EGU 2023 Solar-Terrestrial Sciences (ST) Division Meeting Emilia Kilpua & Olga Malandraki

27 April 2023, 12:45–13:45 (Room L2)



Meetings | Publications | Outreach | www.egu.eu





- 1. Approval of the 2022 minutes
- 2. Awards and Medals 2023
- 3. Medal Committees
- 4. OSPP 2023
- 5. ST Division Organisation and Officers
- 6. ST Early Career Scientist Activities
- 7. ST Education and Public Outreach Update
- 8. ANGEO Update
- 9. 2023 GA/ST Scientific Programme
- 10. EGU 2024 and the Future
- 11. Any Other Business



1. Acceptance of the minutes of the ST Division Meeting 2022 <u>https://www.egu.eu/st/reports/</u>

and this year's Meeting Agenda





2023 Julius Bartels Medal

Hermann Opgenoorth

The 2023 Julius Bartels Medal is awarded to Herman Opgenoorth for his exceptional contributions to substorms and space weather research, and his strong leadership in international collaboration

'From Geomagnetism and Space Science to Space Weather'



Hermann Opgenoorth Professor Emeritus in the Physics Department at University of Umeå in Sweden

Wednesday 26 April 11:55-12:25, Room E2



2023 Division Outstanding Early Career Scientist Award

Stephan G. Heinemann

The 2023 Division Outstanding Early Career Scientist Award to Stephan Heinemann in recognition of his outstanding research in the field of solar terrestrial relations and solar physics.

'On the evolutionary aspects of solar coronal holes"

Stephan G. Heinemann, Max Planck Institute for Solar System Research, Göttingen, Germany/University of Helsinki

Friday 28 April 08:35-09:05, Room 1.14



Invitation for Nominations for Awards and Medals

The community is urged to send in suggestions!

Deadline 15 June 2023 - https://www.egu.eu/awards-medals/nominations/

Division level:

- **Early career scientists**: Division Outstanding Early Career Scientists (ECS) Awards
- Mid-career scientists¹ 1) Hannes Alfvén (2024, 2026,...) 2) Julius Bartels Medals (2025, 2027, ...)

Union level:

- **Early career scientists**: Arne Richter Outstanding ECS award (best nominations from division award recommended here)
- o Jean Dominique Cassini Medal: senior scientist

https://www.egu.eu/awards-medals/proposal-and-selection-of-candidates/	
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1		Divion & Union medals	ECS awards
	Nomination letter	1 page	½ page
/	Curriclum vitae	2 pages	1 page
	Selected bibliography	2 pages	1⁄2 page
	Supporting letter	3-5 (max 1 page)	

early career: highest degree received since max 7 years* mid-career: before retirement senior: exceptional international standing in planetary and space sciences, before or after the retirement

Nominators have to be EGU members, no self-nominations

*https://www.egu.eu/awards-medals/ecs-definition/





Hannes Alfvén Committee 2024

Current committee

Iannis Dandouras (Chair) [OUT] Daniel Baker Janet Luhmann Julia Thalmann



Proposed 2024 committee

Margit Haberreiter (Chair) Daniel Baker David J. McComas [IN] Janet Luhmann Julia Thalmann



4. Outstanding Student Poster and PICO (OSPP) Award

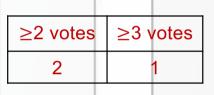


OSPP rules & statistics

- Normally awarded for PICO or poster presentations
- In 2022 there were only oral presentations, so all suitable participants were eligible for the contest
- Candidates have to be
- first and presenting authors of the presentation
- currently a BSc or MSc student or PhD candidate, or obtained their degree after the 1 January 2023

Number of Participants

- o **2019**: 39
- **2020**: canceled
- o **2021**: 55 but no award
- o **2022**: 97 and 3 awards



We need more judges!

Thanks to the conveners and judges for making this possible!



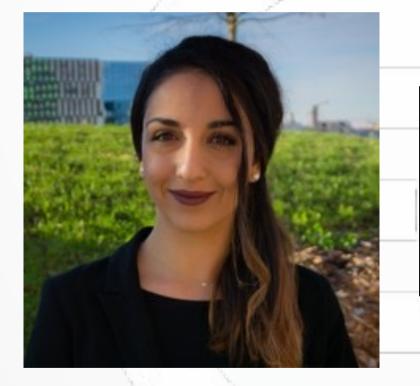


Angelica M. Castillo Tibocha

PhD at German Research Centre for Geosciences/ University Potsdam in Germany

"Reconstructing the dynamics of the outer electron radiation belt by means of the standard and ensemble Kalman filter with the VERB-3D code"





