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* (www.iswi-secretariat.org) *
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Attachment(s):
(1) "SWx Experts_Meeting First Announcement", 350 KB pdf, two pages.
(2) "Report on a Special Space Weather Outreach Event", 2 MB pdf, 14 pages.

: Re:
: [1] "Expert Meeting on Improving Space Weather
: Forecasting in the Next Decade"
: [2] 14-page illustrated report on a special
: space weather outreach event in west Africa.

Dear ISWI Participant:

There are two superlative items today, [1] and [2].

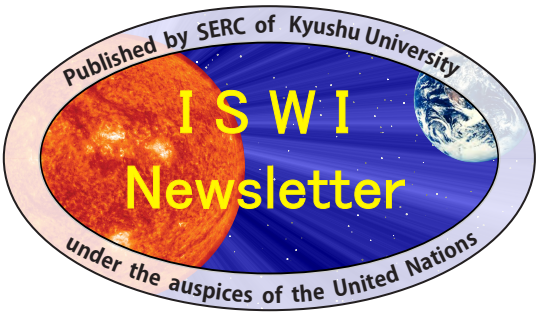
[1]
Please find attached the first announcement for this meeting:
:
: "Expert Meeting on Improving Space Weather Forecasting in the Next Decade"
:
: To be held in conjunction with the 51st session of the Scientific
: and Technical Subcommittee of the Committee on the Peaceful Uses of
: Outer Space (COPUOS)
:
: Dates: 10-11 February 2014, Co-incident with the first two days of
: the Scientific and Technical Subcommittee (STSC) of the Committee
: on the Peaceful Uses of Outer Space (COPUOS)
:
: Location: The United Nations, Vienna International Center, Vienna,
: Austria (Room number to be announced later.)

[2]
Recently, in the city of Abidjan in the country of Cote d'Ivoire
(Ivory Coast), an immensely exciting outreach event took place.
Please kindly take a look at my 14-page illustrated report on
this event. It is attached as the second pdf.

The intent of this report is to inspire more of the ISWI community
to make "an outreach" to young teen-agers all of the world.
Many of them need your attention, your inspiration, your guidance,
your concern, and your care, to make wise choices on how to
proceed in Life. Show them the beauty, and the magic, of the
natural sciences. When done well, their eyes light up.
This time, in Abidjan, it was done very well.

Cordially yours,
. George Maeda
. The Editor
. ISWI Newsletter

This announcement was received from Dr. J. Davila on 18 October 2013 and circulated on the same day in the *ISWI Newsletter* (Volume 5, Number 112).



Expert Meeting on
Improving Space Weather Forecasting in the Next Decade

To be held in conjunction with the 51st session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS)

Dates: 10-11 February 2014, Co-incident with the first two days of the Scientific and Technical Subcommittee (STSC) of the Committee on the Peaceful Uses of Outer Space (COPUOS)

Location: The United Nations, Vienna International Center, Vienna, Austria (Room number to be announced later.)

The International Space Weather Initiative (ISWI), with the support of the United Nations Committee for the Peaceful Uses of Outer Space, has been very active in promoting the installation of new ground-based instrumentation in non-traditional locations. In particular, there has been substantial progress in the observation of the equatorial ionosphere, solar transients, and energetic particles from space. In the coming decade these observations will become available in real time and will be an important new data source for the forecasting of space weather events. New instruments are either in the process of deployment, or planned over the next decade. Similarly, the International Living with a Star (ILWS) program has been very active coordinating the plans of the world's space agencies in the planning of new space missions, and in the development of space weather modeling and forecasting.

Space weather is inherently an international enterprise. Solar and magnetic storms can affect large regions of the Earth simultaneously, and equatorial

ionospheric disturbances occur routinely around the globe. It is therefore appropriate to promote improvement in space weather forecasting for the benefit of all nations. The purpose of this meeting is to bring together international scientists currently working in space weather research to discuss the paths for improvement of space weather forecasting during the next decade. Current forecasts are useful, but have limited accuracy.

New space missions and ground based instrumentation will ultimately provide data which will substantially improve space weather predictions. Examples include broad arrays of ground based instruments, sub-L1 missions employing solar sail technology or special deep space orbits to maintain position between the Sun and Earth could increase the current warning time for interplanetary disturbances by up to a factor of ten. New missions with spacecraft stationed at L5, on the far side of the Sun, or over the pole of the Sun have also been suggested.

