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* 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=PLaOqa4cngOGF3cKuj6Yz5kqG1BQ-Akkhr
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Dear ISWI Participants:

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.

It is published only once per month.

-- Editor.

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[01]----------

In this brief letter to members of ISWI, Dr Gopalswamy mentions
three upcoming workshops.

See the letter:

Dear Colleagues August 2023.pdf
001

[02]----------

About "i4s"

The Iberian Space Science Summer School (i4s) was organised for
the 3rd time in 2023. It took place from June 26 to June 30 2023
in Coimbra, Portugal. Previous editions of i4s were organised in
2021 (on-line) and in 2022 (in-person, June 6-10, 2022,
Alcalá de Henares, Madrid, Spain).

See the 22-page report for 2023 i4s:

Report - 3rd i4s summer school.pdf
002

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

001

Dear Colleagues,

I hope you have been enjoying the summer in the northern hemisphere!

I would like to point out there are a couple of interesting workshops coming up.

1. Asia-Oceania Space Weather Alliance (AOSWA) will be organizing the “AOSWA 2023” at Bangi Resort Hotel, Selangor, Malaysia during October 9 to 11, 2023. The workshop aims to discuss important issues for space weather research and operations such as societal impact on space weather and cutting-edge technologies for improving space weather forecast. Details in https://www.ukm.my/aoswa/.

2. The International Space Weather Coordination Forum to be held at the World Meteorological Organization in Geneva on 17th November 2023. This meeting will be attended by representatives of organizations involved in space weather research, operations, and services including ISWI. This is a follow on to the COSPAR space weather roadmap effort and the UN expert group on space weather.

3. SEP Model Validation Working Meeting (SEPVAL2023), September 5-7, 2023, San Antonio TX, USA. SEPVAL will focus on the validation of solar energetic particle (SEP) models drawing upon a multi-year validation effort started in 2018 through the SHINE, ISWAT, and ESWW workshops. During the SEPVAL 2023 workshops, one in the U.S. and one in Europe, developers of solar energetic particle (SEP) prediction models will work with space agency end users to assess SEP model performance, establish standards, and develop a framework for SEP model validation. You can participate online in the Texas SEPVAL workshop by registering (free) before September 1, 2023 (details in https://ccmc.gsfc.nasa.gov/community-workshops/ccmc-sepval-2023/).

With best regards

Nat Gopalswamy

2023 August 15

The 3rd i4s summer school
June 26-30, 2023, Coimbra, Portugal
Report

by

Anna Morozova, i4s 2023 LOC Chair

July 2023

Coimbra, Portugal

TOC

1. Introduction

The Iberian Space Science Summer School (i4s) was organised for the 3rd time in 2023. It took place from June 26 to June 30 2023 in Coimbra, Portugal. Previous editions of i4s were organised in 2021 (on-line) and in 2022 (in-person, June 6-10, 2022, Alcalá de Henares, Madrid, Spain).

1.1. Organisers

Co-Chairs:

Anna Morozova, University of Coimbra, Portugal
Natchimuthuk Gopalswamy, NASA GSFC, USA
Kazuo Shiokawa, ISEE, Nagoya University, Japan

Programme Committee Members:

Antonio Guerrero, University of Alcala, Spain
Bernd Funke, Instituto de Astrofisica de Andalucia, CSIC, Spain
Christine Amory-Mazaudier, IPP, France
Consuelo Cid, University of Alcala, Spain
Daniel Marsh, NCAR/University of Leeds, USA/UK
Keith Groves, Boston College, USA
Ramon Lopez, University of Texas, USA
Rui Pinto, IRAP, France
Teresa Barata, University of Coimbra, IA, Portugal

i4s LOC members:

Anna Morozova, University of Coimbra, Portugal
Teresa Barata, University of Coimbra, Portugal
Consuelo Cid, University of Alcalá, Spain
Antonio Guerrero, University of Alcalá, Spain
Ricardo Gafeira, University of Coimbra, Portugal
Manuel Flores, University of Alcalá, Spain

The information about i4s 2023 can be found at the school website: https://www.i4s-iberian-space-science-summer-school.com/

2. Funding

LOC of i4s 2023 summer school applied to several funding/sponsoring organisations to obtain funds necessary to hold the school in 2023. The expected expenses included travel and accommodation grants for students, accommodation of the Spanish LOC members in Coimbra, catering service to organise coffee breaks and refreshments, extra-curricular activities (visits to museums etc.). I4s 2023 LOC received several grants from the following international funding sources:

- Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) PRESTO programme grant - $5000
- International Space Weather Initiative (ISWI) travel grant for students from DAC-supported countries - $5000
- Institute for Space-Earth Environmental Research (ISEE) summer school grant - 330 000 JPY
- European Space Weather and Space Climate Association (E-SWAN) grant for summer schools - 1000€

3. Application and selection processes

3.1. Aplications

The announcement of the second edition of the school was disseminated to several networks (see Tab. 1).

