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* ISWI Newsletter - Vol. 15 No. 007 16 July 2023 *
* Editor: George Maeda, georgemaeda3[at]gmail.com *
* Archive of back issues: ISWI Website <https://iswi-secretariat.org/> *
* Archive of all ISWI webinars: *
* <https://www.youtube.com/playlist?list=PLa0qa4cng0GF3cKuj6Yz5kqG1BQ-Akkhr> *

Reminder that the ISWI Website up and running:
<https://iswi-secretariat.org/>
It is the official archive of various ISWI functions.
For example, you can access all ISWI Newsletters
since 2009, when the website and the newsletter
started operations.

The website is managed by:
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The newsletter is edited by:
George Maeda (currently employed by Ark Edge Space, Tokyo)
Permanent postal address:
P.O. Box 220534
Boston, MA, 02122 United States
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Another reminder:
If you have any time-sensitive announcements for
our ISWI community, please send to me as quickly as
you can. It should be two months ahead of the event.
This newsletter aims to go out each month on the 15th.

Note:
Attached PDF files are now labelled with a red 3-digit
serial number on the first page of each file.

-- Editor.

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: Conakry, Guinea
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: United Nations African Regional Centre for
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- [07] IAU Symposium 388: SOLAR AND STELLAR CORONAL MASS EJECTIONS

. Dates: 5-10 May 2024
. Venue: Astronomical Observatory of Jagiellonian Univ. Krakow, Poland

[08] CALLISTO status report/newsletter #95

[01]-----

Please read this pdf.

See: Dear colleagues ISWI July 15 2023.pdf

[02]-----

Hi Georg
Here it is the announcement of the next
school of GIRGEA in 2024 for the next ISWI letter.

This school is organized by The Director of the
meteorology in Guinea, Dr René Tato Loua.

Sincerely
Christine

See: School in GUINEA_2024-English.pdf

[03]-----

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This email was received on 7 July 2023 from UNOOSA
(United Nations Office of Outer Space Affairs)

By the way: I heard this ISWI webinar in real time.
It was outstanding. I recommend it to all.
- G. Maeda, Editor, ISWI Newsletter.
=====

Dear ISWI participants,

The United Nations Office for Outer Space Affairs is pleased
to inform you that the recording of the twelfth webinar on
the International Space Weather Initiative,
Dr. Lucia Kleint - Solar Flares and Space Weather, which
took place on Wednesday, 28 June 2023, is now available on
the YouTube channel of the Office:

<https://youtu.be/gVhVI9FwSJw>

The current, as well as all previous ISWI webinar sessions
can be accessed through the website of the Office at:

https://www.unoosa.org/oosa/en/ourwork/psa/bssi/iswi_webinars.html

Best regards,
Patrick

Patrick Gindler
Executive Secretariat of the International Committee
on Global Navigation Satellite Systems (ICG)

[04]-----

AGS Newsletter - Vol.6 No.07 July 2023

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- 01 DEADLINE EXTENSION FOR AGS INTERNATIONAL CONFERENCE 2023
- 02 EASTERN AFRICA CAPACITY BUILDING WORKSHOP ON SPACE WEATHER AND LOW-LATITUDE IONOSPHERE | (SMR 3882)
- 03 2023 AGU CALL FOR ABSTRACT
- 04 SCIENTIST OF THE MONTH : PROF CYRIL AGODI ONWUMECHILI (1932-2023)
- 05 POEM OF THE MONTH: FATHER By Jennifer S. Williams

View the newsletter here:

<https://mailchi.mp/Oede2854edd8/ags-newsletter-vol1-no-001-27-november-15564976?e=3d8c869948>

[05]-----

Dear George,
Greetings from Vienna!

Please see below the announcement of the United Nations/Finland Workshop on the Applications of Global Navigation Satellite Systems, 23 - 26 October 2023, Helsinki, Finland, for inclusion in the next ISWI newsletter:

To whom it may concern,

The United Nations Office for Outer Space Affairs is pleased to announce that the online application for the "United Nations/Finland Workshop on the Applications of Global Navigation Satellite Systems, 23 - 26 October 2023, Helsinki, Finland " is now open till 28 August 2023.

The workshop webpage can be accessed via the following link:
https://www.unoosa.org/oosa/en/ourwork/psa/schedule/2023/2023-un_finland-workshop-on-gnss.html

Further details about the workshop can be found in the Information Note:
https://www.unoosa.org/documents/pdf/psa/activities/2023/GNSS2023/InfoNote2023_FinlandW_GNSS_v2.pdf

Direct link to the online application form:
<https://forms.office.com/e/ePicRN5SgH>

Best regards,
Patrick

Patrick Gindler
Executive Secretariat of the International Committee on Global Navigation Satellite Systems (ICG)
United Nations Office for Outer Space Affairs (UNOOSA)
Vienna, Austria
[patrick.gindler\[at\]un.org](mailto:patrick.gindler@un.org) | www.unoosa.org

[06]-----

FROM: Professor Babatunde Rabi
Date: 14 July 2023

Dear Wiseman,
Kindly share this mail in the next global ISWI Newsletter.
Thanks

The United Nations African Regional Centre for Space Science and Technology Education in English (UN-ARCSSTE-E) was inaugurated in Nigeria on 24th November, 1998 and affiliated to the United Nations Office for Outer Space Affairs (OOSA). The UN Office of Outer Space Affairs (UNOOSA) was mandated to establish Centres for Space

Science and Technology Education in developing countries on a regional basis.