Evangelia Samara

PhD at Royal Observatory of Belgium/KU Leuven

"Calibrating the WSA velocity in EUHFORIA based on PSP observations"



Josephine Salice

PhD at University of Bergen, Norway

"Solar Wind Structures and their Effects on the High-Energy Tail of the Precipitating Energetic Electron Spectrum"



5. ST Division Organisation and Officers



Emilia Kilpua For the period 2023-2025

ST Division Deputy President Olga Malandraki



- Division Officers are appointed by the Division
 President and approved in the Division Meetings
- Programme Group Chair (Division President) Emilia
 Kilpua until 2025



ST Scientific Officers

$\,\circ\,\,$ ST1 The Sun and Heliosphere

'Solar Physics': Manuela Temmer: confirmed for 2024 'Heliosphere': Olga Malandraki: confirmed for 2024

• ST2 Magnetosphere:

Yulia Bogdanova: confirmed for 2024

ST3 Ionosphere and Thermosphere:
 Dalia Buresova: confirmed for 2024





Thank you all for your active involvement in shaping the EGU Programme!



ST Liaison Officers

• Publications

Manuela Temmer: confirmed for 2024

OSPP Coordinator

Tarique Siddiqui: confirmed for 2024

- Early Career Scientist (ECS) Representative
 Maxime Grandin [OUT]
 Liliana Macotela [IN]
- News, Media, Education and Public Outreach, Webmaster
 Eleanna Asvestari: confirmed for 2024
- Scientific Affairs, Foreign Affairs, Division Liaison
 Emilia Kilpua: confirmed for 2024









6. ST Early Career Scientist (ECS) Activities

Maxime Grandin ST-ECS Representative (2021–2023)

http://www.egu.eu/ecs/



ST-ECS Team



Maxime Grandin University of Helsinki

Postdoctoral researcher ST-ECS Representative

(2021–2023)

E. Liliana Macotela University of Bath Postdoctoral researcher

> ST-ECS Representative (2023–2025) ecs-st@egu.eu

Jia Jia NTNU (Trondheim) Postdoctoral researcher

> Florine Enengl University of Oslo PhD student



Eleanna Asvestari University of Helsinki University Researcher



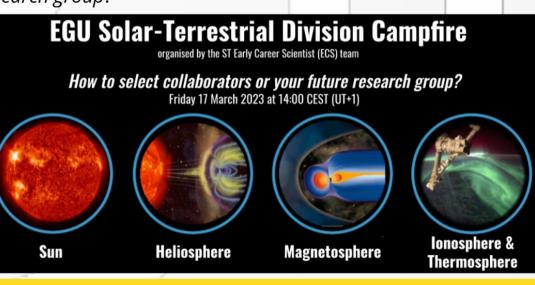
Chukwuma Anoruo University of Nigeria PhD student



Mission and Activities

The ECS Team organises events and activities with and for early-career scientists from the Division, both during the EGU General Assembly (GA) and throughout the year. Its aim is to increase the visibility of ECSs and provide them with opportunities for networking.

- "Campfire" event organised on 17 March 2023 via Zoom
 - Second such event organised by our Division
 - Main aim is to enable networking
 - Topic: How to select collaborators or your future research group?
 - Presentation of tips and discussion of
 - various topics in small groups
 - Free networking time in breakout rooms
 - About 20 participants, positive feedback



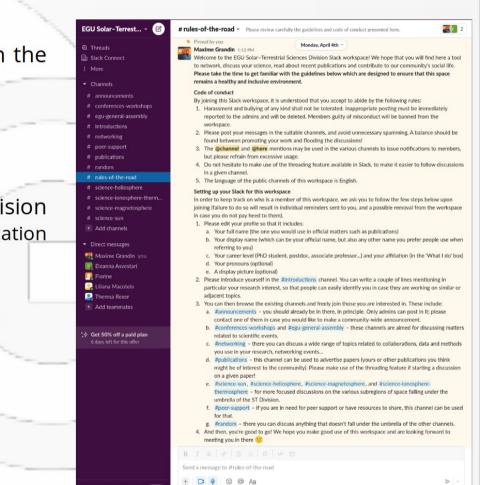


Activities during EGU23:

- Monday 24 April, 12:30–13:45 CEST: Joint networking picnic with PS, AS and GMPV Division ECSs
- Wednesday 26 April, 18:00–19:00 CEST: *Meet the Experts* networking event (new format)
- Wednesday 26 April, 20:00–22:30 CEST: ST Division dinner at Café Leopold (new event)
- Other contributions along with other Division's ECSs:
 - *Mind Your Head: Scared of Giving Presentations?* Short Course (M. Grandin as convener)
 - Mind Your Head: Life-Work balance What does it mean? Short Course (E. Asvestari as speaker)
 - Shifts as ECS contact point at the EGU Booth

Plans for the Upcoming Year

- Organisation of one to two Campfire events (one in the autumn, one in spring)
- Support of the Blog and Outreach Team
 - Suggestions of blog posts and content for social media
 - Occasional joint meetings to brainstorm ideas
- Maintenance of the Slack workspace for Division members (ECSs, but not only: "intergenerational" communication is crucial!) throughout the year
 - EGU-wide and Division-specific announcements, networking, advertising of publications and scientific events, discussing science, seeking peer support...
 - egu-st-networking.slack.com
 - Welcome to join!
- Organisation of networking events during EGU24





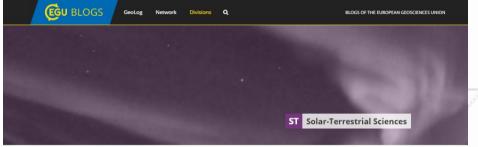
7. ST Education and Public Outreach





Our primary media

https://blogs.egu.eu/divisions/st/



EGU Blogs » Divisions » Solar-Terrestrial Sciences

Solar-Terrestrial Sciences

Events organised by the ST-ECS Team during EGU23

Maxime Grandin · April 13, 2023

ST-ECS Networking Campfire: How to select collaborators or your future research group? eteamaswestari - March 2.203

EGU Solar-Terrestrial Division Campfire regenerator to 11 the trave tames IEE trave How to select address or your future research group? Frager Thansa 2202 at 1440 0255 [61-1]

Employing J burst observations made by LOFAR to determine the properties of large coronal loops

Jinge Zhang · March 16, 2023

Large coronal loops around one solar radius in altitude are an important connection between the solar wind and the low solar corona. However, their plasma properties are not well studied, as standard X-ray and UV techniques are not suited to these low-density environments. How does temperature, pressure, and magnetic field strength evolve along these loops? Observable structures in radio emission ... [Read More]

The impacts of space weather on the midlatitude upper atmosphere Daniel Billet: - January 27, 2023

ABOUT

Welcome to the blog of the Solar-Terrestrial Sciences (ST) Division of the European Geosciences Union (EGU). This blog serves as a platform for the solar-terrestrial community to share news, events, and activities, as well as updates on the latest research. It is especially almed at the EGU early career scientists and the general public. The blog is run by Luke Barnard who welcomes guest contributions. To submit a post, simply drop him an email.

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Your email

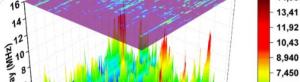
EGU DIVISION BLOGS

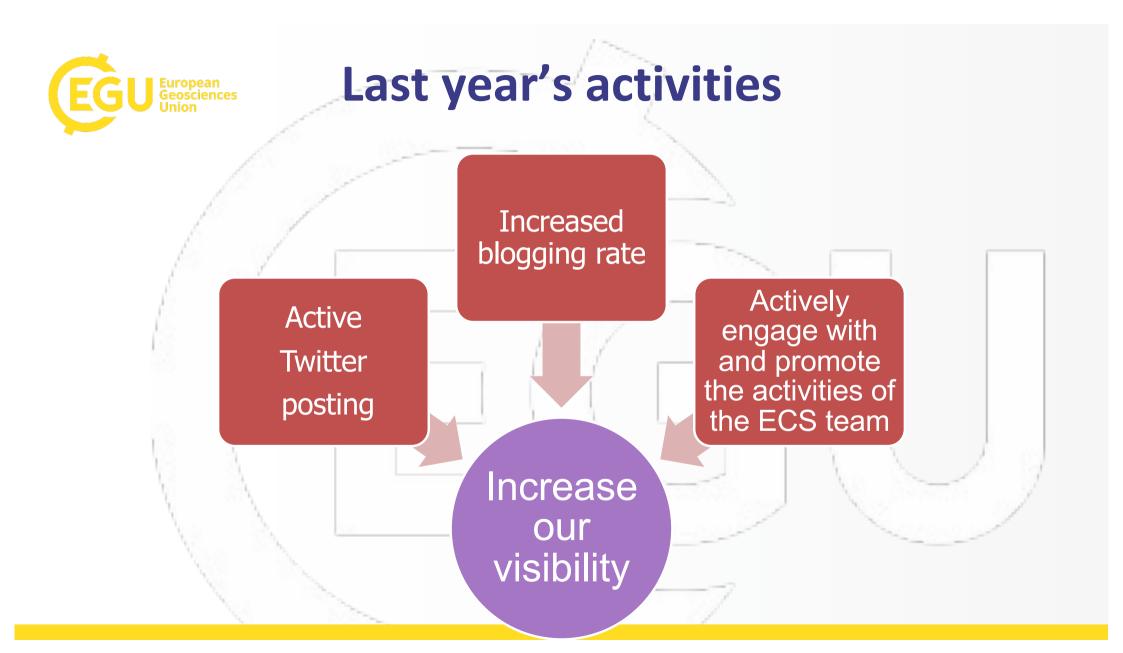
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https://twitter.com/equ st (EGI Edit profile SolarTerrestrial EGU @egu_st FGU Solar-Terrestrial Sciences Let's talk about #sun #magnetosphere #ionosphere #atmosphere #spaceweather #physics #research Maintained by @Elstar4stars 390 Following 920 Followers Tweets Replies Media Likes SolarTerrestrial EGU @egu_st · 16h ... ta EGU New research paper: Effects of the terdiurnal tide on the sporadic E (Es) layer development at low latitudes over the Brazilian sector









