



IGRGEA LETTER

International Geophysical Research Group /Europe-Africa
International Geophysical Research Group /Europe-Asia

IGRGEA

At the end of the IEEY (International Equatorial Electrojet Year), in 1995, IGRGEA (International Geophysical Research Group Europe Africa) has been organized to follow the research work initiated during IEEY, in 1992. Since January 2003 IGRGEA has been established at the Institute of Geophysics in Hanoi, Vietnam.

The last letter, No. 62, dated October 2019.

ALGERIA

Hassen ABDELLAOUI presented his thesis on November 14, 2019 at the Faculty of Earth Sciences, Geography and Land Use Planning FSTGAT, for the PhD degree in Sciences, specialty: Geophysics. The theme of his thesis is: « *Study of the deployment on a national scale of a permanent precise positioning network based on GNSS satellite constellations covering the national territory.* »



Photo of Colonel ABDELLAOUI's thesis

On the photo from left to right : S KAHLOUCHE (affiliated with the Algerian space agency, ASAL), C BERGUIG (dean of the faculty), Yasmina YAHIAI (USTHB, University of Science and Technology Houari Boumediene), colonel ABDELLAOUI (candidate), Naima ZAOURAR (USTBH- ISWI coordinator for Algeria), Houria Belhadj AISSA (satellite image

processing laboratory) and M. HAMOUDI (USTBH). In the photo, missing A. YELLES CHAOUCHÉ (director of CRAAG).

The thesis director is Naima ZOURAR.

The candidacy of Tarek BELBACHIR student of Naima ZOURAR was selected for the 'post-graduate diploma program' of ICTP (International Center for Theoretical Physics)

BURKINA FASO

Pétronille KAFANDO from the University of Ouagadougou in Burkina Faso, should have defended his thesis in June on: "*Gravity waves in the lower equatorial and tropical stratosphere of West Africa*"

She will defend her thesis at Félix Houphouët Boigny University in Abidjan as soon as possible.

The jury should be:

President: Mr Tenon Jules ABODOU, *University Félix Houphouët Boigny Abidjan*

Rapporteurs : Mr Alain HAUCHECORNE, *University Versailles-St Quentin (Versailles), University Paris-Saclay (Paris), University Pierre-et-Marie Curie*, Mr. Abé Delfin OCHOU, *University Félix Houphouët boigny Abidjan, Ivory Coast.*

Examiner : M. Madé FODE, *Abou Moumouni University, Niamey, Niger.*

Director: Mr. Arsène Toka KOBÉA, *University Félix Houphouët boigny Abidjan, Ivory Coast.*

Co-Director: Ms. Monique PETITDIDIER, *University Versailles-St Quentin (Versailles), University Paris-Saclay (Paris), University Pierre-et-Marie Curie.*

COTE D'IVOIRE

Professor Antoine Achy SEKA, Emeritus Professor of Atmospheric Physics, passed away on June 9, 2020 at the age of 85. He was a 3rd cycle Doctor in Fluid Mechanics, France (1969), and Doctor of State



in Physical Sciences, Abidjan (1979). He had been retired since 2000. He headed the atmospheric physics laboratory of Cocody University (now Félix Houphouët Boigny) from 1988 to 2000. As Director of the physics laboratory Atmosphere he coordinated for West Africa the IEEY project, International Equatorial Electrojet Year (1992-1994). He organized the first GIRGEA school which brought together students from Burkina Faso, Ivory Coast, France and Senegal.

Below is the photo of the first GIRGEA school in 1995. Professor Achy SEKA is next to Professor Agodi ONWUMECHILI in the center of the photo.

Photo of the first GIRGEA school in 1995



1 : P. Vila (France), 2 : E Hounninou (Benin)
 3 : C. Amory-Mazaudier (France), 4 : A. Séka (RCI)
 5 : A. Onwumechili (Nigeria), 6 : M. Menvielle (France), 7 : A. Koba (RCI), 8 : F. Ouattara (Burkina Faso), 9 : V. Doumbia (RCI), 10 : P. Kafando (Birkina Faso), 11 : A. Richmond (USA), 12 : O. Fambitakoye (Niger), 13 : B. Boukakar (Senegal), 14 : J. Vassal (France).

EGYPT

Text by Ayman MAHROUS, ISWI-Egypt coordinator :

Egypt-Japan University 'University of Science and Technology (E-JUST)' offers many annual graduate scholarships for African students, some information is below: Announcement of African scholarship E-JUST TICAD7

<https://www.jica.go.jp/egypt/english/office/topics/200124.html>

A Ph.D in space environment has been set up.

GUINEA CONAKRY

René Tato LOUA defended his thesis, in atmospheric physics, at the University of Réunion, June 24, 2020. The title of his thesis is: "*Variability and trends of meteorological parameters in Guinea: analysis of forcings by digital methods*".