Nigeria and Morocco were chosen to host the Centres for Space Science and Technology Education for the benefit of Anglophone and Francophone African countries respectively.

The host institution for the Centre in Nigeria is Obafemi Awolowo University, Ile-Ife. UN-ARCSSTE-E is mandated to develop skills and knowledge in 5 prime areas:

- [1] Remote Sensing/ GIS;
- [2] Satellite Meteorology and Global Climate;
- [3] Satellite Communication;
- [4] Space and Atmospheric Science and
- [5] Global Navigation Satellite System.

Over the past 25 years, the Centre has remained committed to the implementation of the UN mandate of building indigenous capacity in SST applications for the English-speaking African countries through its 9-month PGD programmes. So far over 600 participants from 17 African countries have been trained.

Application is now open for the 2023/2024 session of the Postgraduate Diploma Programme. Applicants should note that the PGD Programme is Full Time and Research-based, running from October to July each year. Courses are conducted in modules. All lectures will be delivered physically at

: UN-ARCSSTEE, OAU Campus, Ile Ife, Nigeria.
Interested applicants should check for details at:

<https://arcsstee.org.ng/pgd-application-process/>

.....
Professor Babatunde Rabi
United Nations African Regional Centre for
Space Science and Technology Education - English, (UN-ARCSSTE-E),
(Affiliated to the United Nations)
Obafemi Awolowo University Campus, Ile Ife, 220282, Nigeria

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<https://www.unoosa.org/oosa/en/ourwork/psa/regional-centres/arcsste-e.html>
<https://arcsstee.org.ng/>

[07]-----

IAU Symposium 388: SOLAR AND STELLAR CORONAL MASS EJECTIONS
Dates: 5-10 May 2024
Venue: Astronomical Observatory of the Jagiellonian Univ, Krakow, Poland
See: [iau388_announcement.pdf](#)

[08]-----

Dear Callisto hosts and interested people

Attached the latest report #95 about Callisto related stuff.
If you have something which might be of interest to the Callisto community, please let me know.

Best regards

Christian Monstein
Senior Radio Engineer (retired)

Institute for Particle Physics and Astrophysics (IPA)
ETH Zürich, HIT J13.2
Wolfgang-Pauli-Strasse 27
CH-8093 Zürich
Switzerland

See: [status_95V01.pdf](#)

*****[End of this issue of the ISWI Newsletter]*****

Dear colleagues,

I would like to bring a couple of important information to your attention. AS you know, the ISWI School in Lusaka Zambia will take place during September 26-30, 2023. The school will be followed by the African Geophysical Society conference during October 2-4, 2023. Arrangements are being finalized. Please note the following activities that will happen in the near future.

Sun and Geosphere

There was a UN workshop on ISWI during June 26-20, 2023. The attendance was reasonably good. We are planning to have a special issue of Sun and Geosphere (<http://www.sungeosphere.org/>). Several people who attended the UN/SWI workshop in June expressed interest in submitting a paper to this special issue. However, the issue is open to everyone in the space weather community. So, if you are working on something that can be finalized in the next few months, consider submitting the manuscript to the special issue. For planning purposes, it will be helpful if you can send me (nat.gopalswamy@nasa.gov) the title of the paper you are interested in publishing by the end of this week (July 23, 2023). The completed Manuscript are due on or before November 1, 2023. Sun and Geosphere is an open-access online journal with rigorous refereeing system. Some of you may be approached for reviewing the manuscripts. The collection of papers will be published in the December 2023 issue.

2024 activities

1. ISWI is planning an exhibit at the United Nations Vienna during February 5-10, 2024. All the national coordinators are welcome to prepare a poster and display it in the UN. Policy makers from your country is likely to view these posters, so this is a great opportunity to promote space weather activities in your country. There will also be hardware exhibits from the ISWI instrument network team. In addition, there will be a technical workshop on the CALLSTO instrument (February 7-8, 2024), so anyone hosting or planning to host can learn the details of the CALLISTO network. Finally, the ISWI steering committee meeting will be held during the same week at the UN (February 6, 2024). This is a great opportunity for the national coordinators, and anyone interested in ISWI activities.
2. The next main workshop will be held in Germany in 2024 as UN/Germany meeting on ISWI. Look for more details in the upcoming ISWI Newsletters.
3. The next ISWI school is being planned for September 2024 in Nepal. The school will be beneficial to PhD students from Nepal and neighboring countries. Stay tuned for more details.

If anyone from the ISWI community is interested in hosting a school in 2025, please let me know ASAP, so we can plan ahead.

Sincerely
Nat



SPACE WEATHER SUMMER SCHOOL

Physics and use of tools

October 14-25 2024

Conakry, Guinea

2024

Organized by

National Meteorological Agency
Directorate General for Innovation

With the support

International Space Weather Initiative (ISWI)

and

ICG (International Commission of GNSS)

Under the High Patronage of

The Minister of transport of the Republic of Guinea

Mr Félix LAMAHA

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I. THE COMMITTEES

- HONORARY COMMITTEE

Dr Diaka SIDIBE, Minister of Higher Education, Scientific Research and Innovation
of the Republic of Guinea, President

Mrs Rose Pola PRICEMOU, Minister of planning and International cooperation
Vice-Président

- ORGANIZING COMMITTEE

KOUROUMA Jean Moussa (ANM/Guinea), President

DIOUBATE Kaba Higher Education Department, Vice-President

SYLLA Mabinty Bagui (ANM/Guinea)