We (re-)tweet about:

- New papers published in Copernicus Annales Geophysicae (AnGeo)
- Our newly published blogposts
- ECS activities
- Interesting papers published in the field but in other journals
- > Open positions

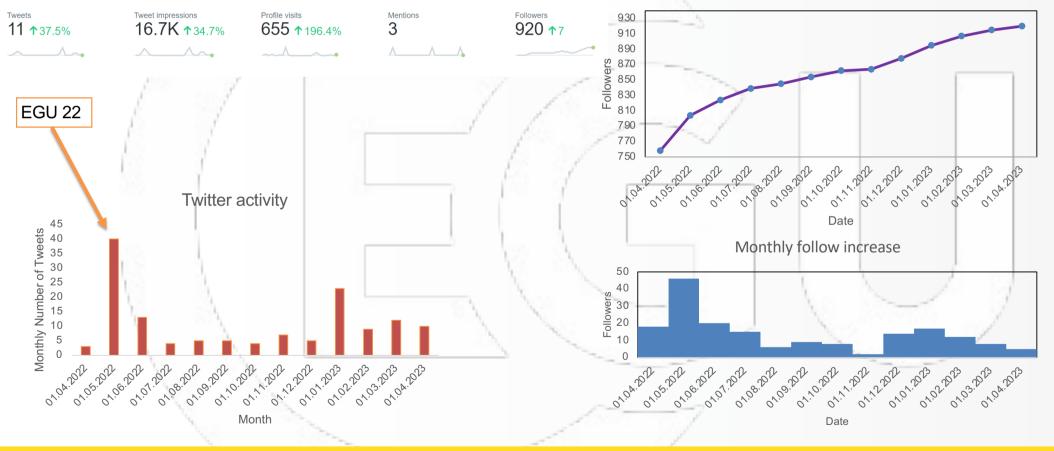




Data obtained on Saturday 22.04.2023

28 day summary with change over previous period

Follow trend over the past year

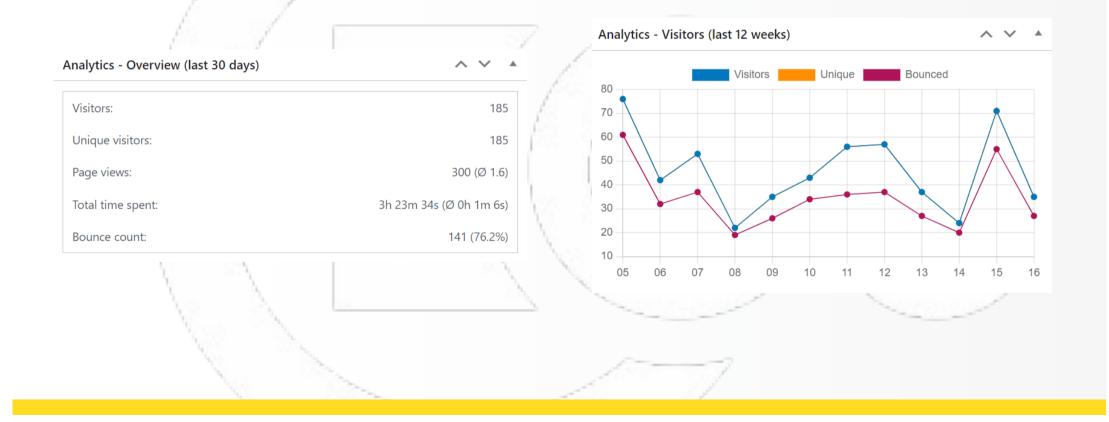








Data obtained on Saturday 22.04.2023





Latest Science Results

EGU Blogs » Divisions » Solar-Terrestrial Sciences » Employing J burst observations made by LOFAR to determine the r

