

**CURRICULUM VITAE**  
*PERSONAL DETAILS*

NAME **JOSEPH NZAU MUTEMI (PhD., MSc., Bsc. )**  
DATE OF BIRTH **17<sup>th</sup>, JULY 1964**  
NATIONALITY **KENYA**  
SEX **MALE**  
MARITAL STATUS **MARRIED**  
NUMBER OF CHILDREN **THREE**

OFFICE ADDRESS

UNIVERSITY OF NAIROBI  
CHIROMO ROAD  
CHIROMO CAMPUS  
DEPARTMENT OF METEOROLOGY  
PHYSICAL SCIENCE BUILDING ROOM 120  
BOX 30197-00100  
NAIROBI, Kenya

CELL PHONE :0722 890 176

E-mail Address: [mnzau@uonbi.ac.ke](mailto:mnzau@uonbi.ac.ke)

**EDUCATIONAL DETAILS**

**PRIMARY SCHOOL EDUCATION**

1971-1978 THITANI PRIMARY SCHOOL  
Certificate of Primary Education

**SECONDARY SCHOOL EDUCATION**

1979-1982 ST. JOSEPH'S SEMINARY  
Kenya Certificate of Education (O-levels)

1983-1984 CHANIA HIGH SCHOOL  
Kenya Advanced Certificate of Education (A-levels)

**UNIVERSITY EDUCATION**

1986-1989 **UNIVERSITY OF NAIROBI**  
B.Sc. (Meteorology) Upper 2<sup>nd</sup> Class  
Hons. Other courses taken in undergraduate  
level were mathematics and physics and computer programming.

1989– 1992 M.Sc. (Meteorology): Course and research work (Numerical Modeling of the  
Planetary Boundary Layer).

1993– 1995 Graduate Assistant in the Department of Meteorology, University of Nairobi

- 1996 Start of Ph.D. Research work in the Department of Meteorology, University of Nairobi.
- 1997 Research attachment to the Internal Research Institute for Climate Prediction (IRI), Forecast Division, Scripps Institution of Oceanography, University of California, San Diego. Ph.D. Research work done there included General Circulation Model Simulation of East African seasonal rainfall, and Sea Surface Temperature driven Canonical Correlation Analysis Models of East African Rainfall.
- 2003 February** Awarded of PhD, University of Nairobi.
- 2004 - Present:** **Lecturer, Department of Meteorology, University of Nairobi.**

### **SUPERVISION AND TRAINING OF POSTGRADUATE STUDENTS**

Involvement in research supervision, mentoring and training of undergraduate and postgraduates.

- Supervision of undergraduate research projects for under-graduate students
- **Post graduate diploma** candidates successfully completed and graduated
  1. Mr. Girma (Graduated, working in Ethiopia)
  2. Mr. Mlonaganile P.Nicky (Graduated, working in Tanzania)
  3. Mr. Athumani Chuki (Graduated, working in Tanzania)
  4. Mr. Waziri O Waziri (Graduated, working in Tanzania)
  5. Mrs. Francisca Martey (Graduated, working in Ghana)
- **MSc candidates** successfully conducted study, research, completed and graduated
  1. Ms. L.W. GACHAHI (Kenyan, Graduated and working in Kenya)
  2. Mr. Arthur Gar-Glahn (Liberia, Graduated and working in Liberia)
  3. Mr Deus Bamanya (Uganda, Graduated and working)
  4. Ms Mary Mwangi (Kenya, Mary is working on PhD proposal)
  5. Mr Gitau Wilson (Kenya, Mr Gitua completed his PhD in Dec. 2010)
  6. Mr Owiti Zablon Okollah (Kenyan, Doing PhD, China)
- **Current MSc candidates** on research phase of study as on December 2010
  1. Mr Gichira Danson Kibara
  2. Mr Otom Alfred Omondi

### **DEPARTMENTAL, COLLEGE AND OVERALL UNIVERSITY RESPONSIBILITIES.**

As an academic staff member of the department and lecturer, I am currently performing the following duties over and above regular academic workload in service to the department and university:

- Departmental academic admissions and course registration processing.
- School of Physical Sciences sub-committee on examination regulations review and updating in support of School Board Academic Award Decisions
- Member of the Board of Common Undergraduate Courses of the University
- Coordinator of Common undergraduate course on environmental sciences for art candidates (CCS005)

## CURRENT RESEARCH IN WEATHER AND CLIMATE

Weather and climate dynamics and physical modeling for weather and climate prediction deterministic models, global climate models, downscaling by dynamical and MOS schemes, development of multimodels and superensemble prediction schemes and applications in real time weather and climate predictions over various regions of Africa.