Table 1. Dissemination of the i4s 2023 announcement

Category	Name	Acronim
Spanish	Real Sociedad Española de Física	RSEF
Portuguese	Portuguese Space Agency	PT-Space
Portuguese	Institute of Astrophysics and Space Sciences; University of Coimbra (Physics and Engineering Departments); LIP	IA, UC, LIP
Iberian	Asamblea Hispano Portuguesa de Geodesia y Geofísica	AHPGG
European	Space Weather Euro News	SWEN
European	European Solar Physics Division	EPS
International	Geospace Environment Modeling Messenger	GEM
International	International Space Weather Initiative	ISWI
International	Scientific Committee on Solar-Terrestrial Physics	SCOSTEP/PRESTO
International	Coupling, Energetics and dynamics of atmospheric regions	CEDAR
International	AGU Space Physics and Aeronomy Newsletter	AGU SPA
International	Solar News (American Astronomical Society)	SolarNews AAS

The school was aimed at students with MSc degree (with defense scheduled no later than December 2023), PhD students and young researchers/postdocs working in Space Sciences (mostly in Space weather).

The deadline to receive applications was April 30, 2023. The applicants must fill an on-line registration form and send by email their CV, Motivation letter and a Recommendation letter.

The school received a total of 67 unique on-line applications from applicants from 26 countries, but only 48 applicants submitted full applications. The distribution of the applicants between countries of residence is shown in Fig.1. As in previous years, most of the applications were received from developing countries: India (19 applications), Brazil (8 applications), Egypt (6 applications), Nigeria (5 applications).

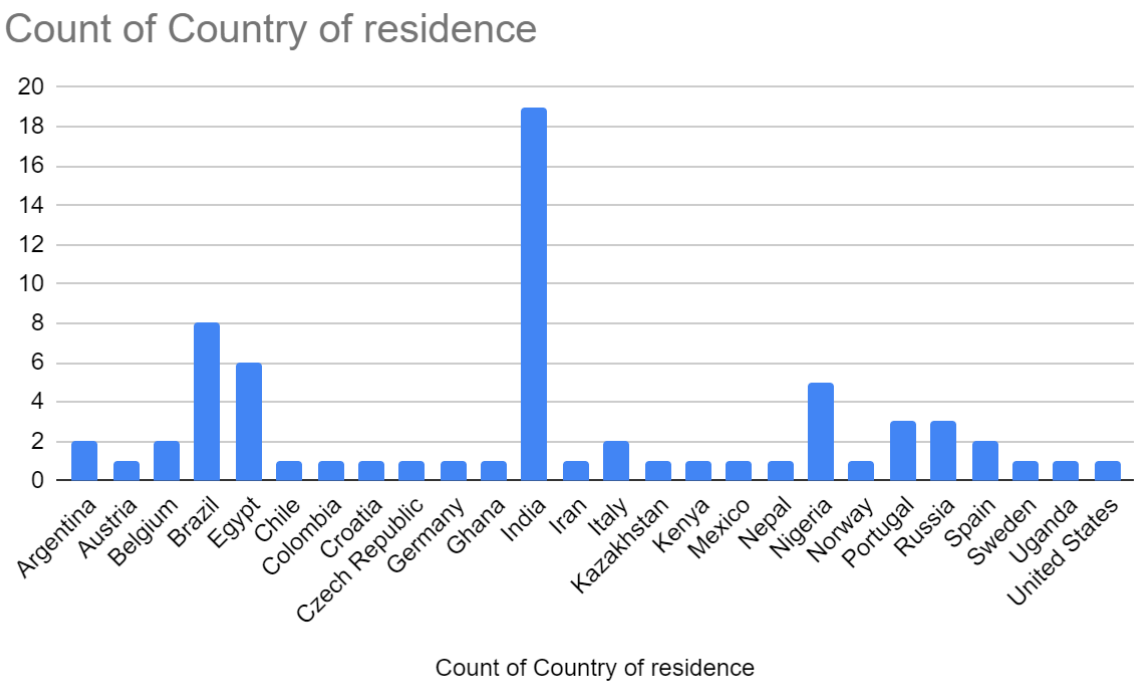


Figure 1. The distribution of the applicants between countries of residence.

3.2. Selection

Only 48 applicants have sent a full set of the application documents. After documents check-up and rejecting those who have no MSc degree and aren't going to defend MSc Thesis in 2023 only 46 applications were submitted to a 2-stage review process.

At the 1st stage the applications from students who are not eligible for ISWI/ISEE support are considered: there were 16 applicants who were either from non-DAC-supported countries or mentioned they wouldn't need travel support (however, 8 of them asked for accommodation support). All of them have been accepted to the school. Two of the applicants asked for travel support on the grounds that they are just starting to study in a European country and cannot yet be funded by their institutions. Travel of these 2 students as well as accommodation of other 8 students were paid by LOC from SCOSTEP/PRESTO and E-SWAN grants.

At the 2nd stage, applications from DAC-supported countries were considered. 30 applicants were eligible for travel support: 12 from African countries, 12 from Asian countries and Russia, and 6 from Latin American countries. Since there was a limited number of travel grants (up to 3 from ISWI and 1 from ISEE), applications were ranked according to reviews made by i4s 2023 LOC members: the quality of CVs, Motivation and Recommendation letters were evaluated. One student (with highest marks) was supported by ISEE (Noelia Ayelen Santos from Argentina) and a list of students eligible for support with best marks was sent to ISWI to initiate a travel grant process. In the end, due to difficulties with visa applications, 3 students were supported by ISWI (Fabian Marcel Menezes from Brasil, Aswin Amirtha Raj Sivabalasundar from India, and Aderonke Adekemi Akerele from Nigeria). All 4 students supported by ISWI and ISEE also received accommodation support from LOC from the SCOSTEP/PRESTO and E-SWAN grants.