Employing J burst observations made by LOFAR to determine the properties of large coronal loops

Jinge Zhang · March 16, 2023 · Science Posts · No Comments

Large coronal loops around one solar radius in altitude are an important connection between the solar wind and the low solar corona. However, their plasma properties are not well studied, as standard X-ray and UV techniques are not suited to these low-density environments. How does temperature, pressure, and magnetic field strength evolve along these loops? Observable structures in radio emission that are of solar origin and are known as J-bursts are the signature of an accelerated electron beam traveling along coronal loops. Diagnostics from J-bursts at radio frequencies above 10 MHz are ideally suited to understand these coronal loops. They can also provide us with information necessary for understanding the kinetic properties of the electron beams travelling along these loops. For example, do they have the same velocities as the electron beam streaming out into the heliosphere along open magnetic flux tubes that generate type III solar radio bursts?

In our recently published work (Zhang et al., 2023), we studied electron beam velocities and physical parameters of large coronal loops using LOw-Frequency-ARray (LOFAR) J-burst observations during a solar storm recorded in radio frequencies.

The radio observations during a solar storm and how we classified type III and J-bursts

LOFAR Low-Band Array (LOFAR/LBA) observed the radio noise from a solar storm (known as the 'solar radio noise storm') between 20 to 80 MHz on 10 April 2019, which contains many J- and type III bursts. As the Parker Solar Probe (PSP) FIELDS instrument observed interplanetary (IP) type III solar radio bursts between 1.3 to 19.2 MHz simultaneously, we combined both dynamic spectra to build the full picture of radio burst measurements from 1.3 to

EGU Blogs » Divisions » Solar-Terrestrial Sciences » The impacts of space weather on the mid-latitude upper atmosphere

The impacts of space weather on the midlatitude upper atmosphere

Daniel Billett · January 27, 2023 · Science Posts · No Comments

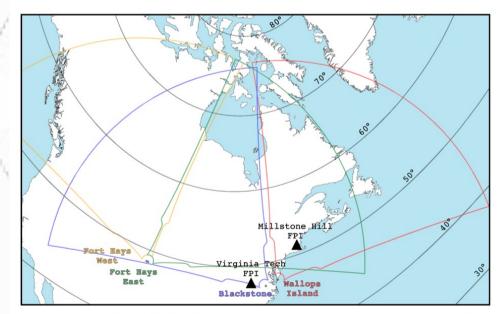


Figure 1: The fields of view of the Fort Hays West (yellow), Fort Hays East (green), Blackstone (blue), and Wallops Island (red) SuperDARN

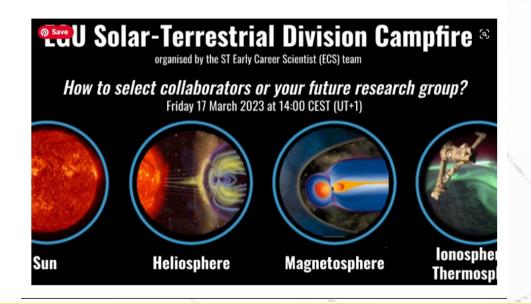


Promoting the ECS

EGU Blogs » Divisions » Solar-Terrestrial Sciences » ST-ECS Networking Campfire: How to select collaborators or your fu

ST-ECS Networking Campfire: How to select collaborators or your future research group?

eleannaasvestari · March 2, 2023 · Life of a Scientist · No Comments



Our community's future is on the hands of our early career scientists (ECS) and thus we built a communication link with the ECS team to help promoting their activities further through our blog.





- Engage everyone in the team in a more proactive way in order to evenly share the load of curating content.
- > Enhance the blogpost diversity to reflect the community.
- Produce monthly nuggets of recently published work to be shared on the blog page and our twitter feed.
- Increase our active promotion of researchers in the field and their activities through retweeting.



- Publish on average 1 blog post every two weeks, 1000-1500 words.
- Focus on topical ST science, but also provide space for community issues and professional development.
- Further improve the diversity of blog authors, to better represent our wide community.
- Continue to directly solicit content.
- Continue close communication and collaboration with the ECS team of our division and promote their activities.
- > We would also appreciate community suggestions of content.
- > Re-activate the facebook page.