DIALLO Ibrahima Sorry (ANM/Guinea)

BANGOURA Alhassane Denis (ANM/Guinea)

KOIBA Goikwia (ANM/Guinea)

KOMAH Mohamed (Ministry of transport/Guinea)

MAOMOU Moriba 2 (ANM/Guinea)

BAH Ibrahima Mbemba (ANM/Guinea)

DIALLO Fatoumata Binta (ANM/Guinea)

CONTE Oumou (ANM/Guinea)

DIAWARA Finou (ANM/Guinea)

GUILAVOGUI David (ANM/Guinea)

DORE Souwala (ANM/Guinea)

SCIENTIFIC COMMITTEE

LOUA René Tato President (ANM/Guinea)

GNABAHOU Allain Vice-President (MESRSI/Burkina Faso)

GAYE Idrissa Vice-President (University of Thiès/ Senegal,)

LAMAH Daniel (University of Kindia /Guinea)

AMORY-MAZAUDIER Christine (LPP/Polytechnic/UPMC/France)

LECONTEL Olivier (LPP/France)

PITOUT Frédéric (IRAP/ France)

HABA Siba (UGANC/Guinea)

ZAOURAR Naima (University Hari Boumediene/Algeria),

FACULTY TEAM

AMMAR Ahmed ((LSAMA, Tunisia)

COISSON Pierdavide (IPGP, France)

EMRAN Anas (University Mohammed V/Morocco)

FLEURY Rolland (IMT Atlantique, Brest /France)

KANTE Ibrahima Kalil (AGAC, Guinea)

KEITA Ibrahima (CERESCOR/Guinea)

OULARE Faya (UJNK/Guinea)

GRODJI Franck (University Houphouët Boigny/Côte d'Ivoire)

IBIASSY Geoffroy (University Marien Ngouabi/ Congo)

KAFANDO Pétronille (Université Joseph Ki-ZERBO /Burkina Faso)

LECONTEL Olivier (LPP/France)

LE HUY Minh (Institut de géophysique de Hanoi /Vietnam)

MASSON Sophie (LPP/France)

PITOUT Frédéric (IRAP/ France)

Dr GUILAVOGUI Kolly Prospère (UZ/Guinée)

SOULA Serge (University Paul Sabatier/France)

YAHIAI Yasmina (University Hari Boumediene/Algeria)

ZAOURAR Naima (Université Hari Boumediene/Algeria)

ZAKA Komenan (University Houphouët Boigny/ Côte d'Ivoire)

ZERBO Jean Louis (Université Nazi BONI/ Burkina Faso)

II. INTRODUCTION

As part of the international ISWI (International Space Weather Initiative) project, in collaboration with GIRGEA, the 6th IMA (ISWI Maghreb Africa) school will be held in Conakry in October 2024.

The main aim of this school is to raise the level of expertise of students and professionals from the sub-region, enabling them to participate in and contribute to international projects. The two key points are :

- 1) Competence in the use of existing datasets and tools for terrestrial environmental studies; a large amount of environmental and geophysical data is available. The use of existing data is estimated at less than 10%. These data, using new technologies, knowledge of physical phenomena and various models, are the source of original scientific work.
- 2) The development and use, by Maghreb and West African scientists, of the results of studies combining environmental sciences and sustainable development by combining ground data with satellite data - e.g. for geophysical studies, telecommunications, positioning etc...

To achieve these objectives the courses will include:

- 1) A scientific part for understanding the measurements, information that can be extracted from the data and examples of applications in different fields.
- 2) A computer part on the algorithms used, their performance, and their installation.
- 3) Practical computer work for the use of algorithms and ground and satellite databases.
- 4) The use of models like TIEGCM, CTPIM, IRI, NeQuick, IGRF.
- 5) Presentations of information on new technologies used in this field such as Grid computing, Web services, databases

Therefore, we offer a school to use and discover :

- 1) All the possibilities of measurements from the ground network of GNSS stations, radar and other instruments located in Africa and around the world, as well as measurements available via Internet:
 - a. Studies of the ionosphere and the Sun's impact on the Earth's ionized environment (International Heliosphere Year and ISWI project);
 - b. Exploiting other instruments for development.

2) Geographic information systems to manage and visualize spatial data in all fields

3) The development of local databases and the use of existing databases via the Internet and an introduction to new technologies.

The aim of this school is to develop data analysis in Africa, and thus make the most of numerous existing projects (IHY: International Heliophysical Year, ISWI: International Space Weather Initiative, etc.).