The vulnerabilities of global navigation satellite systems (GNSS) are well categorized, and it is understood that space weather is the largest contributor to single-frequency GNSS errors. Primary space weather effects on GNSS include range errors and loss of signal reception. The GNSS industry faces several scientific and engineering challenges to keep pace with increasingly complex user needs: developing receivers that are resistant to scintillation and improving the prediction of the state of the ionosphere. With GNSS modernization, the use of additional signals is expected to reduce errors caused by the ionosphere.

Contributions for this meeting are solicited as both oral and poster presentations that identify new and innovative missions, instruments, and theoretical developments that point to new observational information required to improve our basic forecasting capability or accuracy during the next decade. Priority for oral presentation will be given to contributions suggesting new instrumentation, ground or space based, new mission concepts, and theoretical contributions which suggest new observations needed to improve current space weather forecasting. Participation is open to all and broad international participation is anticipated. Presentations will be made available online in electronic format subsequent to the meeting, and the results of the meeting will be summarized in a brief report.

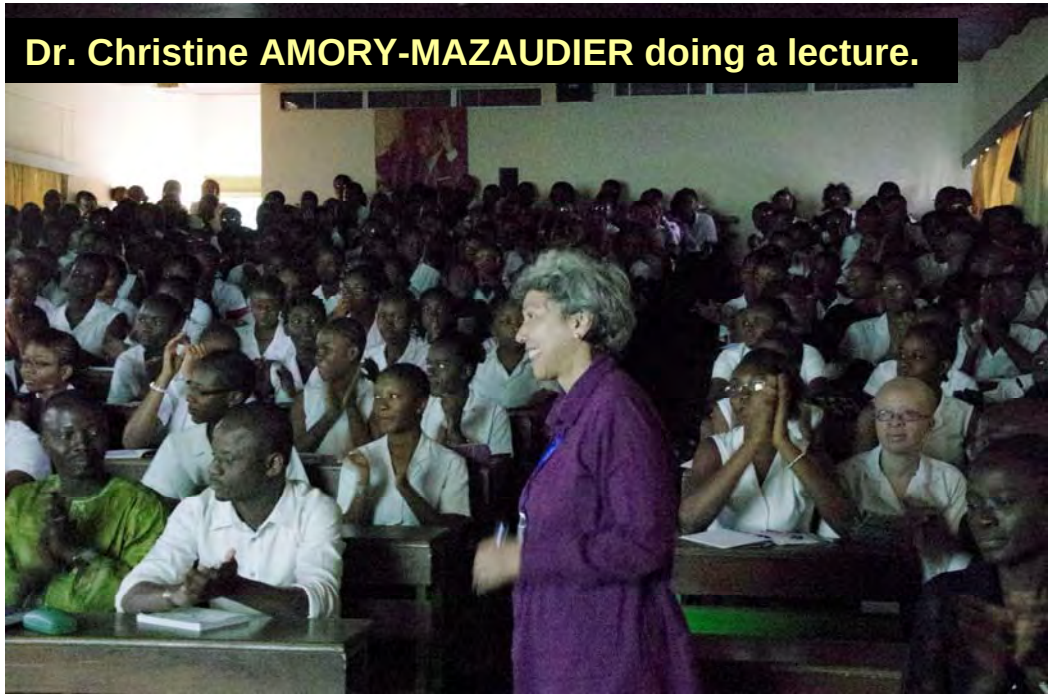
The agenda will feature an introductory and overview session with very general talks about space weather, followed by a session on the current state of forecasting, sessions on Ground Based instrumentation including GNSS, and sessions on new observational concepts for space missions that will provide new data for space weather forecasting in the future.

For additional information contact one of the convenors listed below,

Joseph M Davila, joseph.m.davila@nasa.gov
Madhulika Guhathakurta, madhulika.guhathakurta@nasa.gov
Sharafat Gadimova, sharafat.gadimova@unoosa.org
Patricia Doherty, Patricia.Doherty@bc.edu

End of Announcement.

Report on a Special Space Weather Outreach Event in Abidjan on 27 Sept 2013



Dr. Christine AMORY-MAZAUDIER doing a lecture.

Report by George Maeda, ICSWSE Staff, and Editor of the ISWI Newsletter

17 Oct 2013

Background

Recently, the *International Center for Space Weather Science and Education* (Japan) in collaboration with African educators (mainly **Prof. Vafi** of the national university in Cocody, Cote d'Ivoire) conducted the *2013 MAGDAS/ISWI School in Africa.*
See the next page for some photos of this school.

