



Welcome

URSI Newsletter 2024/Q3 ... a new issue in our series of URSI Newsletters, with updated information on our Flagship meetings, conferences and activities of our Scientific Commissions as well as our Member Committees. If you have anything to report, you can always inform the secretariat and we will try to include it.

URSI now also has a YouTube channel on which we publish recordings of presentations at our Flagship Meetings as well as other recordings which fit into our scope. Make sure to check it out and find more details in this newsletter.

We are also happy to inform you that URSI now hosts the series of Distinguished Lectures organised in the framework of the ISC GeoUnions. Again, more information in this newsletter.

URSI Flagship Meetings

6th URSI Asia-Pacific Radio Science Conference (URSI AP-RASC)

AP-RASC 2025 will be organised from 17 till 22 August 2025, in Sydney, Australia, bringing this Flagship meeting for the 1st time to this part of the world. Our colleagues at the Australian URSI Committee are very eager to make this event into a success and are now in full preparation. The Call for Papers is now out and the [website](#) will be updated with extra information in the next few weeks.

The following key dates are:

- | | |
|-------------------------------|------------------|
| • Paper submission opens: | 5 November 2024 |
| • Paper submission deadline | 20 February 2025 |
| • Notification of acceptance: | 15 April 2025 |

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As usual with URSI Flagship meetings, authors can opt to submit papers presented at this URSI AP-RASC 2025 to IEEE Xplore and can take advantage of reduced page charges when submitting an extended or updated version of the papers to URSI Radio Science Letters. In addition, there will be a special program for young scientists and a student paper competition.



URSI AP-RASC 2025 General Chairs



Paul D. Smith
Macquarie University
Australia



Elena Vinogradova
Macquarie University
Australia



Kazuya Kobayashi
Chuo University
Japan

Important dates

- Paper submission site opens: 5 November 2024
- Paper submission deadline: 20 February 2025
- Notification of acceptance: 15 April 2025
- Author registration deadline: 15 May 2025
(required to have paper included in the program)
- Preliminary program available: 5 June 2025
- Early-bird registration deadline: 1 July 2025
- Advance program available: 10 July 2025
- Final program available: 12 August 2025
- Conference: 17-22 August 2025



2025 Asia-Pacific Radio Science Conference of the International Union of Radio Science August 17 – 22, 2025, Sydney, Australia International Convention Centre, Sydney

Preliminary Call for Papers

The 2025 URSI Asia-Pacific Radio Science Conference (URSI AP-RASC 2025) is sponsored by the International Union of Radio Science (URSI), and will be held in Sydney, Australia on August 17 – 22, 2025. This triennial conference is one of the three URSI Flagship Conferences that include the URSI General Assembly and Scientific Symposium (URSI GASS) and the URSI Atlantic Radio Science Conference (URSI AT-RASC). The scientific program will have a series of open and convened sessions covering the areas of URSI Commissions A to K, comprising oral/poster sessions with invited and contributed papers and General Lectures. In addition, there will be workshops, short courses, young scientist programs including the Young Scientist Award and the Student Paper Competition, an accompanying persons' program, and an exhibition. Prospective participants are invited to submit papers for inclusion in the scientific program. Detailed information will be posted on the URSI AP-RASC 2025 website. Any topics related to URSI Commissions are welcome. In addition, papers addressing multidisciplinary aspects will be assigned to inter-Commission joint sessions. The conference will be held as an in-person conference with only on-site presentations.

Paper Submission

All papers should be submitted electronically via the link provided on the URSI AP-RASC 2025 website, where the latest information on the submission procedures, templates, and sample formats will be posted. Accepted papers presented at URSI AP-RASC 2025 may be submitted for publication in IEEE Xplore, if the author wishes.

Check <https://ap-rasc.com/> for regular updates.