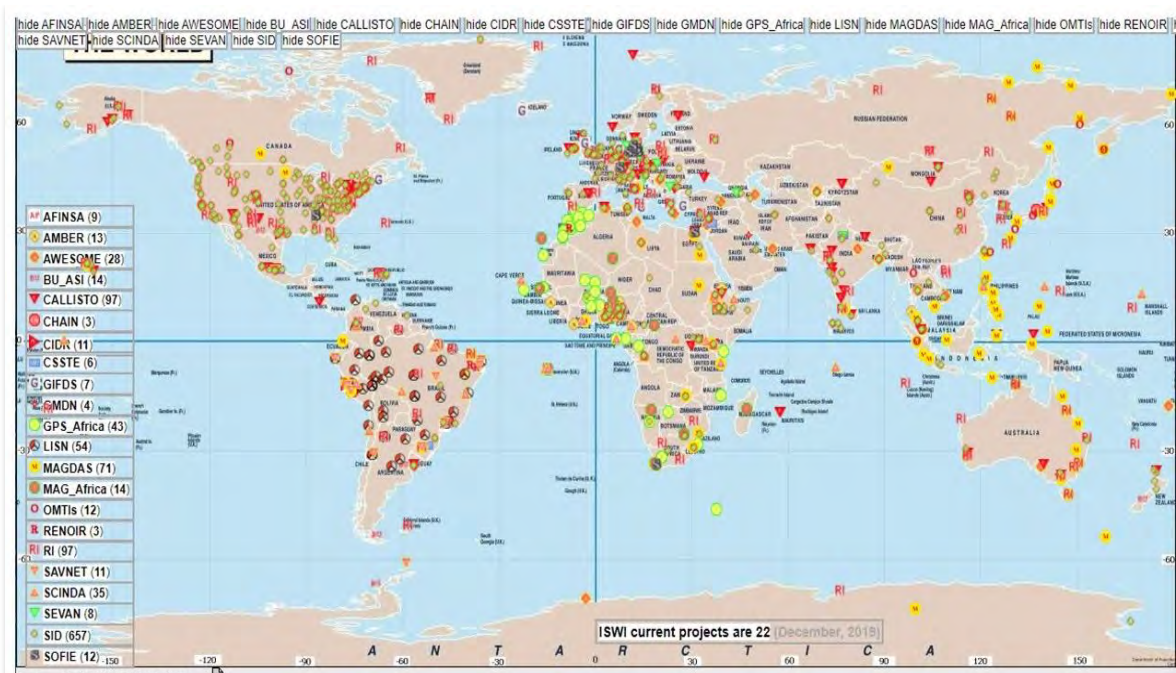
It will also provide an opportunity for researchers and scientists from the Maghreb and West Africa who wish to learn or acquire the skills to use existing datasets and tools related to Space Weather studies, to participate in and contribute to international projects.

The IMA schools also bring together young researchers from different Africa countries to forge lasting and fruitful collaborative relationships.

III. MOTIVATIONS

1. Instrument networks in Africa and worldwide

Following on from the International Heliophysical Year 2007-2009 project, the International Space Weather Initiative ISWI program (2010-2012) has continued to develop instrument networks on the African continent and worldwide, including networks of GNSS stations, magnetometers, radars, etc.... (See figure below from <http://www.iswi-secretariat.org>).



GIRGEA (Groupe International de Recherche en Géophysique Europe Afrique www.girgea.org) has been present in Africa for over 30 years, and has developed research teams in various countries in Africa (Algeria, Burkina Faso, Côte d'Ivoire, Egypt, Guinée, Morocco, DRC, Senegal, etc.) and Asia (Vietnam, Nepal, Pakistan, etc.).

In tropical and equatorial zones, it is necessary to know the contributions of the ionosphere (ionized layer surrounding the earth and located between 90 and 1000 km) and the atmosphere to the GNSS signal for numerous and diverse applications, as the crossing of these two media disturbs the signals received.

This school will focus on

- GPS applications to study the impact of the sun on the ionized layers of the atmosphere;
- Ocean-atmosphere interface and climate variability;
- Meteorological applications for sustainable development;
- GIS and remote sensing;
- EGNOS.

The adoption of information and communication technologies (ICT) and access to the Internet are booming in Africa, but because of their rapid growth worldwide, the digital divide between Africa and the rest of the world persists. So it's important to inform and train scientists and students about new database management techniques (creating and using existing ones): Data warehousing, data mining, mass data analysis, etc. We need a better understanding Internet network monitoring

methods, to check its evolution, and accessing computers and the computing grid to enable them to exploit their data, run their simulations, and collaborate with teams from all over the world.

2. Formation : ECOLE de METEOROLOGIE DE L'ESPACE

GIRGEA has already organized schools in Côte d'Ivoire (1995, 2017, 2022), Republic of Congo (2009), Egypt (2010), DRC (2011), Algeria (2013), Morocco (2011, 2014, 2015), Senegal (2019). All previous school reports can be found at www.girgea.org.

The schools aim to:

- 1) to introduce students to Sun-Earth relations and Space Meteorology with specialists from different disciplines (Sun physics, solar wind, magnetosphere, ionosphere, troposphere and internal and external magnetic field), to Ocean-atmosphere interaction.
- 2) analyze existing data from these different disciplines, using digital tools such as computing grids, data servers, the Internet and intensive computing resources,
- 3) develop student scientific mini-projects on a given event,
- 4) learn how to manage a project, write a thesis and publish scientific papers, and take part in national and international calls for tenders,
- 5) promote exchange and cooperation between students of different nationalities,
- 6) to publish in refereed journals, despite the sometimes difficult-to-find costs.

3. The project

The school is open to 40 participants from universities in west, central and east Africa and North Africa. Participants must already have a basic knowledge of computers and databases.

The aim of the school is to enable participants to :

- Master GPS handling and information gathering in the field;
- Master the use of GPS data according to their field of expertise and possible applications;
- Introduction to cartography and mastery of basic and advanced GIS functionalities using various standard software packages;
- Enhance knowledge of climate variability and ocean-atmosphere interaction;
- Promote synergy between GIS and GPS in different fields of application.

At the end of the course, participants should be able to:

For Space Weather

- Analyze solar activity and its impact on the Earth's environment and related systems.