This pdf created by G. Maeda on 10 Oct 2013.

Special Outreach Event

On the last day of the school, some of the organizers of the school and one of the lecturers, **Dr. Christine AMORY-MAZAUDIER** (Laboratoire de Physique des Plasmas / Ecole Polytechnique/ UPMC/CNRS, France) went to a local high school (Lycee Sainte-Marie de Cocody) and conducted a special lecture for many of the senior students of this all-girl school in Abidjan. Photos of this event are at the end of this report.

The title of the lecture was:

The Sun Earth Connections : *Space Weather*

The motivation for it:

To attract young, bright students into the field of space physics research; give them some "food for thought".

Abstract of the lecture

(written by Dr. Christine AMORY-MAZAUDIER)

In this talk we first present the Sun, star of our solar system, and the Earth our planet. We introduce after the two main forces acting at a large scale in the Sun Earth System :

- the gravity force
- the electromagnetic force.

- Concerning the gravity Force : it is well known that the earth orbits the sun in one year and turns on itself in one day. These movements form the rhythm of our daily life.

- Concerning the electromagnetic force : from historical data we introduced the sunspots observed since the Middle Ages and recalled the existence of the Earth's magnetic field has been known for more than two millenia.

We now know that the Sun (as the Earth) has a magnetic dipole field that turns about every eleven years. We also know that the sun turns on itself to a higher speed at the equator than at the poles. This creates twists of the dipole field lines forming magnetic loops which are small magnets, and these are the spots.

We introduce later the connections between the Sun and the Earth through the solar wind (flow of particles flowing away from the sun) and through the electromagnetic radiations.

We show a movie of a coronal mass ejection and the creation of aurora. We explain the process of photo-ionisation which creates the ionosphere; and we explain the role of the ionosphere in the transmission of electromagnetic waves between satellite and Earth.

We conclude by mentioning the uses of GPS in daily life.

End of Abstract

Observations

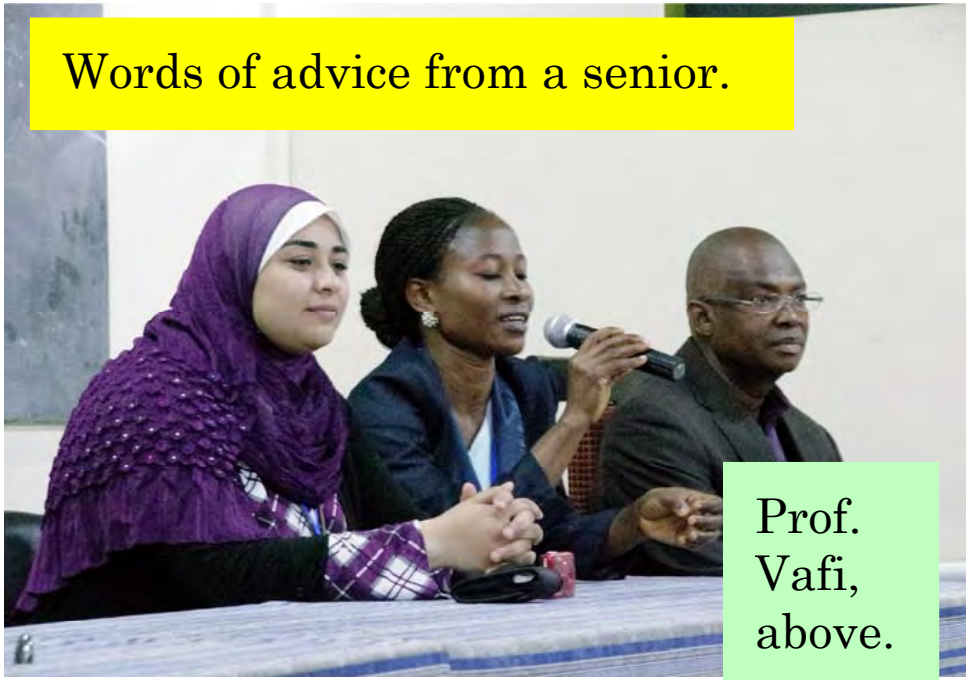
- This special lecture was extremely well-received by the students. They were all in rapt attention for the entire duration of the lecture.
- Whenever a space weather school is planned, this kind of “outreach to local high school students” should be part of the school agenda. It is a vital investment for the future of space science.

