

## RESUME

### JACK ABIBO ADEM

#### i. PERSONAL INFORMATION

Name: Jack Abibo Adem  
Marital Status: Married  
Nationality: Kenyan  
Date of birth: 3<sup>rd</sup> Jan, 1979  
Contacts Jaramogi Oginga University of Science and Technology (JOOUST)  
P.O. Box 210-40602 Bondo  
[jackadem@yahoo.com](mailto:jackadem@yahoo.com)  
+254 722-420-671

#### ii. ACADEMIC QUALIFICATIONS

**On-going**                      **PhD student in Physics, Material Science**  
**School of Biological and Physical Sciences, JOOUST**

**Topic: *Correlation Between the Degree of Alignment And Piezoelectric Effect of Cellulose Nanocrystals Fabricated from Water Hyacinth***

**Thesis already submitted to the board of postgraduate studies for examination**

**Department of Physical Science**  
**Lead Supervisors**

- 1. Dr. John Agumba, JOOUST,**
- 2. Dr. George Barasa, JOOUST**

**Sept 2008 - Dec 2011: Maseno University**

Master of Science degree in Physics  
(Experimental Physics, Electronics)

Thesis Title: Real time HIV Test Analyzer based on Digital image Processing Techniques.

**Supervisors:** 1. Dr. Sylvester McOyowo

Lecturer, Department of Computer Science and Technology, Maseno University.

2. Prof. Reccab Ochieng Manyalla

Chairman, Department of Physics and material Science, Maseno University.

**1998-2002:**                   **Maseno University,**  
Bachelor of Education Science Degree  
(Physics and Mathematics)

**1993-1996:**                   **Kanga High School, Migori County**  
KCSE Certificate B+

**1985-1992**                   **Nyangere Primary School,**  
KCPE Certificate A plain

### **iii. WORK EXPERIENCE**

**Sept 2013 To date**                   **Tutorial Fellow,**  
Jaramogi Oginga Odinga University of Science and Technology  
Department of Physics  
School of Biological and Physical Sciences

**Sept 2010 to Sept 2013**                   **Tutor,**  
Ramogi Institute of Advanced Technology (RIAT)  
Department of Electrical and Electronics Engineering.  
**Course Units taught:**  
ICT, Microprocessors, Digital electronics, analogue electronics,  
Physical science, Mechanical Science and Research Project Supervision.

**Sept 2011 to Sept 2013**                   **Part time Lecturer**  
Bondo University College, department of Physics.  
Course units taught;  
Digital electronics, Solid state Physics, Thermodynamics, Classical  
Mechanics, and research project supervision

**Nov 2002-Sept 2008** Graduate teacher II of Physics and Mathematics,

Nyakach Girls High School, an appointment by the Teachers Service Commission on permanent and pensionable terms.

**iv) SPECIAL RESPONSIBILITIES**

**Sept 2013 to date, AT JOOUST**

- University Innovations Champion
- Lead Supervisor, Undergraduate physics projects
- Member of Research and Innovation Committee

**AT RIAT**

**Jan 2011 to sept 2013**

Research and development officer, RIAT

Duties and responsibilities

- ✓ Coordinating and organizing institute's research and technology projects for the regional and national TIVET fair and robotics contest
- ✓ Carrying out research on issues of performance contract.
- ✓ Developing the questionnaires on the research activities conducted within and outside the institute geared towards achieving quality standards
- ✓ Vetting and improving all the scientific research/project proposals developed by the teaching/non-teaching staff/students to suit internal/external funding.
- ✓ Creating a link between the Institute and NACOSTI

**May 2011 to sept 2013**

Chairman TIVET, Science Technology and Innovations Fair, Western region.