Important Dates:

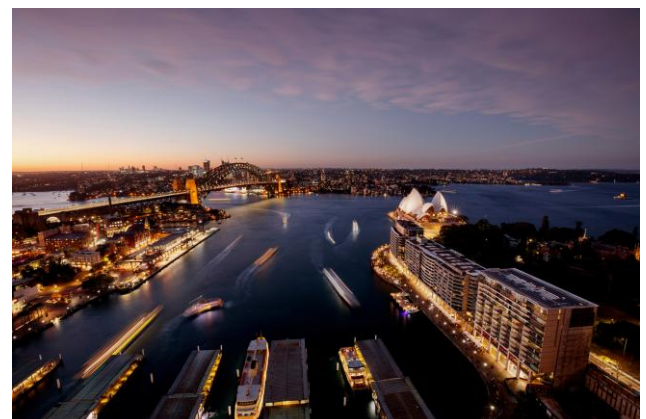
Paper submission site opens: **November 5, 2024**
Paper submission deadline: **February 20, 2025**
Notification of acceptance: **April 15, 2025**

URSI Commissions

Commission A: Electromagnetic Metrology	Commission F: Wave Propagation and Remote Sensing
Commission B: Fields and Waves	Commission G: Ionospheric Radio and Propagation
Commission C: Radiocommunication and Signal Processing Systems	Commission H: Waves in Plasmas
Commission D: Electronics and Photonics	Commission J: Radio Astronomy
Commission E: Electromagnetic Environment and Interference	Commission K: Electromagnetics in Biology and Medicine

Young Scientist Award and Student Paper Competition

For the details on applications for the Young Scientist Award (YSA) and the Student Paper Competition (SPC), please visit the URSI AP-RASC 2025 website.



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URSI GASS 2026

The next URSI General Assembly and Scientific Symposium (GASS) will take place in Krakow, Poland from 15 till 22 August 2026



On 26 August 2024, the URSI Secretary General had a meeting in Krakow to finalise the financial arrangements with the Local Organising Committee and the PCO (Professional Conference Organizer). A Memorandum of Understanding (MoU) was signed at this occasion at the ICE Krakow which will be the venue for GASS 2026. The LOC, chaired by Prof. Jozef Modelski will now gear up to full speed to prepare GASS 2026.

(from left to right):

- Prof. Peter Van Daele, URSI Secretary General
- Mrs. Anna Jędrocha, CEO Symposium Cracoviense
- Mrs. Katarzyna Kuta-Klaput, Sales Specialist ICE Krakow
- Prof. Jozef Modelski, Warsaw University of Technology

URSI GASS 2029

In Sapporo at the occasion of our last General Assembly, URSI Council accepted the proposal from the URSI Committee in Singapore to host the XXXVIth GASS in Singapore from 11 till 18 August 2029.



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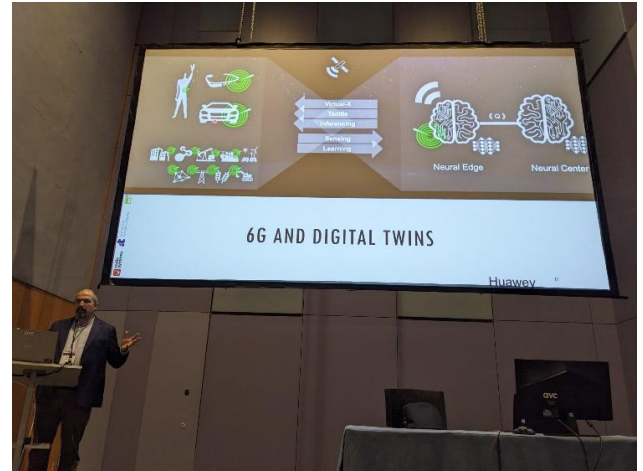
URSI School on Radio Science

Insight into the 2nd edition of the URSI Radio Science School for Young Scientists – AT-RASC 2024