School grounds in Abidjan

Arrival at the high school

Pre-lecture introductions

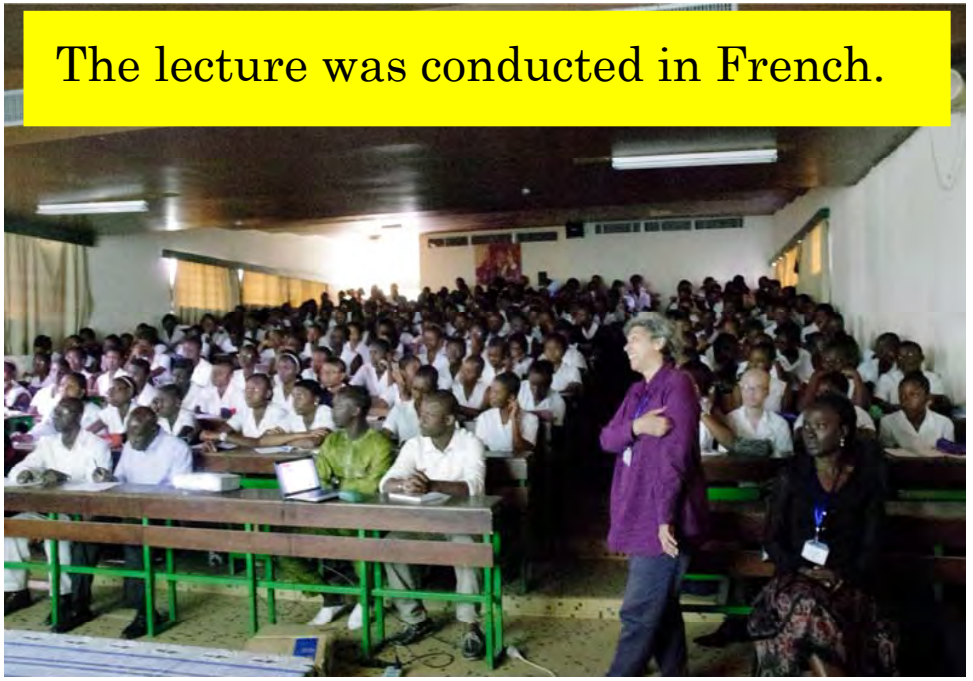
Words of advice from a senior.



Prof. Vafi, above.

Very attentive students...

The lecture was conducted in French.