3.3. Final student list

Initially, 20 students were selected to participate in i4s 2023, but 2 of them withdrew their application 1 week before the school began for visa/academic reasons. The final list of the i4s 2023 students is in Tab. 2 with distribution by country of residence in Fig. 2.

Table 2. i4s 2023 students

N	Name	Affiliation
1	Adriana Marcucci	University of Trieste/ITAF, Italy
2	Aideliz Marimar Montiel Alvarez	University of Edinburgh, UK
3	Akshay Kumar Remeshan	Hvar Observatory, Department of Geodesy, University of Zagreb, Croatia, Croatia
4	Björn Alexander Linder	Department of Meteorology (MISU), Stockholm University, Sweden
5	Brenda Daniela Dorsch	Royal Observatory of Belgium, Belgium
6	Diego Javier Abuelo Suárez	Universidad de Alcalá, Spain
7	Florian Koller	University of Graz, Austria
8	Galina Chikunova	Skolkovo Institute of Science and Technology, Russia
9	Herve Haudemand	INAF - Istituto Nazionale di AstroFisica, Italy
10	Joana Morgado Pereira	University of Coimbra, Portugal
11	Ketaki Deshpande	Royal Observatory of Belgium & KU Leuven, Belgium
12	Mario Fernández Ruiz	Universidad de Alcalá, Spain
13	Noelia Ayelen Santos	Universidad de Buenos Aires, Argentina
14	Pelin Iochem	DLR (German Aerospace Center, Institute for Solar-Terrestrial Physics), Germany
15	Praveen Kumar Basuvaraj	Faculty of Mathematics and Physics, Charles University, Czech Republic
16	Fabian Marcel Menezes	Universidade Presbiteriana Mackenzie/Centro de Rádio-Astronomia e Astrofísica Mackenzie, Brasil
17	Aswin Amirtha Raj Sivabalasundar	India, Madurai Kamaraj University
18	Aderonke Adekemi Akerele	United Nations African Regional Centre for Space Science Technology and Education - English, (UN-ARCSSTE-E), Nigeria

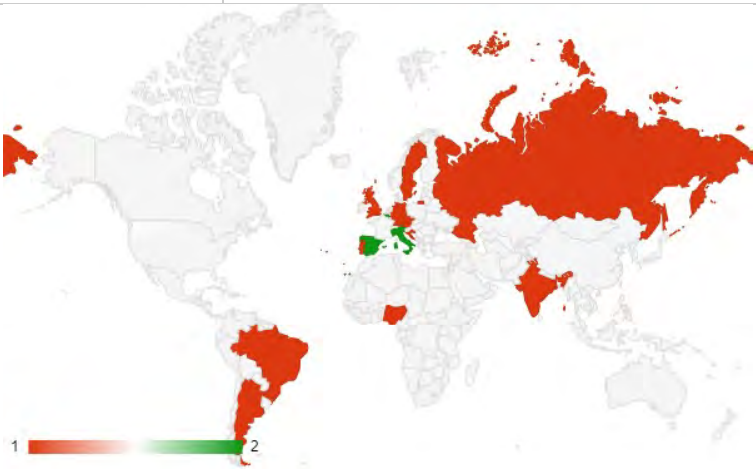


Figure 2. i4s 2023 students by country

4. Academic report

The school was organised during a week from 26th to 30th of June 2023 at the Department of Physics of the University of Coimbra (DF/UC). The program is presented in Fig. 3. There were lectures (morning hours), work on school projects (afternoon hours), presentations of students' own work (poster and oral sessions on Wednesday and Thursday).