Duties and responsibilities

- ✓ Organizing and coordinating all the TIVET activities on scientific research and innovations in all the TIVET institutions from Nyanza in western provinces
- ✓ Chairing all the meetings towards the organizations of TIVET research activities
- ✓ Participating in the national committee meeting for organizing the national TIVET fair and exhibitions
- ✓ Advising the KATTI officials in the new areas of focus in the field of scientific research technology and innovations.
- ✓ Leading in the preparation, management, monitoring and evaluation of the regional TIVET fair and robotics

**May 2012 to sept 2013 Member, Tivet Fair National Steering Committee**

v) **SPECIAL SKILLS ACQUIRED**

1. **Matlab literacy**

2. Computer literacy: MS office tools eg. Word processing Excel, power point etc
3. Data analysis eg SPSS tool
4. Image processing tools eg Visio 2010
5. LabVIEW toolkit

vi) **LIST OF PUBLICATIONS**

1. **Adem, J. A.**, Agumba, J. O., Barasa, G. O., & Ochung', A. A. (2022). Hydrolysis Temperature Dependent Structural, Optical Band Gap and the Associated Urbach Tail Energy of Cellulose Nanocrystals Fabricated from Water Hyacinth. *European Journal of Applied Sciences*, 10(1) 88-102. DOI:10.14738/aivp.101.11506
2. **Jack A Adem**, John O Agumba, Godfrey O Barasa, Angeline A Ochung' (2022). The Role of Acid Concentration on Band Gap Shrinkage in Cellulose Nanocrystals Fabricated from Water Hyacinth. *Journal of Material Sciences & Manufacturing Research*. SRC/JMSMR-127. DOI: doi.org/10.47363/JMSMR/2022(3)123

vii) **WORKSHOPS/ CONFERENCES ATTENDED**

- |  |  |
|--|--|
| <b>February 2019</b>                   | <b>JOOUST 2nd international scientific conference</b><br><b>Hosted at Grand Royal Swiss Hotel</b><br><b>Papers presented:</b> <ol style="list-style-type: none"><li>1. <b>The dynamics of polaritons and anti-polaritons in the Jaynes Cummings and anti-Jaynes cummings model</b></li><li>2. <b>The digital maritime safety and tracking device based on GSM, GPS and GIS platforms</b></li></ol> |
| <b>June 2018</b>                       | <b>E-Learning adoption and utility in the scientific sector</b>  |
| <b>June 2016</b>                       | <b>HOSTEED AT JOOUST main campus</b><br><b>JOOUST 1<sup>st</sup> international scientific conference</b><br><b>Paper presented:</b> Automatic Teller Machine for HIV Test Analysis Using Digital Image Processing Techniques   |
| <b>July1st to 12<sup>th</sup> 2014</b> | <b>African school on space science:</b><br><br><b>Related Applications and Awareness for Sustainable Development of the region.</b><br><br><b>Kigali Rwanda</b><br><br><b>Organized by the International Centre for Theoretical Physics</b>  |
| <b>June 2012</b>                       | Research and Innovations Sensitization for TIVET KATTI, held in Mombasa, PrideInn Sai Rock Hotel.  |
| <b>Nov 2010</b>                        | Implementing Solar Energy Technology by KEREA, at RIAT   |
| <b>Aug 2006</b>                        | Strategic Issues to scale up HIV prevention and its impact alleviation, organized by KEFEADO   |

**March 2005:** Efficiency and Effectiveness in Preparation for Secondary Students Science and Technology Congress.

Organized by Nyanza Province Science Congress Group at Lions High School, Kisumu

## **RESEARCH GRANT AWARDS WON**

### **JUNE 2018: JOOUST internal research grants**

The design, development and implementation of digital maritime safety and tracking device based on GSM, GPS and GIS platforms

Granted amount: KShs 213,000

### **JULY 2015; National Council of Science and Technology (NACOSTI) Innovations Grant**

**Topic of Innovation:** Automatic Teller Machine for HIV Test Analysis Using Digital Image Processing Techniques

Granted Amount KShs 600,000.

#### **xi. Referees**

1. Prof Regina Nyunja  
Dean, School of Biological and Physical Sciences  
  
Jaramogi Oginga Odinga University of Science and Technology
2. Prof. Joseph Akeyo Omollo  
  
Department of Physics and materials science  
  
Maseno University 0721347418
- 3 Prof Paul Baki  
  
Technical University of Kenya  
  
Department of Physics  
  
paulbaki@gmail.com