For GNSS

- Know how to use a GPS (different instrument functions, installation);
- Quantify the various errors in positioning accuracy and analyze correction systems such as local differential GNSS or geostationary satellites,
- Exploit measurements on the ground or on board satellites/sondes for morphological studies of the atmosphere, ionosphere and geodesy,
- Analyze existing satellite navigation systems and their evolution;
- Know the different fields of application.

For SIG

- Build a geographic database (opening and creating layers, scanning, digitizing, structuring and organizing geographic data, modifying or deleting graphic objects, changing coordinates and manipulating projection systems, geo-referencing, integrating GPS points into an existing base map);
- Carry out thematic and spatial analyses (cartographic rendering);
- Know the equivalences between software (principles and terminology).

For GPS and GIS

- Know how to handle: recording, identifying, storing, searching for coordinates of points in the field, transferring points, etc. ... ;
- Know the databases of interest in the various fields covered;
- Know how to collect field data from a GPS and transfer it to a GIS.

For new technologies

- Know the calculation resources available and the underlying techniques,
- Know how to create databases and portals to access them,
- Technical support for network monitoring,
- Participate and collaborate in the global effort for new technologies.

Practical applications should be based on a variety of thematic data and concern areas of national interest.

An analysis of the targeted needs of the participants and their level will be made as soon as registration opens.

We recommend that registered students bring their own laptops.

Course content is generally provided at the end of each session.

Participants will include master's students, thesis students and staff from universities and other organizations requiring training upgrades.

IV. COURSES

-2 weeks of 40 hours spread over 10 days => ~ 80 hours

A detailed timetable will be proposed in November 2023

V. ESTIMATED BUDGET

As far as school funding is concerned, GIRGEA is a network with no permanent infrastructure, and only runs training schools as part of major projects with the help of various laboratories and international structures. The institutions of the professors taking part in the training contribute by covering the mobility of the teachers. The GIRGEA rules of procedure suggest that the country organizing the school should pay for the catering and accommodation of teachers and students. In keeping with the GIRGEA spirit of helping and sharing knowledge, teachers do not receive per diems. Half of the students attending the school are from the host country, and the other half come from Maghreb and West African countries.

Student tickets are paid for by various organizations (AUF, French embassies, PNST, CNRS, SCOSTEP, ICTP, ICG, EGNOS, Nagoya University etc.).

Local budget covered by Guinea

	Quantity	Description	P.U. (fr guinean)	Cost (fr guinean)	Cost (euros)
Supplies	100	Ballpoint pen with badge	50000	5 000 000	571
	100	Folder with flap	5000	500 000	82
	5	Carton of reams of paper	50000	250 000	55
T-shirts	100		150000	15 000 000	1 658
Restauration	1320 (60 pers.x11jx2)	Coffee break	15000	19 800 000	2 179
	660 (60 pers.x11j)	Lunch (startee/resistance/ mineral water/dessert/water in room)	250000	165 000 000	17 957
Transport / logistic	12j	Mini Bus vehicle rental	1000000	12 000 000	1 332
	11j	Conference room	1500000	16 500 000	1 821
Accommodation	240	(20 rooms with 2 beds for 12 nights)	900000	216 000 000	23 499
	240	(20 rooms with 1 bed for 12 nights)	1000000	240 000 000	26 106
Fees	20	Teachers (Dinner)	250000	5 000 000	571
	40	Auditors (Dinner)	250000	10 000 000	1 115
Excursions	2	Excursions	5000000	10 000 000	1 115
Media coverage	5	TV, Radio, online Press	3000000	15 000 000	1 658
Unforeseen events	1		5000000	5 000 000	571
				735 050 000	80291

Air tickets for certain teachers paid for by their institution when the institution is able to pay for them.

Countries	Cost per unit (euros)	Number	Total cost (euros)
Algeria	900	2	1800
Burkina Faso	800	3	2400
Côte d'Ivoire	700	2	1400
France	750	7	5250
Morocco	1200	1	1200
Senegal	500	1	500
Republic du Congo	1200	1	1200
Tunisia	600	1	600
Vietnam	1800	1	1800
Total		19	16150

Student air tickets (2 per participating country)

Country	Cost per unit (euros)	Number	Total cost (euros)
Algeria	900	2	1800
Benin	1000	2	2000
Burkina Faso	800	2	1600
Cameroon	1200	2	2400
Morocco	1200	2	2400
Republic of Congo	1200	2	2400
Democratic Republic of Congo	1300	2	2600
Tchad	1400	2	2800
Côte d'Ivoire	700	2	1400
Senegal	500	2	1000
Tunisia	600	2	1200
Total		20	21 600

First Announcement

IAU Symposium 388: SOLAR AND STELLAR CORONAL MASS EJECTIONS

Dates: 5-10 May 2024

Venue: Astronomical Observatory of the Jagiellonian University, Krakow, Poland

Website: <https://iausymposium.zyrosite.com/>

Scientific Rationale:

IAU Symposium 388 will focus on the origin and consequences of transient mass ejections from the Sun and stars. Observations from space and ground, modeling, and theoretical aspects of these transient events will be considered starting from the magnetic variability of the parent stars to the planetary impact. The goal of the symposium is to update the community on the latest advances in understanding solar/stellar mass ejections. A sample list of topics is:

Solar Source and Initiation of CMEs; CME-Flare Relationship; CME propagation; Solar Energetic Particles; Space Weather; Detecting and Modeling Stellar CMEs; Star-planet interactions; Solar and Stellar Extreme events.

