

## FEATURES

# How research into space weather can solve man's problems –Scientists

The significance of space weather condition to human survival was the thrust of a two-day international mini conference last week at the Bells University of Technology, Ota, in Ogun State. Physicists and other space weather experts from various academic institutions in the country joined the renowned French Professor of space weather –Christine Amory-Mazaudier, to appraise the advances in space weather research in Africa. **MOJEED ALABI**, who witnessed the opening session, reports:

Like most people in Africa and other developing countries, Nigerians do not understand the influence of space weather on their daily living. In fact, on a global stage, experts have revealed that attention did not shift to space weather research until 1990s when the world scientists realised the need to discuss space weather activities, no longer as a branch of Physics or Aeronomy, but as a separate field of study.

However, within the last two decades or so, evidences have revealed the impressive progress recorded in the developed nations in the understanding and control of the happenings on the space, and the results are the advancements in technologies, economic activities and military affairs, among several others. Scientists cited the American military onslaught and eventual killing of late Osama Bin Laden, leader of al-Qaeda—a global broad-based militant Islamist terrorist organisation, as a product of the country's huge investment in space science.

Though Nigeria as a country is not lagging behind in her efforts to move along with the global trend in investing in space science, particularly with the successful launch of Nigeria Communication Satellite One and Two, space researchers strongly believe the country has a potential of doing better if her abundant resources were to be taken into consideration. And taking into cognisance the current spate of unrestricted violence being unleashed on Nigeria and her hapless people, space experts say the time can only be now.

Such need for a focused atten-



Vice-Chancellor, Bells University of Technology, Ota, Prof. Isaac Adeyemi (middle) and participants at the conference.

tion on African space informed the recent space research group brain-tasking academic conference jointly put together by the Bells University of Technology (BELLSTECH), Ota, in Ogun State, National Space Research and Development Agency (NASRDA) and the Space Physics Laboratory of the Federal University of Technology (FUTA), Akure, in Ondo State. The two-day research exercise which held at BELLSTECH drew participants from about 15 higher institutions of learning and other related research institutions in the country.

The event, which was themed: "Advances in Space Weather Research in Africa," had Prof. Christine Amory-Mazaudier, the French space weather expert as the special guest, who, in her introductory graphic presentation analysed the effects of activities in the terres-

**‘STUDYING SPACE WEATHER IS CRUCIAL TO THE SURVIVAL OF OUR NATIONAL ECONOMY BECAUSE THESE RELEASED ENERGIES FROM THE SUN CAN AFFECT THE TECHNOLOGY WE HAVE BECOME SO DEPENDENT UPON IN OUR EVERYDAY LIVES’**

trial weather on human life. She thus demanded for a much more focused study on the African space weather not only to improve the continent's agricultural investment but also to further enhance economic growth and development and to stem the rising tide of insecurity across Africa.

In his welcome address, BELLSTECH's Vice-Chancellor, Prof. Isaac Adebayo Adeyemi, explained that the developments around the world have confirmed that the world has truly arrived the age of space and that "Nigeria cannot afford to be left behind."

He further disclosed that his university grabbed the idea of hosting the conference as a step to move higher in its investment in the study of space science "as we currently enjoy successful collaboration with the Nigeria Meteorological Agency (NIMET). This makes BELLSTECH one of the NIMET stations with the capacity to, at least for now, supply data like sunshine, wind and rainfall records which forms part of NIMET data bank."

The relevance of the scientific efforts, the VC explained was geared towards helping the

country overcome the vagaries of climate change which he said would have strong negative effects on the country's and indeed the continent's food and nutrient security as an agrarian society that still depends on rain-fed agriculture.

In its practical sense, the Dean of the university's College of Natural and Applied Science, Prof. Isreal Babalola, explained in detail why human beings are bound to experience space weather effect as a result of the energies released from the sun towards the earth. He said this happens when these energies in form of solar storm travels through space and impact the earth magnetosphere.

"Studying space weather is crucial to the survival of our national economy because these released energies from the sun can affect the technology we have become so dependent upon in our everyday lives. These energies from the sun which come in solar storms, solar flares and coronal mass ejections can affect space and ground systems and terrestrial weather. Some of the effects on space systems include malfunction of space-

crafts, changing of space orbit and radiation on human in space while on the ground system the effects include disturbance of Global Positional System (GPS) and other space signals, disruption of long distance radio signals, cause radiation on humans at and near the ground level, induce geomagnetic currents that disrupt electrical transmissions and cause leakages on buried pipelines," the dean explained.

One of the participants threw a poser at his fellow colleagues on the theory of the earth expansion, which rattled the non-science-oriented participants. He said if the theory was true, it may affect the way sun reaches the planet earth which he said if it continues, a time may come when sun may no longer reach the earth and the inhabitant would "just perish." The consensus is that the theory has still not been proven beyond doubt, and according to Prof. Mazaudier, such include the work of researchers without exempting the gathering.

When asked how the research group would ensure the exercise does not end in futility, one of the Deputy Directors of the National Space Research and Development Agency (NASRDA) and an Associate Professor at the Federal University of Technology, Akure, Dr. Babatunde Rabi, sharply responded that the involvement of NASRDA would guarantee the government endorsing the conference and would work on its findings.

Dr. Rabi believes Nigeria's commitment to space research is not in doubt and that the country on constant basis reviews the work of her experts, who continue to research into the field and anchor the management of her investment in space. But he urged the Federal Government to pump more fund into space weather researches in order to update the events around it and guarantee the mitigation of their negative impacts on the country.

On his part, the Chairman of the Local Organising Committee and BELLSTECH Head of Department of Physical Sciences, Dr. Sunday Oluyamo, urged the participants and the world at large to continue to probe into space weather because with space, he said, "we can find out and learn more about other planets and see if we could live there in the future."

## 'Nigeria's academic environment inimical to quality research'

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tive to job seekers. Many take to teaching only as a last resort. People prefer to work in oil firms, in banks, in telecoms and in other industries considered to be lucrative where they would be paid fat salary and enjoyed fringe benefits and not as a teacher. This issue is a great contributor to the falling of standard of education in the country and if the foundation is weak, the structure can never be strong. So, the problem of Nigeria education sector starts from primary to secondary schools and move up the ladder to get to the

university level. That is why some teachers are distracted from their original work and looking elsewhere to make complementary income at the expense of students and government. By that, there won't be quality service. To worsen the situation, many parents also encourage their wards in academic frauds.

Nevertheless, I would advise the governments across tiers to improve teachers' conditions of service and welfare and also provide necessary facilities that would make the environment academic friendly.