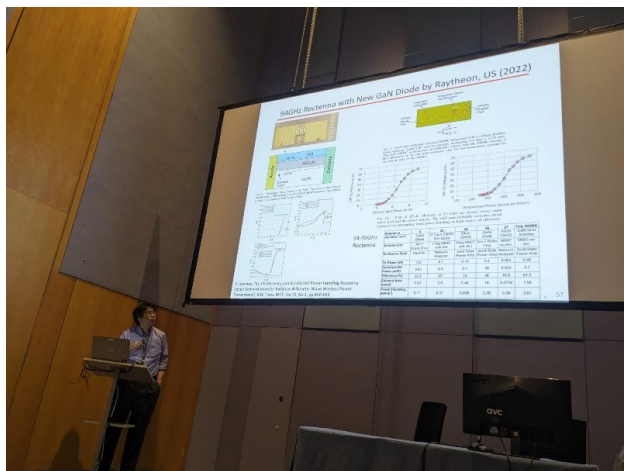
The 2nd edition of the URSI Radio Science School for Young Scientist (RSS-YS) was held during URSI AT-RASC 2024 conference in Gran Canaria on 19-20 May 2024. We remember that the first edition of the school was organized by Prof. Carlo Carobbi during the last URSI General Assembly and Scientific Symposium (URSI GASS) in Sapporo, Japan, 19-26 August 2023. The title was “Electromagnetic Measurements”.

The title of the 2nd edition of the school was “Wireless Power Transmission for A Sustainable Society” and it was organized by Prof. Nuno Borges Carvalho, University of Aveiro, Portugal (past Chair of Commission A). In particular, Prof. Carvalho presented a contribution on “Wireless Power Transmitter and Receiver Efficiency Optimization”.

The following presentation was given by Prof. Naoki Shinoara, Kyoto University, Japan. Its title was “High Efficiency Rectenna Theory and Technology for Far Field Wireless Power”. The third contribution was presented by Dr. Valentina Palazzi, University of Perugia, Italy, with a title “Harmonic Backscattering: A Path Towards Energy-Autonomous Clutter-Insensitive Wireless Sensing”.



Prof. Nuno Borges Carvalho



Prof. Naoki Shinoara

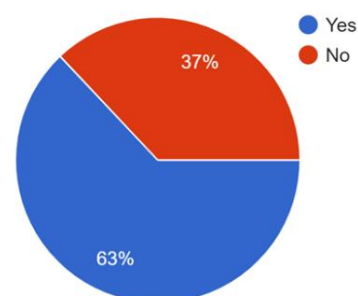


Dr. Valentina Palazzi

More than 50 attendees from 22 different countries all over the world were present and, looking at their declared primary URSI Commissions of interest, the school clearly fulfilled its goal to be of a multidisciplinary character. After the Gran Canaria school, a questionnaire was sent to all the participants, and some statistics on the answers are reported in the following.

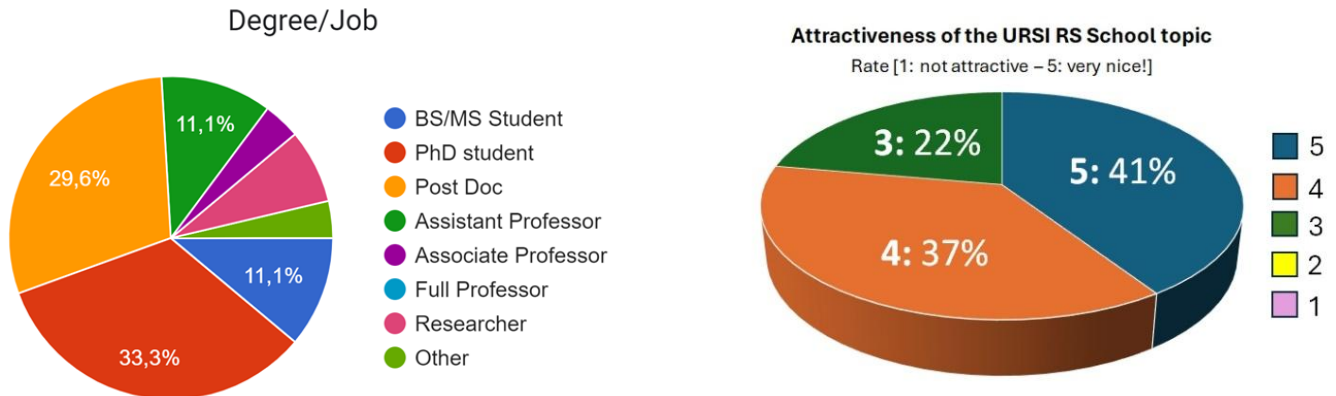
Nearly 2 out of 3 participants were awarded Young Scientists, clearly indicating the “younger” character of the attendees.