Registration Abstract Submission and Accommodation

Registration and abstract submission will be made through the symposium website <https://iausymposium.zyrosite.com/> starting in September 2023. All participants wishing to attend the symposium should register online. Please check back frequently for updates. The registration fee will be 300 euros. Registration fee will cover symposium material, admission to all scientific sessions, welcome reception, coffee breaks, lunches, and conference dinner. Limited financial support will be available for students and young scientists.

Kraków has great hotels in all budget classes. In the city center, there are many hotels within walking distance from the symposium venue. A list of recommended hotels will be made available on the symposium web site.

Symposium Timeline:

15 July 2023	First Announcement
1 October 2023	Second Announcement
1 October 2023	Registration and Abstract Submission Opens
1 February 2024	Abstract Submission Deadline (for oral presentation)
1 February 2024	Travel Grants Application Deadline
1 March 2024	Selection Announcements: oral/poster presentations and travel grants
1 March 2024	Late Poster Abstract Submission Deadline (limited space)
15 March 2024	Early Registration Deadline
15 March 2024	Accommodation Booking Deadline
31 March 2024	Final Registration Deadline
5-10 May 2024	IAU Symposium
30 June 2024	Submission Deadline for proceedings papers

Contact: Grzegorz Michalek (LOC), Nat Gopalswamy (SOC)



CALLISTO status report/newsletter #95

New instrument at Siuntio, Finland

A new Callisto system has been installed in Siuntio, Finland by Juha Kallunki. Even with a small antenna he already got several solar radio bursts.

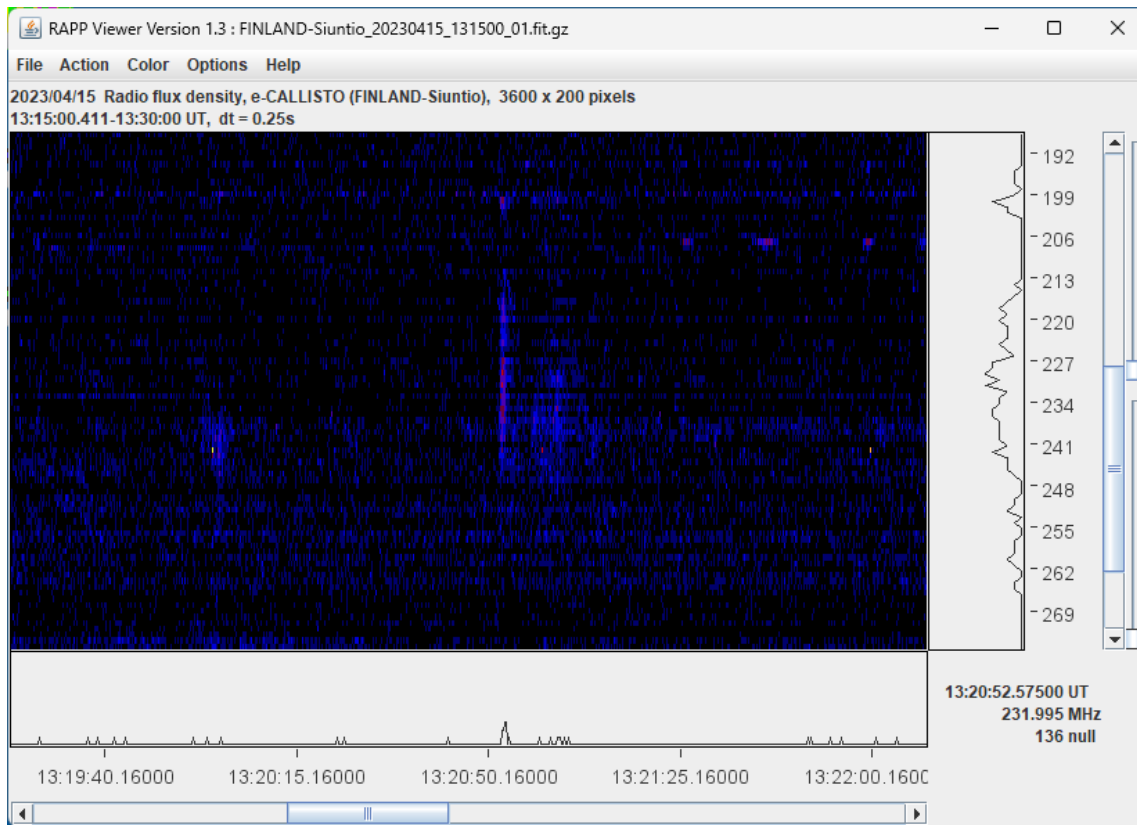


Fig. 1: 1st light from Siuntio. Weak type III burst.

Welcome Juha on board of the e-Callisto international instrument network!



