clients may also be required.

### Job specifications

a) At least an MSc degree with a background in; Agriculture or Mechanical and/or Design Engineering with expertise in mathematical modelling and simulation techniques with particular emphasis on energy systems and supply. PhD degree holders, will have an added advantage
b) Agricultural machinery and technological knowledge with emphasis on irrigation systems design. Significant relevant industrial experience is essential, together with a high level of technical expertise and experience.

### Duties and Responsibilities

a) Manage the project;
b) Intellectually and commercially develop a technical solution, which is effective and financially viable;
c) Design and install a workable irrigation system;
d) Design of the hybrid energy system;
e) Design and implementation of the automated control systems;
f) Lead the development, working collaboratively with the Technical Team to build and embed knowledge and expertise;
g) Ensure all design/development steps are recorded, create technical reports and standard operating procedures (SOPs) to ensure successful embedding of the knowledge;
h) With the Supervisors / Professors assist in writing and publishing papers in the assorted journals on the knowledge transfer project;
i) Organize the workshops and assist in setting agendas of the workshops and
j) Report any development to knowledge transfer supervisors and document the same.

### Key skills/ experience required include:

a) Engineering Design;
b) SolidWorks or similar CAD Software;
c) MATLAB or similar modelling software;
d) SIMULINK or equivalent simulation software;
e) Knowledge of Wind Turbines and Photovoltaic Electricity generation;
f) Control Systems and Sensors;
g) Knowledge of irrigation systems design, installation and maintenance and
h) Knowledge on agricultural machinery operations.

### In addition, it would be desirable that the specialist have understanding of:

a) Local agriculture and the impact of irrigation;
b) Sustainable energy systems and renewable power generation;
c) Programming in high level languages e.g., Python;
d) CROPWAT software (open-source software to calculate water requirements for crops) and
e) Understanding of Microsoft Office or other office productivity software.

**The Specialist should also have:**

a) Some project Management skills to ensure the AAKTP progresses in a timely and efficient manner and that key performance indicators are achieved, however training and mentoring will be provided;
b) Good communication and interpersonal skills to be able to transfer knowledge to the company and work closely with supervisors, colleagues and farmers to ensure project objectives are achieved;
c) Capability to prepare accurate reports and financial expenditure justifications and
d) The ability to communicate complex technical knowledge in a way that can be understandable to smallholders so they can see the benefits of the proposed Smart Irrigation System.

**Personal attributes:**

a) Excellent verbal and written communication skills;
b) Work collaboratively with a range of stakeholders in a multidisciplinary project team;
c) Strong organisational skills to take project ownership, co-ordinate work-streams and achieve agreed objectives;
d) Work independently on own initiative as and when required;
e) Credibility to ask questions and constructively challenge and
f) Self-motivated, confident with good persuasion and negotiation skills.

**Terms of appointment**
The appointment is on fixed term contract based on performance and mutual agreement.

**Tenure**

The Project duration is for a period of fifiteen (15) months.

**Salary and benefits**

The position offers an attractive salary in addition to professional and personal development for the duration of the project.

**NOTES**
1. Applicants should email their application letters, certified copies of certificates and curriculum vitae (CV) giving details of their qualifications, experience and three (3) referees indicating their telephone contacts and e-mail contacts;
2. Applications and related documents should be forwarded addressed to the Director, Human Resource, University of Nairobi;
3. Applicants should state their current designations, salaries and other benefits attached to those designations;
4. The application letter must bear the reference code indicated in the advertisement;
5. Late applications will not be considered and
6. Applications should be emailed as one file in PDF: recruit-ktptsfeng@uonbi.ac.ke

**CLOSING DATE: TUESDAY, MAY 2, 2023**

**THE UNIVERSITY OF NAIROBI IS AN EQUAL OPPORTUNITY EMPLOYER.
ONLY SHORTLISTED APPLICANTS WILL BE CONTACTED.**