4.1. Programme

Time (BST, UTC+1)	Monday	Tuesday	Wednesday	Thursday	Time (BST, UTC+1)	Friday
	June 26	June 27	June 28	June 29		June 30
9:30:00	Welcome	Cosmic rays and their terrestrial effect, by Ilya Usoskin	Solar Wind - Magnetosphere coupling, by Ramón López	Connections between terrestrial weather and space weather, by Ruth Lieberman	9:30:00	Magnetic activity in Sun-like stars, by Angela Santos
9:45:00					9:45:00	
10:00:00					10:00:00	
10:15:00					10:15:00	
10:30:00					10:30:00	
10:30:00	Break	Break	Break	Break	10:30:00	Break
10:45:00					10:45:00	
10:45:00	Introduction to Space weather, by Consuelo Cid	Ionospheric Plasma, by Kazuo Shiokawa	Space weather in the ionosphere, by Luca Spogli	Atmospheric response to energetic particle precipitation, by Eugene Rozanov	10:45:00	Impact cratering as a geological process, by Pedro Pina
11:00:00					11:00:00	
11:15:00					11:15:00	
11:30:00					11:30:00	
11:45:00					11:45:00	
11:45:00	Coffee break	Coffee break	Coffee break & Student's posters	Coffee break & Student's posters	11:45:00	Lunch
12:00:00					12:00:00	
12:15:00					12:15:00	
12:15:00	The interplanetary medium – solar wind and CMEs, by Manuela Temmer	Projects: PS2	Students' talks	Students' talks	12:30:00	
12:30:00					12:45:00	
12:45:00					12:45:00	Projects presentations (1h15')
13:00:00					13:00:00	
13:15:00	Lunch	Lunch	Lunch	Lunch	13:15:00	
13:15:00					13:30:00	
13:30:00					13:45:00	
13:45:00					13:45:00	
14:00:00					14:00:00	
14:15:00					14:00:00	Break (15')
14:30:00	The Sun and the solar activity, by Ricardo Gafeira	Projects: PS3	Projects: PS4	Projects: Presentations Preparation	14:15:00	Projects presentations (1h15')
14:45:00					14:15:00	
15:00:00					14:30:00	
15:15:00					14:45:00	
15:30:00					15:00:00	
15:30:00	Break	Break	Break	Break	15:15:00	
15:45:00					15:30:00	
15:45:00	Projects: PS1	Projects: Q&A	Projects: PS5	Projects: Presentations Preparation	15:45:00	Closing
16:00:00						
16:15:00						
16:30:00		Meet at Porta Férrea for a tour at UC (16:30)				
16:45:00						
16:45:00			Break			
17:30:00						
17:30:00			Meet at DF			
18:00:00			Leave to OGA			
19:00:00			Arrive at OGA			
19:00:00			Visit to OGA (Museum, domes, etc.), free time			
20:00:00						
21:00:00/21:30:00			Night observations			

Figure 3. i4s 2023 Programme

4.2. Lectures

There were 9 lectures on space weather topics (from Monday to Thursday) and 2 lectures on more broad but space-related topics (Friday). The list of lectures and lecturers is below.

Unfortunately, due to different personal and technical reasons, not all lecturers were able to give in-person lectures (unfortunately, some of initially planned in-person lectures were changed to the on-line format during a couple of weeks before the school).

- Introduction to Space weather, by Consuelo Cid (on-line)
- The Sun and the solar activity, by Ricardo Gafeira (in-person)
- The interplanetary medium – solar wind and CMEs, by Manuela Temmer (on-line)
- Solar Wind - Magnetosphere coupling, by Ramón López (in-person)

- Ionospheric Plasma, by Kazuo Shiokawa (on-line)
- Space weather in the ionosphere, by Luca Spogli (on-line)
- Cosmic rays and their terrestrial effect, by Ilya Usoskin (on-line)
- Atmospheric response to energetic particle precipitation, by Eugene Rozanov (on-line)
- Connections between terrestrial weather and space weather, by Ruth Lieberman (on-line)

- Magnetic activity in Sun-like stars, by Angela Santos (in-person)
- Impact cratering as a geological process, by Pedro Pina (in-person)

4.3. Projects

During the school students had to do a small space weather study or a work project analysing a certain space weather event from its solar sources to ground effects. To work on the projects the students were divided into four groups of 4-5 people, and each of the groups was assigned a specific space weather event (see the list below). Each day, during the projects' time slots, each group had to work on one specific stage of the Sun-Earth chain of events (Sun and solar activity, solar wind, geomagnetic field variations, ionospheric conditions, effects on the infrastructure) under a guidance of a mentor (six i4s 2023 LOC members). Several time slots were left for Q&A and for the preparation of a final presentation. The projects' results were presented on the last day of the school by each of the groups.

Analysed space weather events:
Group 1 - February 2022 (Starlink event)

Group 2 - September 2017 geomagnetic storm

Group 3 - June 2015 geomagnetic storm

Group 4 - March 2015 (St Patrick 2015 event)

4.4. Students presentations

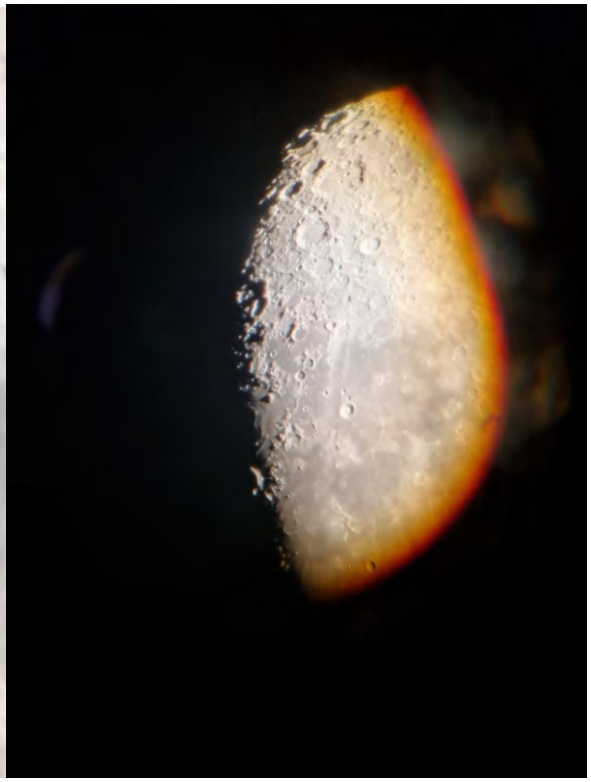
On Wednesday-Thursday the i4s students had time to present their own research. Eight students (either from the last PhD year or sponsored by their institutions on a condition to give a talk), see the list below, were selected to give oral talks. The rest of the students were encouraged to bring posters. The posters were discussed during coffee breaks.