Did you receive the Young Scientist Award for URSI AT-RASC 2024 ?



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Another curiosity was related to the role held by the corresponding participants at their home institutions. A synthesis of the answers is reported in the graph below. Finally, we asked which was the interest of the participants in the top of the school. You can see the distribution of the answers below.



Moreover, several indications were received regarding the organization of the school. Most participants think that keeping the school to a duration of 6/8 hours is appropriate, and in practice they don't see great difference in splitting the school into a couple of days, or concentrating its presentations in just one day. Most of participants appreciate the interdisciplinary character of the school, and suggest to include some interactive parts in the next editions.

The next appointment for the URSI Radio Science School for Young Scientists is at URSI Asia-Pacific Radio Science Conference (URSI AP-RASC), which will be held in Sidney, Australia, 17-22 August 2025. Don't miss the 3rd edition of the school! Those who are interested in organizing a school to be proposed in Sidney are encouraged to send a synthetic draft of the proposal to Prof. Giuliano Manara, who is chairing the Steering Committee of the URSI Radio Science School for Young Scientists. (*communicated by Giuliano Manara and Andrea Michel*)

URSI Member Committee Activities

XXXIX Simposio Nacional de la Unión Científica Internacional de Radio / XXXIX Spanish URSI Committee Symposium

**Escuela Politécnica de Cuenca, Cuenca,
4-6 September 2024**

The Spanish URSI Member Committee Symposium is the most important gathering of the Spanish URSI community. It has been held without interruptions since 1980. Although the symposium is open to all URSI commissions, the Spanish URSI community is more active in telecommunications and radio-physics, with special emphasis in microwave engineering, antennas and radio-astronomy. More info at www.ursi.es and the [conference website](http://www.ursi.es)



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outreach publication of the Spanish Association of Telecommunication Engineers: The issue is in Spanish. The broad range of activities in Spain makes it impossible to summarize every possible topic, but as our Spanish colleagues say in Spanish: *'no están todos los que son, pero sí son todos los que están.'* This does not translate easily into English, since 'ser' and 'estar' in Spanish both translate as 'to be' in English. However, it gets close to: 'Not all who should be are here, but all who are here should be.' (communicated by Mikel Laso)

German National URSI conference – „Kleinheubacher Tagung 2024“

Miltenberg (near Frankfurt), Germany, 24 – 26 September 2024

The Kleinheubacher Tagung 2024 of the U.R.S.I. Landesausschuss in Deutschland e.V. will take place at the Old Townhall (Altes Rathaus) in Miltenberg, Germany, from 24 to 26 September 2024. Conference languages are English and German.

In 2024, the U.R.S.I. Landesausschuss in Deutschland e.V. celebrates its 70th anniversary. Ari Sihvola (Aalto University and President of URSI) and Julius Zimmermann (University of Pavia) are invited as plenary speakers.

Check out the [Conference website](#) (communicated by Lars Ole Fichte)



Italian URSI Committee Meeting – “XXV Riunione Nazionale di Elettromagnetismo (XXV RiNEm 2024)”

Viareggio (Lucca), 30 September to 2 October 2024

The “XXV Riunione Nazionale di Elettromagnetismo” will take place in the beautiful city of Viareggio (Lucca), from 30 September to 2 October 2024. It is organized by the Società Italiana di Elettromagnetismo (SIEm).