The Team for 2023-2024



Eleanna Asvestari University of Helsinki University researcher

Head officer (2022-2024)



Luke Barnard University of Reading Postdoctoral researcher



Pietro Zucca ASTRON Telescope Astronomer



Jia Jia Norwegian University of Science and Technology Postdoctoral researcher



Theodosios Chatzistergos Max Planck Institute for Solar system research Postdoctoral researcher



Peijin Zhang Rozhen National Astronomical Observatory Postdoctoral researcher



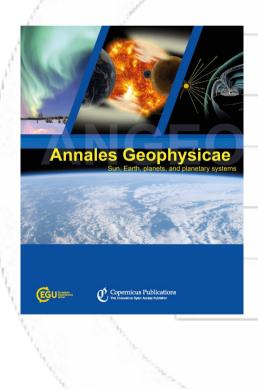


8. ANGEO Update

Annales Geophysicae Sun, Earth, planets, and planetary systems An interactive open-access journal of the European Geosciences Union







Annales Geophysicae Editorial Board 2020 (newly invited editors in bold)

Editors in Chief I. Daglis, C. Jacobi, I. Mann

Sun and Heliosphere M. Haberreiter, M. Temmer, P. Wurz

Magnetosphere & Space Plasma Physics G. Balasis, I. Daglis, M. Gkioulidou, A. Halford, C. Katsavaris, E. Kronberg, W. Li, V. Maget, A. Milillo, Y. Miyoshi, C. Mouikis, M. Palmroth, J. Rae, E. Roussos, I. Sandberg, N. Sergis, M. Usanova

Earth's lonosphere and Aeronomy J. Berdermann, D. Buresova, C. Borries, A.G. Elias, K. Hosokawa, I. Paulino, E. Schmölter, V. Wendt

Terrestrial atmosphere and its relation to the sun T. Giannaros, C. Jacobi, A. Kavanagh, P. Pisoft, M. Salzmann, G. Stober

Terrestrial Planet Systems B. Foing, E. Palomba, S. C. Werner

Small bodies to dust

- D. Bockelee-Morvan, J. De Keyser, I. Mann, T. Mukai, K. Tsiganis, P. Wurz
- + 8 guest editors



Annales Geophysicae Sun, Earth, planets, and planetary systems

An interactive open-access journal of the European Geosciences Union



Special Issues

 Special issue on the joint 20th International EISCAT Symposium and 15th International Workshop on Layered Phenomena in the Mesopause Region, 2023

Eds. Andrew J. Kavanagh, Juha Vierinen, Daniel Whiter, Noora Partamies, Axel Steuwer, and Hiroatsu Sato

2021

2023

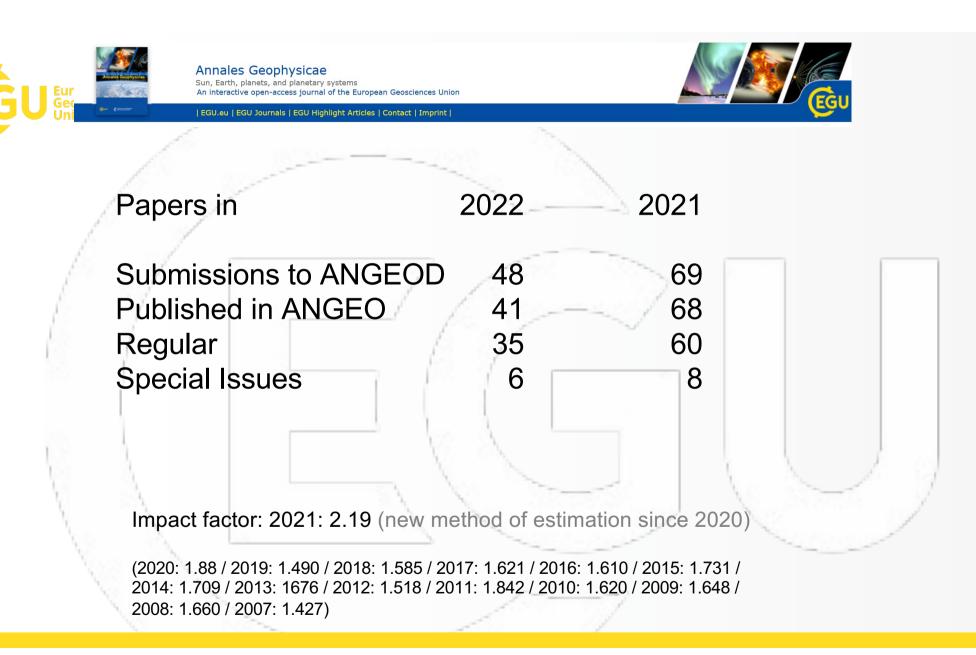
From the Sun to the Earth's magnetosphere-ionosphere-thermosphere, 2021
 Eds. Paulo Batista, Lucilla Alfonsi, Luis Vieira, João Monico, and Christoph Jacobi