List of the oral presenters:
1. Praveen Kumar Basuvaraj
2. Galina Chikunova
3. Björn Alexander Linder
4. Pelin Iochem
5. Aideliz Marimar Montiel Alvarez
6. Fabian Marcel Menezes
7. Noelia Ayelen Santos
8. Florian Koller

5. Extracurricular activity

A visit to the University of Coimbra museum and Joanina Library (with a professional guide from UC Tourism) took place on Tuesday afternoon.

A visit to the UC Geophysical and Astronomical Observatory (OGAUC) took place on Wednesday afternoon (walk from DF/UC to OGAUC, refreshment, visit to OGAUC “Old books” and “Old maps” collections, visit to OGAUC Museum, visit to Spectroheliograph, night observation of the sky at OGAUC Dome).



6. Financial report

6.1. Funding sources

As mentioned before, the i4s 2023 summer school received several grants from international funding sources:

- SCOSTEP/Presto grant - 4667.94 € ($5000 after conversion to €)
- E-SWAN grant for summer school - 1000€
- ISWI travel grant for students from DAC-supported countries - $5000
- ISEE grant - 330 000 JPY

The SCOSTEP/PRESTO and the E-SWAN grants were transferred to the i4s LOC bank account and used to pay for 2 travel grants, accommodation of 12 students, catering service, accommodation of a member of the Spanish LOC (Manuel Flores), the visit to UC museum and other related services.

The ISWI and ISEE grants were used only to buy tickets for selected students. The budget execution of the ISWI and ISEE grants have been done by the granting institutions.

6.2. Budget execution

6.2.1. SCOSTEP and E-SWAN grants

Since the **SCOSTEP/PRESTO and E-SWAN grants** were transferred to the LOC account, they were used together (**5667.94 € total**) to pay for:

- Travel grants of to 2 students (251€ + 421€)
    - Aideliz Marimar Montiel Alvarez, currently PhD student at University of Edinburgh, UK
    - Pelin Iochem, currently a PhD student at DLR, Germany
- Accommodation for 12 students (2441€)
- Accommodation for Manuel Flores (i4s 2023 LOC member from Spain) (333€)
- Website hosting (282€)
- Lunches for students, lecturers and LOC members, catering service (coffee breaks), other food expenses (1273€)
- Visit to UC museum and Joanina Library (160€)

6.2.2. ISEE grant

Travel to 1 student:

- Noelia Ayelen Santos from Argentina

It was managed by ISEE (Ms. Miho Sugiyama); the total amount is unknown to LOC.

6.2.3. ISWI grant

Travel of 3 students:

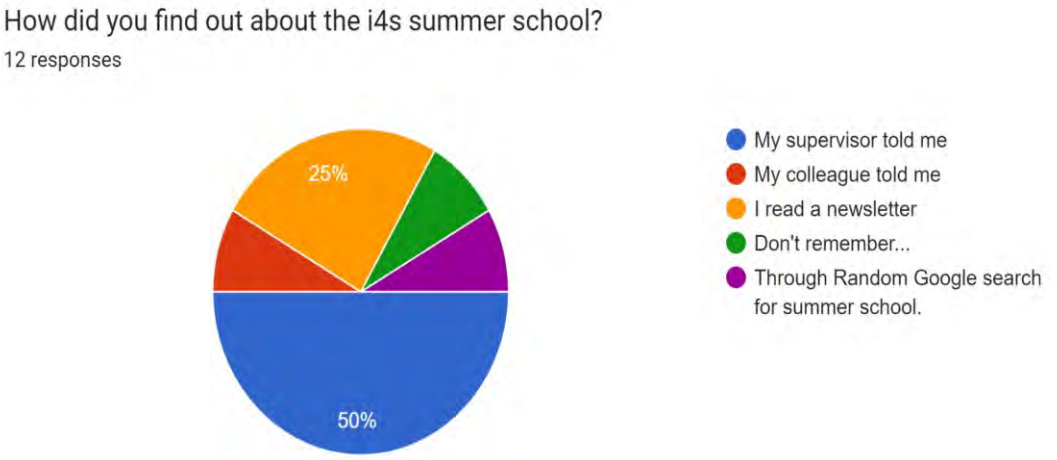
- Fabian Marcel Menezes from Brasil,
- Aswin Amirtha Raj Sivabalasundar from India,
- Aderonke Adekemi Akerele from Nigeria

It was managed by Boston College (Dr. Keith Groves); the total amount is about $6500, according to Dr. Keith Groves email to LOC