e-Callisto burst statistics May 2023

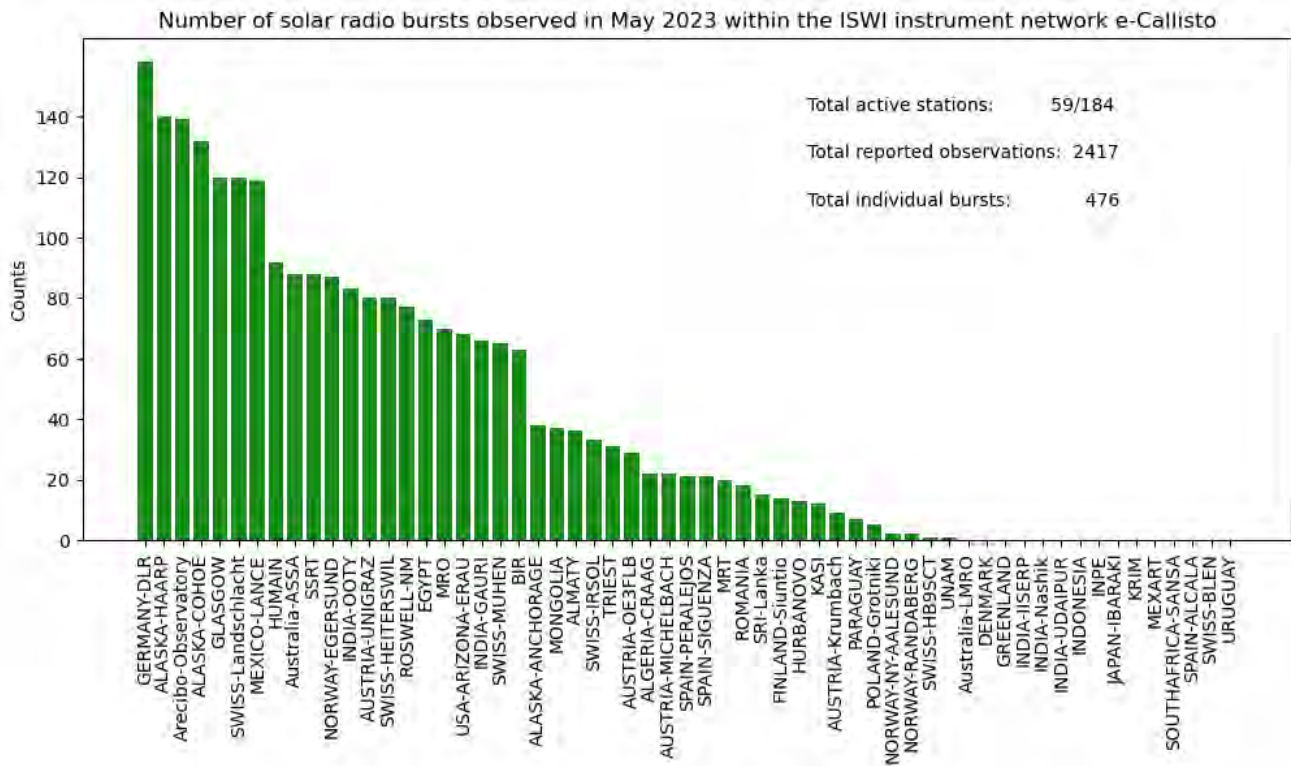


Fig. 7: Compilation of all visually detected bursts from all Callisto-stations which provide data to the e-Callisto network. There is a clear winner of the ‘competition’, DLR in Neustrelitz, Germany; congratulations!

Too bad: Most of the 218 stations do not provide data to the central archive and there are many reasons such as: Broken instrument (LNA, cables, connectors, antenna tec.), no electrical power and/or no internet access and even loss of motivation ...

I want to encourage hosts to put a student or a technician as responsible person for an instrument to keep it operational and to upload data to the central server. Only 70 stations out of more than 200 instruments which provide data on a regular basis is not super successful, we could do it better.

Very active colleagues Manuel Prieto and Alejandro Martin from University of Alcalá created a set of scripts to convert spectra from Learmonth into the dedicated data format from CALLISTO, FIT-files. A zipped copy is available here: https://e-callisto.org/Software/LEAR_SRS2FIT.zip



The main goal of the network e-Callisto has been changed from Understanding Coronal Heating to now: **Understanding Transient Phenomenon in the Solar Corona.**

On February 20th 2023 we got 1st light from CALLISTO in Bangkok, Thailand.

Congratulations Peter Wright for this achievement.

Unfortunately, the instrument is silent since then without any data upload. We hope Peter can bring the system back into operation soon.

The current, as well as all previous ISWI webinar sessions can be accessed through the website of the Office at: https://www.unoosa.org/oosa/en/ourwork/psa/bssi/iswi_webinars.html

Siberian Solar Radio Telescope SSRT is back online after a couple of years of silence. Congrats and thanks to the team in Badary. I hope that also KRIM (Crimea island) will be back soon despite the war between Russia and Ukraine.

Also, Kigali in Rwanda is back in operation since a few weeks. Congrats to this achievement. Instrument sensitivity is not yet there, possibly an issue with antenna or cables or LNA.

Boumerdes, Algeria was suffering from tremendous local interference. After time consuming investigation they found out the source of rfi. It was a switched power adapter which has now been moved further away from the antenna.

On June 15th we had our first video-conference, organized by colleagues from university of Alcalá. Thanks Javier and Manuel for taking this action to go forward with the network. There were many projects presented and discussed such as:

- Calibration by Pietro Zucca
- Automatic solar radio burst detection by Manuela Temmer Graz and Spanish colleagues
- Products and services by Vincenzo Timmel FHNW
- Receiver and antenna design by Manuel Prieto
- Several other actions were addressed, especially CALLISTO2.0, based on HackRF One and RaspBerry PI.

There were more than 30 attendees on this conference which we see as a great success. If you are interested in one or the other aspect, please get into contact with: Bussons Gordo Javier [javier.bussons\(at\)uah.es](mailto:javier.bussons@uah.es)

Our friends from Australia (ASSA) are studying a cheaper, better version of the frontend-electronics FEE which is used in connection with LWA and similar low frequency antennas. I know that several people out of the Callisto community are dreaming from a cheap FEE but not everyone is able to design



and built an FEE himself. In addition Peter Wright Bangkok has done some design of a FEE like printed circuits board.