2020

 Special Issue on the joint 19th International EISCAT Symposium and 46th Annual European Meeting on Atmospheric Studies by Optical Methods, 2020
 Eds. Juha Vierinen, Noora Partamies, Daniel Whiter, and Andrew J. Kavanagh

2019

- 7th Brazilian meeting on space geophysics and aeronomy, 2019
 Eds. Igo Paulino, Inez Batista, Fabiano Rodrigues, Marcos D. Silveira, and Christoph Jacobi
- Satellite observations for space weather and geo-hazard, 2019 Eds. M. Piersanti, L. Conti, X. Shen, and G. Balasis
- Solar magnetism from interior to corona and beyond, 2019
 Eds. V. Fedun, S. Shelyag, E. Scullion, A.K. Srivastava, G. Verth, and M. Temmer
- Vertical coupling in the atmosphere-ionosphere system, 2019
 Eds. P. Koucka Knizova, E. Yiğit, C. Arras, K. Baumgarten, W. Ward, and C. Jacobi

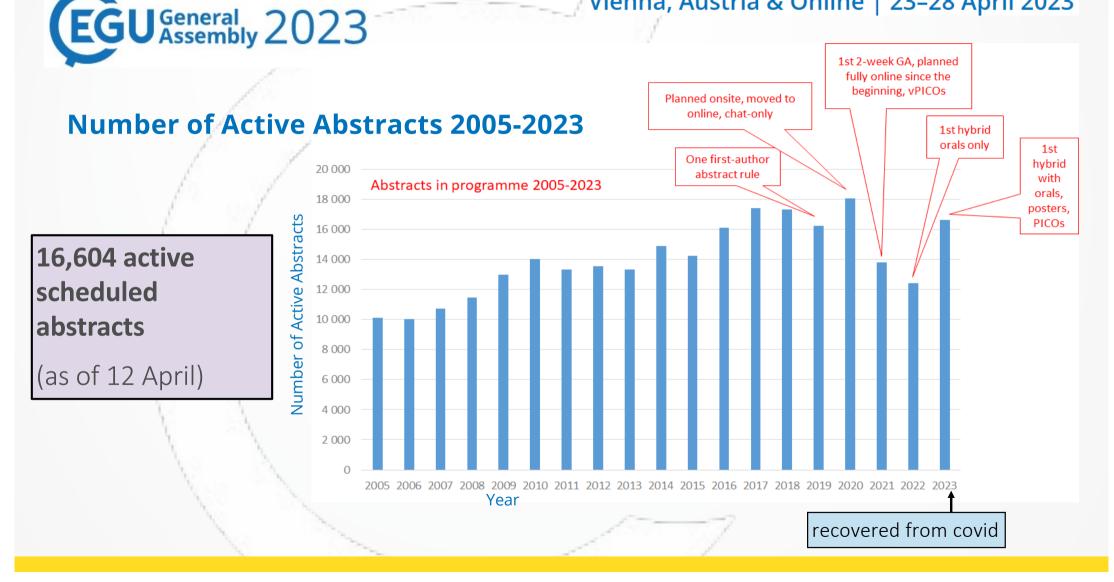


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9. 2023 GA/ST Scientific Programme



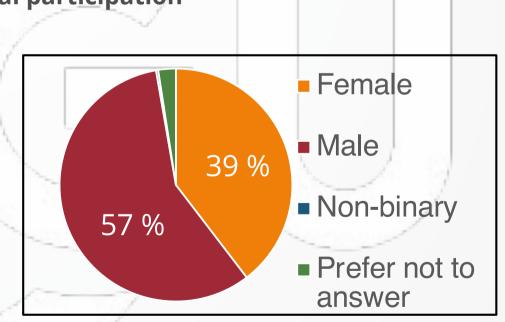
EGU23 Registration Statistics

(as of 17 Apr)