7. Feedbacks

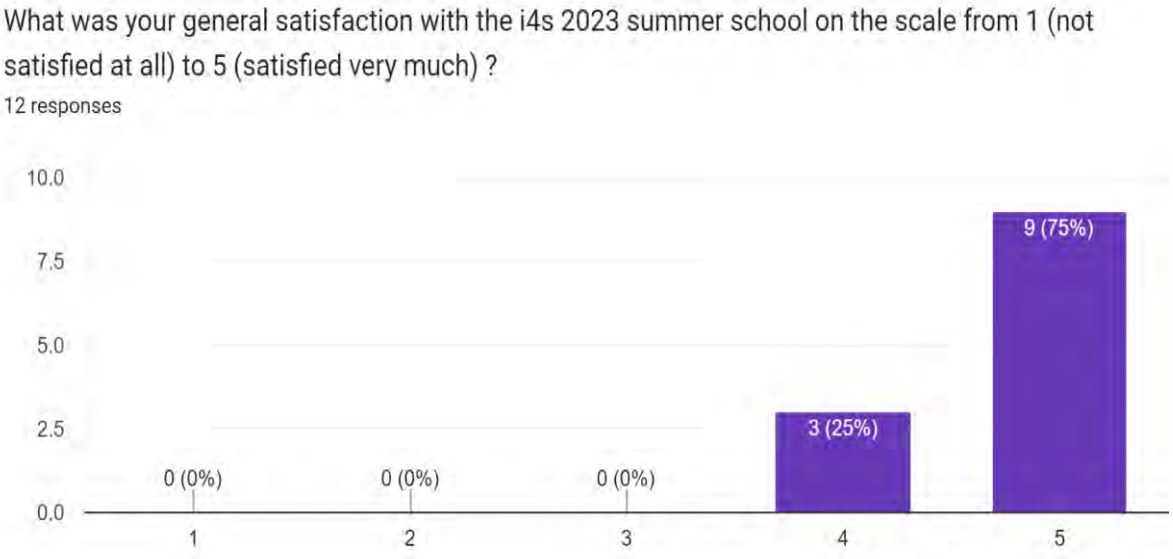
The students were asked to give feedback after the school answered the following questions.

★ School organisation



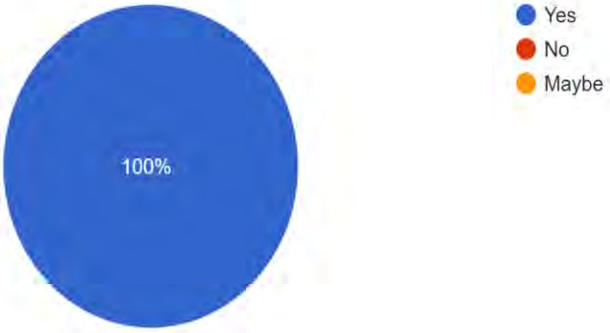
The students mentioned following newsletters:

- SolarNews
- SCOSTEP Newsletter
- ISWI Newsletter



Would you recommend this school to other students in case there will be other editions during next years?

12 responses



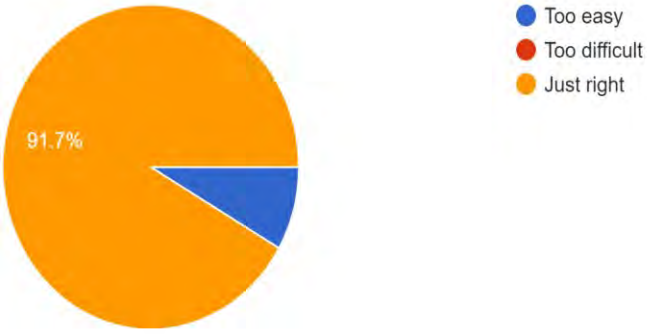
★ School content

Did you like the school programme divisions (lectures, projects, talks and poster by students)?

12 responses

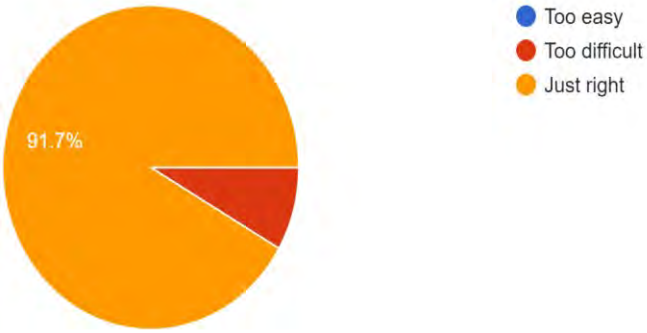
What do you think about lectures?