People interested in FEE like PCB shall get into contact with either ERAC Peter Wright in Thailand erachq@aol.com and/or Peter Gray in Australia weaksignals@iinet.net.au

Assuming one can produce more than just one or two FEE, the prize should go down for such a low noise and high gain frontend electronics.

Australia (ASSA) is also experimenting with MWA



The MWA operates at low radio frequencies, **(70) 80–300 MHz.**

Curious to see first results, observed with CALLISTO from Sunnydale. A feature of this antenna design is signal suppression below 30 degrees from the horizon, chosen to reduce man-made interference around the Murchison site in Western Australia

Papers:

"Regular Solar Radio Imaging at Arecibo: Space Weather Perspective of Evolution of Active Regions" - A White Paper Submitted to the "Decadal Survey for Solar and Space Physics (Heliophysics) 2024-2033". <https://arxiv.org/pdf/2211.04472.pdf>

Battaglia, Andrea Francesco; Wang, Wen; Saqri, Jonas; Podladchikova, Tatiana; Veronig, Astrid M.; Collier, Hannah; Dickson, Ewan C. M.; Podladchikova, Olena; Monstein, Christian; Warmuth, Alexander; Schuller, Frédéric; Harra, Louise; Krucker, Säm
Identifying the energy release site in a solar microflare with a jet Journal Article
In: Astronomy and Astrophysics, vol. 670, pp. A56, 2023.



Ndacyayisenga, T.; Uwamahoro, J.; Uwamahoro, J. C.; Babatunde, R.; Okoh, D.; Raja, K. Sasikumar; Kwisanga, C.; Monstein, C.

An Overview of Solar Radio Type II Bursts through analysis of associated solar and near Earth space weather features during Ascending phase of SC 25 Journal Article

In: EGU sphere, vol. 2023, pp. 1–22, 2023.

McKee, Sarah Ruth; Cilliers, Pierre Johannes; Lotz, Stefan; Monstein, Christian

The effects of solar radio bursts on frequency bands utilised by the aviation industry in Sub-Saharan Africa Journal Article

In: J. Space Weather Space Clim., vol. 13, pp. 4, 2023.

Mario, Fernández Ruiz; Javier, Bussons Gordo; Manuel, Prieto Mateo; Christian, Monstein

Automatic detection of e-Callisto solar radio bursts by Deep Neural Networks Inproceedings

In: 3rd URSI AT-AP-RASC, Gran Canaria, 29 May – 3 June 2022, 2022

CESRA NEWS

Characteristics of stripes-pattern radio-emission sources

by Khaled Alielden

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3386>

Third and fourth harmonics of electromagnetic emissions by a weak beam
in a solar wind plasma with random density fluctuations

by C. Krafft and P. Savoini

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3403>

Flares detected in ALMA single-dish images

by I. Skokic et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3417>

Zebra Stripes with High Gyro-Harmonic Numbers

by Jan Benacek and Marian Karlicky

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3425>

Microwave imaging of quasi-periodic pulsations at flare current sheet

by Yuankun Kou et al.

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3435>

Radio Scintillation Observations of the Plasma Tail of Interstellar Comet 2I/Borisov,

by P K Manoharan et al.*



<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3452>

The First Flare Observation with a New Solar Microwave Spectrometer Working in 35–40 GHz,
by Yan et al.

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3468>

Please see the recent nugget describing this special issue:

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3484>

The Radial Variation of the Solar Wind Turbulence Spectra near the Kinetic Break Scale from Parker
Solar Probe Measurements,

by Lotz et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3476>

The frequency ratio and time delay of fundamental and harmonic components in solar radio bursts
by X. Chen et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3493>

Solar coronal density turbulence and magnetic field strength at the source regions of two successive
metric type II radio bursts

by Ramesh et. al.

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3501>

Temporal and Spatial Association Between Microwaves and Type III Bursts in the Upper Corona
by Altyntsev et al.

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3509>

Solar Radio Spikes and Type IIIb Striae Manifestations Triggered by a Coronal Mass Ejection
by Clarkson et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3521>

Automated Detection and Statistical Study of Solar Radio Spikes

by P.R. Lv et al

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3531>

Radio measurements of coronal magnetic fields in fan-spine configurations on the Sun

by B. Ryabov and A. Vrublevskis

<https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3554>



AOB

- If have some stuff to present to the Callisto community, please let me know
- IRSOL is meant as the new core-station of the e-Callisto network
- To avoid strange issues with Windows computers, disable disc caching. Otherwise configurations files might not be updated in Callisto with the latest information
- Another access to Callisto data here: <https://vwo.nasa.gov/>
- CALLISTO or Callisto denotes to the spectrometer itself while e-Callisto denotes to the worldwide network.
- General information and data access here: <http://e-callisto.org/>
- e-Callisto data are hosted at University of Applied Sciences, Institute for Data Science FHNW in Brugg/Windisch, Switzerland. Additionally, data are available at ESA site here: SSA Space Weather Portal (<http://swe.ssa.esa.int/>).
- Don't forget United Nations Workshop on International Space Weather Initiative: The Way Forward 26-30 June 2023 in Vienna
- In case you (as the responsible person for operating and maintenance of Callisto) are leaving the institute or, if you are retiring, please send me name and email address of the successor.



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