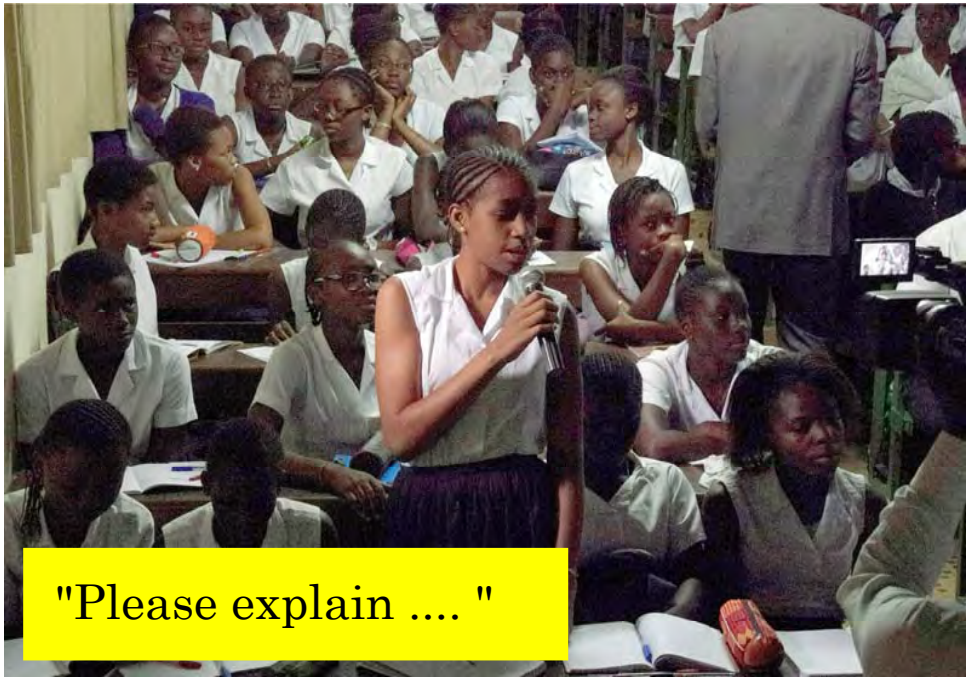


Encouraging bright girls to enter science

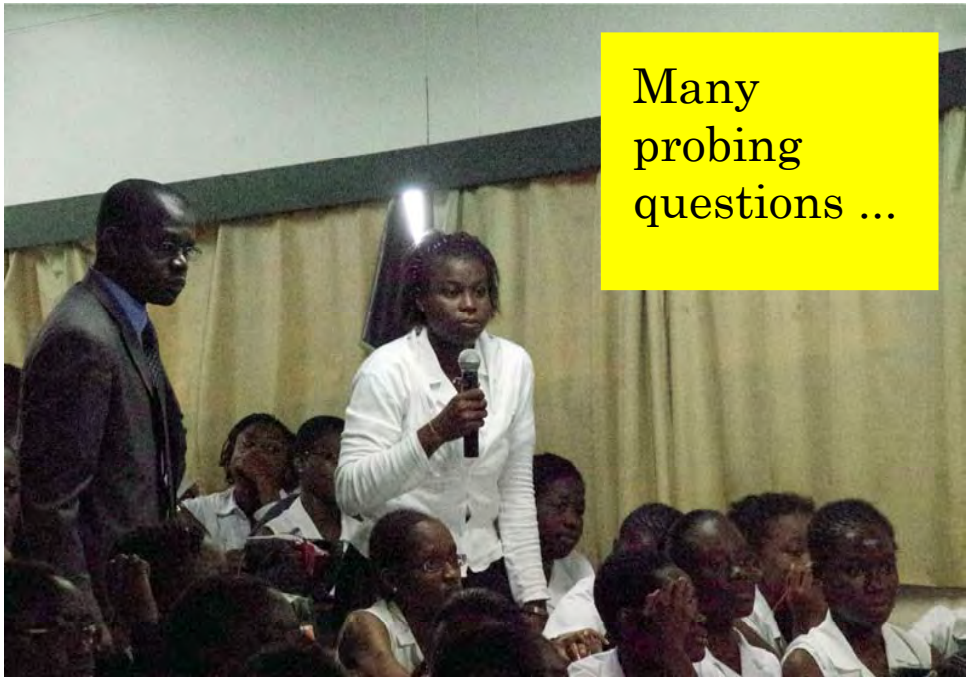
Making a case with the power cord.

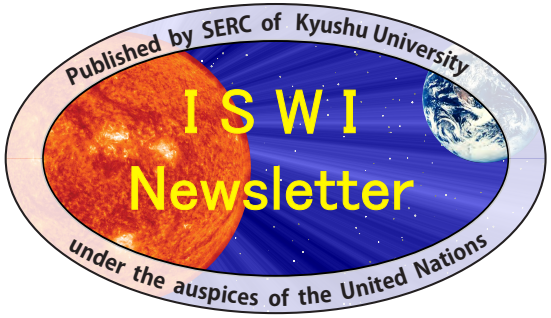
Perhaps she'll select science ...


An excellent auditorium


"Please explain .... "


Captured on video ...
REC

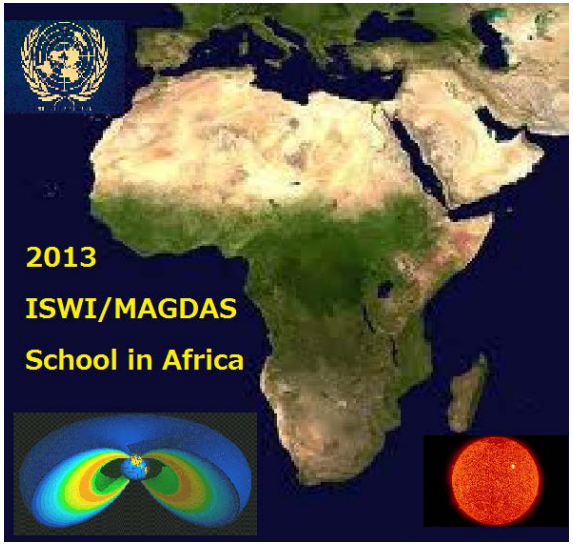

Many probing questions ...



A brilliant, exciting, and passionate lecture, Dr. Christine !

- Observer of lecture
- G. Maeda, Editor of the ISWI Newsletter
- 16 Oct. 2013, Fukuoka, Japan.

ICSWSE



Some of the participants pose outside for a group photo.

Photos by Dr. Uozumi (ICSWSE, Japan)

Date of this event was 27 Sept 2013.