12 responses



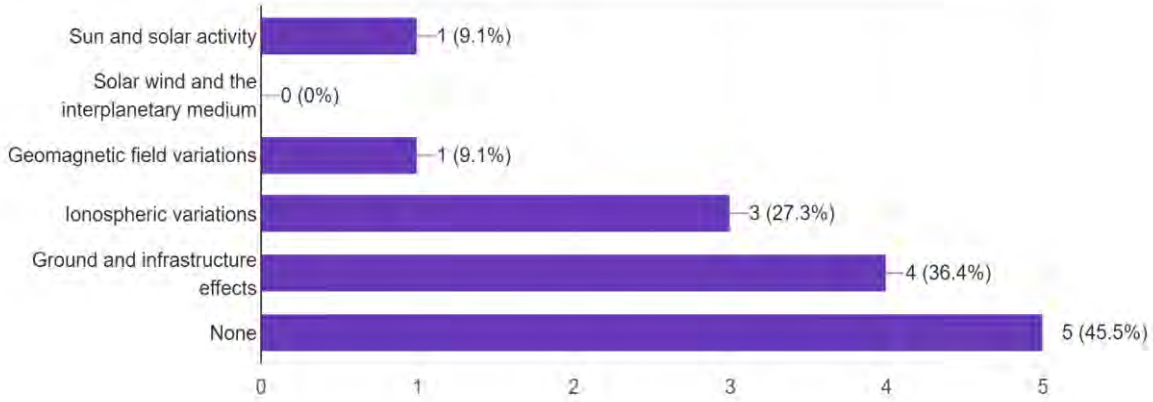
What do you think about projects?

12 responses



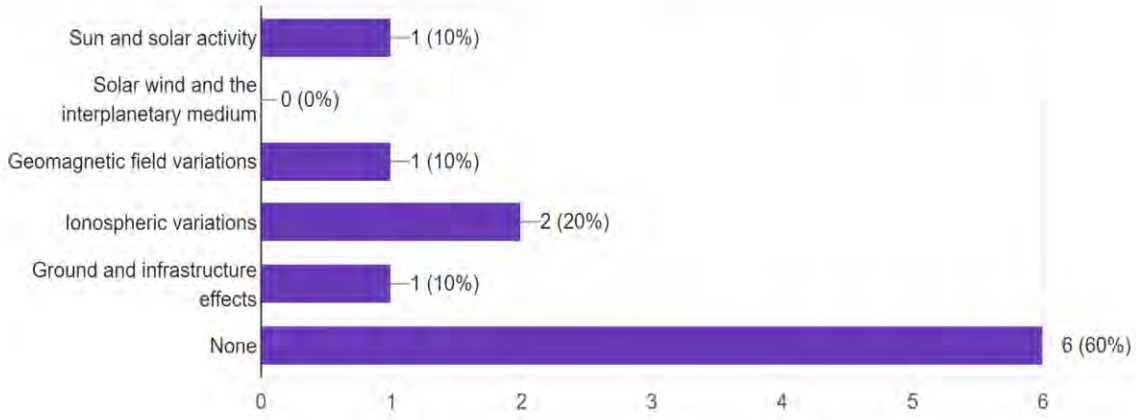
What part of the projects you found to be too easy?

11 responses



What part of the projects you found to be too difficult?

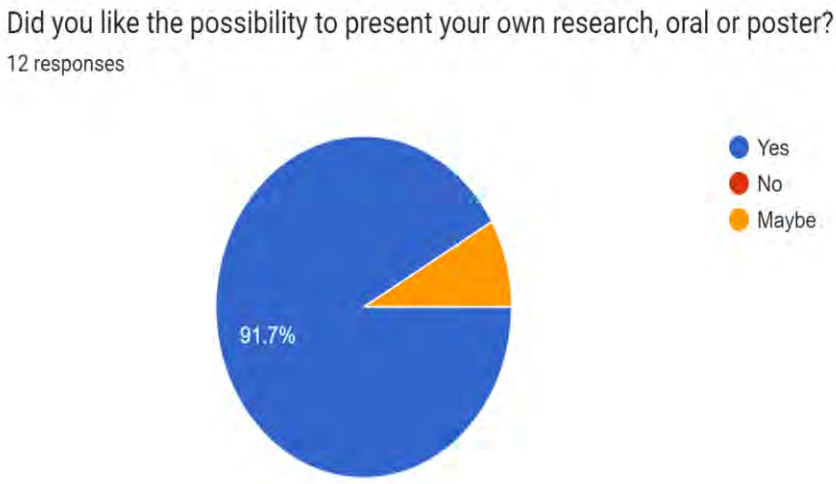
10 responses

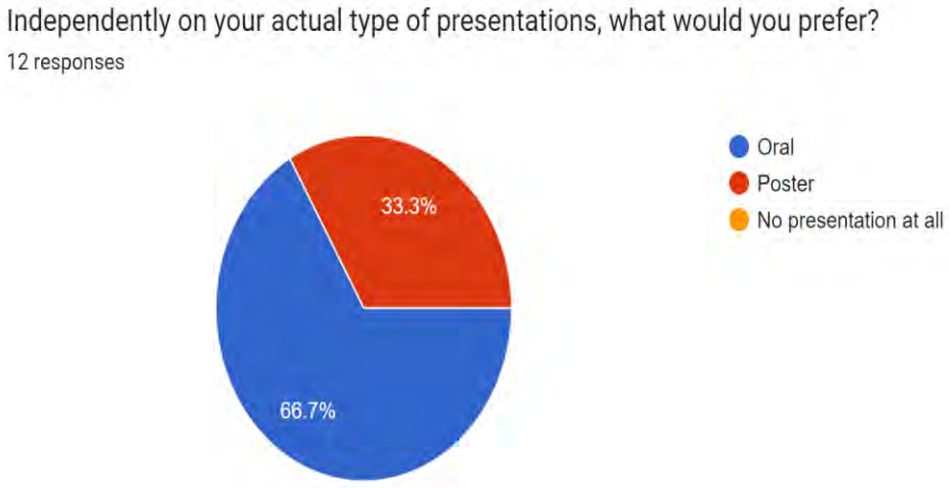


When asked about other topics to be covered by lectures and projects, students mentioned:

- Numerical models/simulations are most used for Space Weather forecasting and their development (2 students in relation to lectures and 1 student in relation to projects)
- Instruments used in Space weather and solar physics (1 student, lectures).
- Space weather impacts/effects, including GICs (2 students, lectures)
- Identifying the irregularities in the ionospheric plasma and their impacts (1 student, projects)

Overall, most of the students are satisfied with the topics covered by lectures and projects.





★ Extracurricular activity

Are you satisfied with the visit to the Observatory (OGA)?

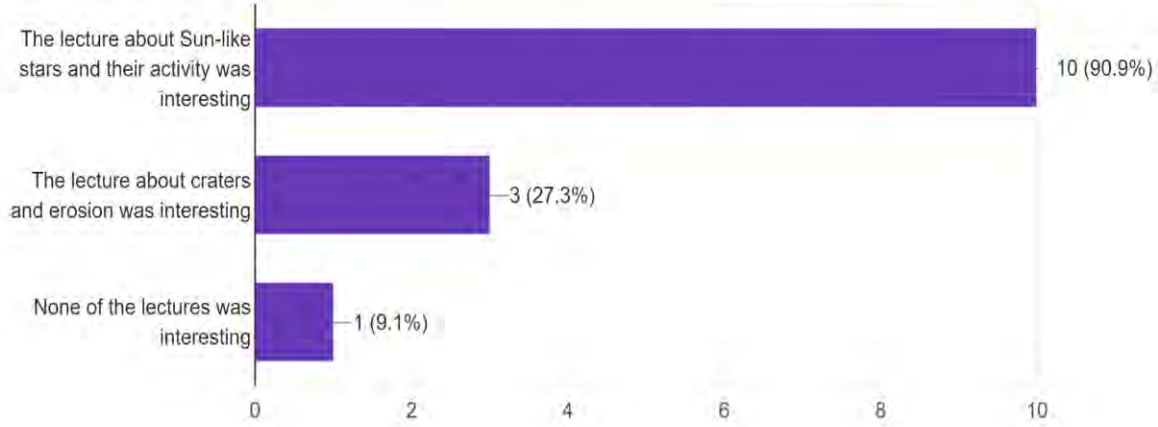
12 responses

Are you satisfied with the visit to UC museum and Joanina library?

12 responses

Did you find interesting lectures on Friday?

11 responses



★ Comments

Several students left following comments and suggestions about their experience at i4s 2023

- Thank you so much for your incredible effort and inspiring atmosphere, it was perfect
- Support students with lunch or stipends
- For lunch please find a nearby place.
- I wish and also expect more editions of the summer school to come in the future. This can largely benefit the students, for example, I learned more about solar plasma and its role in determining ionospheric conditions. The summer school project helped me to understand the difficulties in planning and forecasting the space weather which was crucial even for the commercial industries. Such things should need to be addressed through summer schools, in addition to overall exposure to space weather.
- I am very happy and satisfied with the summer school, and thank to the organisers for the financial support. I liked the programme and learned a lot! The only additional comment I can think of is about the tons of emails we received during the couple of weeks before the school - it was a bit overwhelming. I understand that some info needs to be sent at different stages, but maybe an option would be to condense as much information as possible into a pdf or a long email, as it became confusing to me and couldn't find certain info when I needed it. It was not a big deal though. As a whole, it was a great experience. Thanks!

8. Conclusions and future considerations

The school was developed as expected. The only issue was an unexpected impossibility for two of the Spanish LOC members (Consuelo Cid and Antonio Guerrero) to come to Coimbra due to technical and personal reasons. The third member of the Spanish LOC (Manuel Flores) did come to COimbra and helped Portuguese LOC with organisation of the school and mentored the student projects in-person. Consuelo Cid and Antonio Guerrero followed the school by Zoom, including mentoring the projects.

The students were satisfied with the overall organisation and the experience they have received. This is also reflected in the written feedback given. All the students safely came back to their countries without any issues.

The major concern of students was that this year most of the lectures were given on-line. A number of on-line lectures were expected from the beginning, but some of the lecturers had plans to attend in-person that were changed for reasons beyond their control.

Another concern is the limited time devoted to the work on projects. The organisers are aware of this constraint and indeed one week is not enough to get into a subject so diverse and complex as the Solar-Terrestrial environment. The main problem is that, for example, an extension to two weeks will bring other issues that could risk the school. For example, the accommodation and catering prices will increase and less students can be sponsored from a fixed budget. Another issue is that the students background varies significantly over the broad area of space weather, and it is not always easy for a student to follow the projects. i4s LOC tried to mitigate this problem by making the student groups as diverse as possible in relation to their gender, country, area of research and academic level (the necessary information was acquired before the school during the application and post-acceptance period).