Composition of the Jury

M. EL HASSAN BENCHERIF, Thesis Director, *University of Reunion*

Rapporteurs:

A. HAUCHECORNE, *LATMOS, UMR 8190 / France*,
 M. ROUAULT, *Nansen Tutu Center for Environmental Research Dep. Of Oceanography, University of Cape Town*

Examiners:

G. PENNOBER, *University of Reunion*
 S. VENKATARAMAN, *University of KwaZulu Natal, South Africa*
 N. BEGUE, *LACy University of Reunion*
 N. MBATHA, *University of KwaZulu Natal, South Africa*
 D. LAMAH, *University of Kindia, Guinea*

Photo of René's thesis defense



On the photo, from left to right:

Prof. G. PENNOBER (President of the jury), Mr. René Tato LOUA (the candidate), Dr. N. BEGUE and Prof. EL HASSAN BENCHERIF. NB: the other members of the jury followed the defense by video conference.

MOROCCO

Mohamed KAAB defended his thesis to obtain the degree Doctor CED: Sciences and techniques Specialty: Physics - Instrumental optics at the Faculty of Sciences Semlalia of Marrakech, Morocco, on November 30, 2019, on the topic: « *Exploration of*

thermospheric-ionospheric coupling via optical instruments: RENOIR experiment. »

Mohamed KAAB's thesis director is: BENKHALDOUN Zouhair

Photo of Mohamed KAAB's thesis



From left to right on the photo N. VILMER (*LESIA / France*), C. AMORY-MAZAUDIER (*LPP / Fr*), Sefyani LAKRIZI Fouad (*LPHEA / FSTG, UCAM*), Jabiri ABDELHADI (*LPHEA / FSSM, UCAM*), Elhalkouj THAMI (*LPHEA / CRMEF Marrakech - Safi*), A. BOUNHIR (*LPHEA / FSTG, UCAM, ISWI coordinator for Morocco*), F. Pitout (*IRAP / Fr*), M. KAAB (the candidate), Z. BENKHALDOUN (*LPHEA / FSSM, UCAM*).

Recall that as part of the ISWI project (International Space Weather Initiative, www.iswi-secretariat.org, Jonathan MAKELA of the University of Illinois installed the RENOIR interferometer in the Marrakech observatory. The data from this instrument allow Moroccan students to support PhD.

NIGERIA

The CAR, Center for Atmospheric Research (directed by Babatunde RABIU, ISWI coordinator of Nigeria), in collaboration with the Network of Space and Earth Environmentalists, is organizing the 2nd International Symposium on the Equatorial and Low Latitudes Ionosphere, from September 14 to 19 2020 at Covenant University Ota, near Lagos, Ogun State, Nigeria.

For more details on the colloquium, please visit <https://carnasrda.com/icelli/>

Dr Andrew AKALA received the award for best African scientist in space science for the year 2019.



Dr Andrew AKALA received his award on December 11, 2020 during the AGU meeting in San Francisco (California / USA).



DRC

Raphaël MUKANDILA's Thesis is scheduled for September 30, 2020 at the University of Strasbourg, on the theme : "*Analysis of GNSS data from the African continent from 1994 to 2017: « characterization of tectonic movement and deformation*".

He was supervised by Frédéric MASSON and continued his work at the University of Strasbourg.

Bruno KAHINDO MURUMBA defended, on March 4, 2020, his DEA-DES (Master 2) at the Faculty of Sciences of Kinshasa XI, on the theme: "*Contribution to the study of the equatorial ionosphere on the southern ridge of the Africa.* "

Bruno KAHINDO MURUMBA was supervised by Albert KAZADI and Christine AMORY-MAZAUDIER.

The study of scintillations on the southern crest of the equatorial anomaly was made possible thanks to the GPS station installed in Kinshasa, by K. GROVES (Boston College - USA), within the framework of the ISWI project: <http://www.iswi-secretariat.org>.

Photo of Bruno's master's defense



On the photo from left to right A. ZANA NDONTONI (*Physics-Geophysics, University of Kinshasa / UN Kin*), L. EFOTO EALE (*Physics of Materials, / UN Kin*), R. BOPILI LEPIBA M'BOTIA (*Theoretical Physics, / UN Kin*), A. KAZADI MUKENGA BANTU (*Physics of Nano-structured Materials / UN Kin*), candidate B. KAHINDO MURUMBA (*Basic Polytechnic Sciences, / UN Kin*), E. PHUKU PHUATI (*Solid state physics, / UN Kin*), T. MWEN KABEY (*Geomatics-Climatology, / UN Kin*). Bruno KAHINDO MURUMBA is the ISWI coordinator of the DRC. He introduced the theme of space meteorology in the DRC.

RWANDA

Jean UWAMAHORO of the University of Kigali is organizing a school in Kigali from February 14 to 18, 2021 on the theme: Description and analysis of solar data for a better prediction of space weather, February 14-18, 2021.