Multimodel ensemble developments for climate forecasts and change as well as applications to assessments and long-term sustainability of water resources and rain fed food production in various parts of Kenya and Eastern Africa.

## PUBLISHED RESEARCH WORK

Di Baldassarre, Giuliano; Elshamy, Mohamed; Soliman, Eman; Kigobe, Max; Ndomba, Preksedis; **Mutemi**, Joseph; Mutua, Francis; Moges, Semu; Xuan, Yunqing, **2010**: Future hydrology and climate in the River Nile basin. **Accepted in Hydrological science Journal, manuscript HSJ-2010-0189.**

J. N. **Mutemi**, L.A. Ogallo, T. N. Krishnamurti, A. K. Mishra, and T.S.V. Vijaya Kumar, 2007: Multimodel based Superensemble Forecasts for Short and Medium Range NWP over Various Regions of Africa: Meteorol Atmos Phys 95, 87-113

Owiti, Z., L.A.Ogallo, and J. **Mutemi**, 2008: Linkages between the Indian Ocean Dipole and East African Seasonal Rainfall Anomalies. JKMS,2,3-17.

Gitau, W., L.A. Ogallo, and J. **Mutemi**, 2008: Intra seasonal characteristics of wet and dry spells over Kenya. JKMS, 2, 19-30.

Ininda, J.M., C. Athumani, and J.N. **Mutemi**, 2008: Towards Improvement of Seasonal Rainfall Forecasting Through Model Output Statistics (MOS) Downscaling of ECHAM forecasts over Tanzania. JKMS,2, 99-108.

## RECENT CONFERENCE PAPERS AND INTERNATIONAL EXPERIENCE

**Mutemi**, J.N., 2010: Global model skill attributes and multi-model ensemble downscaling for the present and the basis of predicting future rainfall scenarios in the River Nile catchments. Mini-Symposium, ACCION, 6th Oct.2020, UNESCO-IHE, Delft, Netherlands.

**Mutemi**, J.N., 2010: Forecast Skill of RSM in Seasonal Climate Forecasts over Kenya & The GHA: “Potential For Hindcast Verification and RSM Output Statistics with Observations”. 10th Int. RSM workshop, 9-13th August 2010, Hokkaido University, School of Environmental Sciences, Sapporo, Japan.

**Mutemi**, J.N., 2010: Climate and Weather Disaster Preparedness and Prevention in the Kenya and the whole of Greater Horn of Africa (GHA). 3<sup>rd</sup> June 2010,KMA,Soul, Korea.

**Mutemi**, J.N., 2010: Climate change: Looking into an uncertain future. Linking climate science and humanitarian actions in Kenya. International Federation of Red Cross, 23-24<sup>th</sup> February 2010, IFRC, Nairobi, Kenya.

**Mutemi**, J.N., and L.A. Ogallo, 2010: Climate change fundamentals: Observations and evidence. Building Resilience to Climate Change Workshop by World Vision, September 6 – 10, 2010, Limuru, Kenya.

- Mutemi, J.N.**, and L.A. Ogallo, 2008: The boundary forcing mechanisms and predictability aspects of seasonal droughts and floods in the Greater Eastern Africa. Conference on Africa Droughts, Observations, Modelling and Predictability, 2-6 June 2008, ICTP, Italy.
- Mutemi, J.N.**, L.A.Ogallo, and J.M. Ininda, 2003: The predictable patterns of East African seasonal rainfall following global SST and ENSO phase forcing. Proc. Sixth Kenya Meteorological Society Workshop on Meteorological Research, Applications and Services, Mombasa, Kenya, 29<sup>th</sup> September to 3<sup>rd</sup> October, 2003.
- Mutemi, J.N.**, 2003: Climate anomalies over Eastern Africa associated with various ENSO evolution phases : Ph.D. thesis, University of Nairobi

### **INCOME GENERATION TO THE UNIVERSITY**

**ACCION Project** as lead climate modeling researcher from the University of Nairobi. This is a UNESCO-IHE Partnership Research Fund (UPaRF) for Adaptation to Climate Change Impacts on the Nile River Basin (ACCION) with a budget allocation of about KSh. 1.5M, including a substantial direct contribution to CBPS and Department for administrative support.

**Module II:** Department of Meteorology is one foreign earner for the University by hosting and training of students from various parts of Africa.

#### **My referees are:**

**Prof Paul Shindu**

The director, school of Physical Sciences  
University of Nairobi

**Prof M. M. Manene**

University of Nairobi  
School of Mathematics

**Prof Bernard O Aduda**

University of Nairobi  
School of Physical Sciences  
Department of Physics