DVC(RPE)'s Speech at
The Opening Ceremony of the Workshop on Applications of Wireless Sensor Networks for Weather Monitoring in East Africa

Thursday, 7th July 2011

Protocol:

The Radio Communications Unit of the Aeronomy and Radiopropagation Laboratory (ARPL),

ICTP (International Centre for Theoretical Physics) representative,

Principal, CBPS,

Director, School of Computing and Informatics,

The Department of Computer Science, University of Cape Town Representative,

Chairman, Department of Meteorology, University of Nairobi,

Libellium representative,

Workshop participants,

Distinguished guest,

Ladies and Gentlemen.

The University of Nairobi's mission statement is "*To provide quality university education and training and to embody the aspirations of the Kenyan people and the Global community through creation, preservation, integration, transmission and utilization of knowledge.*" To this end, the University of Nairobi is keen on supporting research and training that provide solutions to pertinent problems facing humanity, such as droughts.

The World Disasters Report, 2010 indicate that for the last 2 decades, Kenya has consistently contributed the highest number of people affected by natural disasters in Africa; this is especially so for disasters triggered by climatic variations. Climate monitoring is one of the main mitigation strategies for such disasters. The latter is currently implemented using macro-infrastructures based on expensive and well-calibrated weather stations. These stations are usually sparsely deployed by governmental organizations in form of relatively small number of fixed locations to provide climate maps for droughts and other natural disasters prediction. This creates a feasibility gap that needs to be addressed through complementary technologies, systems and strategies. The emerging wireless sensor technology has the potential to bridge this gap. This technology provides support for low cost weather stations, which can be

used by academics and the civil society to build community sensor networking micro-infrastructures based on off-the-shelf sensing devices. These can then be deployed in the environment to extend the available climate maps and prediction through (1) collection of climate data (2) analysis of this data (3) modeling of climate change in cities and the whole countries (4) derivation of sound policies based on the derived climate models and (5) providing awareness to citizens, official organizations, Non Governmental Organizations and private organizations.

Ladies and Gentlemen,

Though the Kenya Meteorological Department has continued to provide regular weather forecasts since the 60s; some of the challenges they face can be addressed via adoption of the more versatile and cheaper Wireless Sensor Networks Technology. In

line with our vision *"As a world-class university committed to scholarly excellence"*, the University of Nairobi is very keen to support research and training that leads to solutions for mitigating disasters resulting from climatic variations. Moreover, the University of Nairobi, through the Department of Meteorology has been working with the Kenya Meteorological Department in delivering weather data. This workshop marks the beginning of a unique and exciting multi-disciplinary collaboration between the Department of Meteorology and the School of Computing and Informatics. We acknowledge the efforts of Prof. Muthama and Muthoni in this initiative. It is my challenge to the two Units to take this to a level where they can offer weather monitoring solutions not only for Kenya, but the East African region at large.

The idea of this workshop was conceived by a team of three people; Muthoni Masinde (SCI) Antoine Bagula (UCT) and Marco Zennaro (ICTP), thank you for choosing the University of Nairobi as the venue. I wish to thank the RadioCommunications Unit of the Aeronomy and Radiopropagation Laboratory (ARPL) of ICTP for the financial support that has enabled us to bring the trainers/engineers. I also wish to thank the University of Cape Town and Libellium for technical support

To the participants, I trust that the skills you acquire during this workshop will go a long way in enabling you to push forward your research and industrial agenda.

Thank you.