Website: <https://ur.ac.rw/?School-on-Describing-and-Analyzing-Solar-Data-for-a-better-prediction-of-Space>

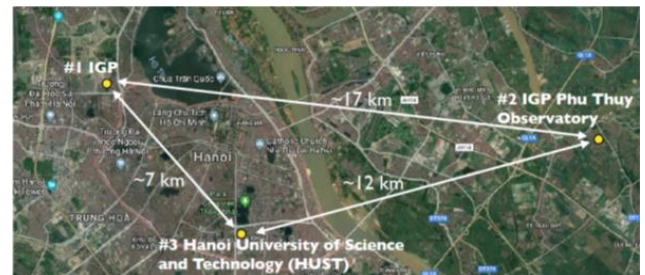
SENEGAL

The last space meteorology school organized by GIRGEA and the University of Thiès, in Thiès, Senegal from October 15 to 25, 2019, was presented in an article in the journal *Meteorology*, in February 2020, in number 108 on pages 6 and 7.

VIETNAM

Three GPS receivers are installed to monitor the ionospheric gradient over the Hanoi region as part of the cooperation project between IGP (Vietnam) and ENRI (Japan) on "Ionosphere Observation and Monitoring to Design a Ground Augmentation System - SBAS for Precision Approach and Landing for civil aviation in Vietnam » .

This project started in November 2018.



Visit to the International Collaborating Center for R&D on Satellite Navigation Technology in Southeast Asia, Hanoi University of Science and Technology.



In the photo, from left to right Dr. Minh LE HUY (*Institute of Geophysics, Vietnam Academy of Science and Technology, Vietnam*), Dr. Susumu SAITO (*Electronic Navigation Research Institute, National Institute of Maritime, Port and Aviation Technology, Japan*), Dr. Ass. Teacher. VINH LA THE (*International Collaboration Center for R & D on Satellite Navigation Technology in South East Asia, Hanoi University of Science and Technology, Vietnam*).

Minh LEHUY is the ISWI coordinator for Vietnam.



WORKSHOP on GNSS and SPACE WEATHER

1) African Workshop on GNSS and Space Weather, 5 - 16 October 2020, CRASTE-LF, Rabat, Morocco. The Workshop is being organized by the International Committee on Global Navigation Satellite Systems (ICG), Austria, Boston College, the United States, the International Centre for Theoretical Physics (ICTP), Italy

2) The Workshop is intended to provide the participants with a working knowledge of how the global navigation satellite systems (GNSS) operate; to introduce some of the many benefits of GNSS applications; to describe the science of space weather; and to provide techniques for performing space weather research using GNSS. Detailed information about the Workshop will be made available at:

<http://indico.ictp.it/event/9124/overview>

SPACE WEATHER - MEDALS

Dear colleagues,

We are happy to announce the 2020 contest for the international space weather medals. Of course, we are aware of the pandemic, and still unable to foresee what the medal ceremony will be. The 17th European Space Weather Week is now postponed until 2021, so we will have to be imaginative. However, these medals are worldwide recognitions in space weather, and we feel that they should not be stopped because of a virus. We will find a way!

Medal recipients' work must have been documented in peer review journals or book chapters, or must be a technological contribution that has led to a fully implemented new space weather capability. Medal recipients' work must be relevant to space weather and/or space climate. The work must also be internationally recognized.

In addition to the above common criteria, there are the following specific requirements for each of the three medals:

The Kristian Birkeland Medal for Space Weather and Space Climate:

The recipient of the Kristian Birkeland Medal must have demonstrated a unique ability to combine basic and applied research to develop useful space weather products that are being used outside the research community, and/or across scientific research disciplines. The work must have led to a better physical comprehension of the solar-terrestrial phenomena related to space weather, to a drastic improvement of space weather modeling, or to a new generation of instruments.

The Baron Marcel Nicolet Medal for Space Weather and Space Climate:

The recipient of the Baron Marcel Nicolet Medal must have demonstrated a unique ability to bind the space weather community in a spirit of peace and friendship, to educate within the space weather community, to go also beyond the space weather research community and address larger audiences.

The Alexander Chizhevsky Medal for Space Weather and Space Climate:

The prize rewards a young researcher (younger than 35 years, or having successfully defended her/his thesis within the last 6 years prior to the ESWW2020, i.e. after October 30th, 2014) for outstanding achievements in space weather with an innovative approach.

The six-year period is increased with the duration of any parental leave taken during the period.

How to nominate?

In order to nominate a person for one of the international space weather medals, please send a pdf document including:

- Your name, first name, professional address.
- The name, first name, professional address of the person that you nominate.
- Which of the three medals you nominate the person for.
- Reasons for the nomination (two pages). Please, make sure that these reasons relate to space weather and fulfill the criteria above.
- A full CV of the nominee.
- Please include letters of support from two colleagues, preferably outside your own home institution. You may also include those two



colleagues as co-signatories on the proposal. For the Chizhevsky prize, a recommendation letter from the PhD advisor (in case (s)he is not the person sending the application) is recommended.

- Up to five references (journal articles, prizes, patents...).

Self-nominations are not allowed.

The medal committee members cannot be nominated or nominate.

You may resubmit a previous nomination that was not successful. Please indicate in your nomination that you wish the committee to reconsider it. You can update the documents or ask the committee to reconsider the already submitted files.

Send your documents by email only to medals@space-weather.eu. The deadline for the nominations is **September, 6th 2020**.

Jean Liliensten