16,604 active scheduled abstracts

U^{General} Assembly 2023

- o 15,319 total registrations (13,287 on-site / 2,032 virtual)
- ~13% of total participants registered for virtual participation
- ~ 40% of total participants are PhD candidates, Master or Undergraduate students (~ 25% participating virtually)
- ~ 5% of registered participants from low- & lower-middle income countries (approx. equally distributed onsite & virtual participation)





EGU23 Session Statistics (as of 12 Apr)

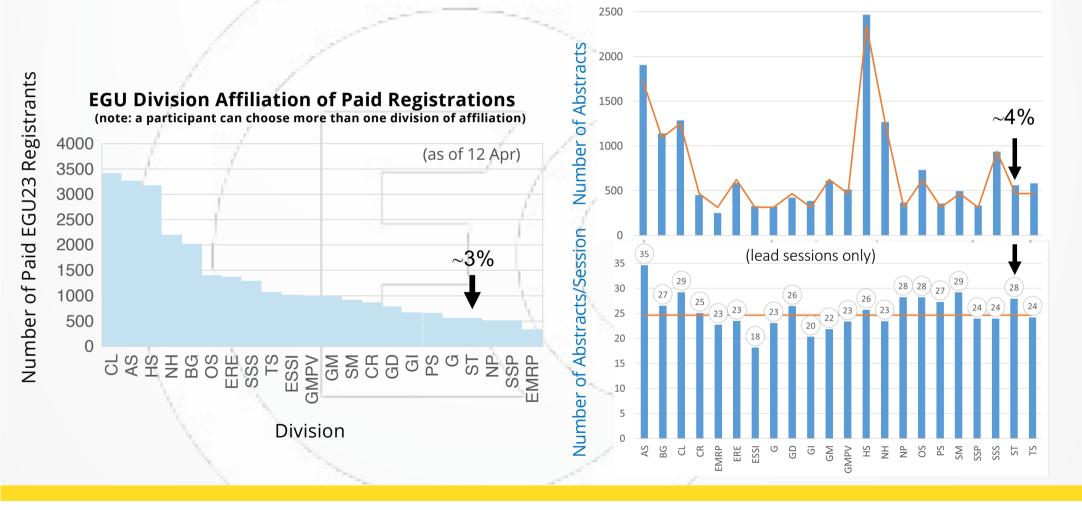
925 active sessions:

- 629 division-led sessions, of which 25 ITS sessions
- 14 Education and Outreach Sessions (EOS) + GIFT workshop
- 51 Short Courses + 2 Artist in Residence workshops
- 39 Medal and Award Lectures
- 5 Union Symposia and 6 Great Debates
- 114 Townhall & Splinter meetings scheduled
- 52 sessions (incl. 4 SC) co-sponsored by sibling organizations
- ECS Networking, Science for Policy, and EDI Committee events

More on: <u>https://www.egu23.eu/</u>



EGU23 Abstracts per Programme Group



EGU General Assembly 2023

Vienna, Austria & Online | 23–28 April 2023

Council discussion items/news

- Dealing with Al tools (ChatGP etc): Al tools cannot be listed as authors in publications/abstracts. Use of Al tools has to be declared and be transparent.
 Statement prepared for council to express concerns and benefits to be approved by councils
- New EGU letter: ~2500 words highlighting their high-level research letters of interest for general audience
- New award: EGU Champions for equality award: <u>https://www.egu.eu/awards-medals/edi/</u> ("An individual or team that have put into practice the principles of Equality, Diversity and Inclusion, resulting in a positive change in the experience of the geoscience community"). DL Aug 31, 2023



- Some diversity issues raised: i) Acknowledging support needed with researchers responsible of kids, ii) geographic diversity is lacking (where 30% population is are clearly underrepresented)
- Registration wavers: Now a large number of groups get waivered or discount (~7%) which is difficult for the budget
- Future EGU plans: Move to stable hybrid format to support diversity and sustainability (e.g. EGU Gather.Town)
- Union ECS representative: become a selected council member can now vote at the council level



ST Medal/Award Nominations

- Deadline for nominations 15 June 2023!! (Hannes Alfvén Medal and Outstanding Early Career Scientist Award)
- If not enough nominations, awards could be **cancelled** in the future
- ECS Awards are very prestigious honor and important recognition for young scientists
- Evaluation purely based on scientific excellence





Please

Give Us Feedback!

Any Other Business Suggestions Questions **Comments**

EGU23 Feedback Survey

(open until the end of June)

https://www.egu23.eu/feedback

Hope you have had fun and enjoy rest of EGU General Assembly 2023 Vienna, Austria & Online!!



Meetings | Publications | Outreach | www.egu.eu