

Space Weather and Upper Atmospheric Data analysis Training Workshop for East African Community

Description of the activity

The main aim of the Space Weather and Upper Atmospheric Data analysis Training Workshop for East African Community (EAC) is to build vibrant research community in this field and in this region which comprises of Uganda, Kenya, Tanzania, Rwanda, Burundi, South Sudan and Democratic Republic of Congo. The workshop is to kick-start coordination of research activities within the different member states of the EAC. Several countries within the EAC are now planning or have instituted Space Agencies. Moreover, several Universities within the EAC have also started to incorporate Space weather and upper atmospheric studies in their curriculum.

Due to the global nature of the impact of space weather, leading research organizations in this field make freely available observations made with their instruments. Examples of the freely available observations include that of: (i) Global Navigation Satellite Systems (GNSS), (ii) Ionosondes, (iii) magnetometers, (iv) Low Earth Observation (LEO) satellites, and (v) the Advanced Composition Explorer (ACE) satellites. Furthermore, several space weather and upper atmospheric data analysis centers also provide free data to the scientific community. For instance, World data analysis center at Kyoto University, Japan provides Disturbance storm time (Dst), Kp and Ap indices. Constellation Observing System for Meteorology, Ionosphere and Climate (COSMIC) Data Analysis and Archive Center provides ionospheric parameters such as foF2, NmF2 and electron density profiles based on radio occultation data.

To fully exploit the above mentioned enormous data, the Space Weather and Upper Atmospheric data analysis training workshop for EAC members has been organized. There will be lecturers to introduce the participants to the (i) above space weather and upper atmospheric data, (ii) data analysis techniques based on MATLAB, Python and Fortran. The programming knowledge will then be applied to analyze space weather and Upper atmospheric data during hands on sessions. Participants will also be assigned tasks of analyzing data and they will present and discuss their results. The lecturers will harmonize the discussions and workshop will be concluded with panel discussions.

Organizing Committee

1. Dr. Patrick Mungufeni (Chairperson), Physics department, Muni University, Uganda
2. Dr. George Omondi (member), Physics department, Maseno University, Kenya
3. Dr. Emirant Amabayo (member), Physics department, Busitema University, Uganda
4. Dr. Geoffrey Andima (member), Physics department, Bisitema University, Uganda
5. Dr. Sharan Aol (member), Physics department, Mbarara University of Science and Technology, Uganda
6. Dr. Valence Habyarimana (member), Physics department, Mbarara University of Science and Ttechnology, Uganda
7. Ms. Daphine Ayebare (member), Physics department, Mountains of the Moon University, Uganda

When and where the workshop will take place

The workshop is scheduled for 25nd – 29th September 2023 and the venue is at Muni University, Arua, Uganda.

Contact information

The contact person is Dr. Patrick Mungufeni (p.mungufeni@muni.ac.ug, +256788302417), Head of Physics department, Muni University. The details about Muni University can be found at: <https://muni.ac.ug/>.

Application

Interested persons can apply on line starting 1st April 2023. The dead line is 31st May 2023 at 5 pm East African Time. Successful applicants will be informed via email in the 1st week of July. Modest accommodation, subsistence allowance, and transport refund will be provided to successful applicants

List of sponsors

1. Muni University
2. Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)



Under the program of Predictability of the Solar-Terrestrial Coupling

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3. (Yet to be announced)
4. (Yet to be announced)