RiNEm 2024 will provide an excellent contact point for researchers working on Applied Electromagnetics. It will also represent an opportunity for the exchange of professional experiences among young researchers from Universities and Research Centers.

The conference will be jointly organized with the 2024 URSI Italian National Meeting. At this occasion the Sorrentino Award will be handed out.

The award is established by URSI in memory of Prof. Roberto Sorrentino. A 500 € prize will be awarded to the main author (age below 35 years) of the best work submitted to the 2024 Annual Meeting of the Italian URSI National Committee (URSI ITNC). (communicated by Carlo Carobbi)

UK Member Committee

To encourage earlier career researcher (ECR)'s engagement with URSI, the URSI UK Panel has started accepting ECR member of the relevant Commissions at national level on board to participate in URSI UK Panel activities after GASS 2023. For example, Dr Valentina Cicchetti from the School of Electronic Engineering and Computer Science at the Queen Mary University of London is currently involved with URSI UK Panel as 'URSI UK Commission B ECR'. We imagine that the more URSI engages with the young researchers, the better URSI would improve visibility and we will encourage other member committees to adopt such an approach as well. (communicated by Tian Loh)



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Meetings with financial support by URSI Commissions

IRI 2024 - Modeling the Ionosphere over Africa and Improvements of the International Reference Ionosphere

2 - 8 September, 2024, Pwani University, Kilifi Kenya



The International Reference Ionosphere (IRI) is an international project sponsored by the Committee on Space Research (COSPAR) and URSI. These organizations formed a Working Group in the late sixties to produce an empirical standard model of the ionosphere, based on all available data sources. Several steadily improved editions of the model have been released. For given location, time and date, IRI provides monthly averages of the electron density, electron temperature, ion temperature, and ion composition in the ionospheric altitude range. The IRI Workshop is open to all interested scientists. We welcome presentations that are IRI-related including comparisons of ground- and space-based data with IRI, improvements and applications of the model, and assimilation of data into IRI to bring it closer to real-time conditions. (<https://iri2024.pu.ac.ke/sources/index.php>)

16th International Workshop on Technical and Scientific Aspects of iMST Radar and Lidar (MST16/iMST3)

6 – 8 September 2024, Rostock, Germany

Since 1984, the MST workshops have been at the forefront of cutting-edge atmospheric and ionospheric research and technological development. In the spirit of evolution, MST16/iMST3 takes the exciting leap to incorporate iMST lidar observations and welcomes complementary studies combining radar, lidar, in-situ and other ground- and satellite-based techniques.

Papers address portions of the atmospheric domain extending from the Earth's surface to the ionosphere, with particular emphasis on the mesosphere, stratosphere and troposphere.



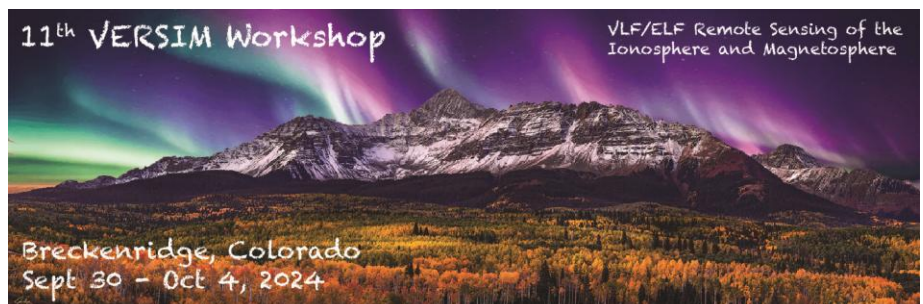
The International Steering Committee and the Local Organizing Committee eagerly anticipate reuniting the global iMST community after a long pause due to COVID-19. MST16/iMST3 promises to be a memorable and enriching experience, advancing the boundaries of scientific knowledge of iMST observations and profiling. Several invited talks will cover selected aspects of MST radar and lidar science.

Check out the [Conference Website](#).

11th VERSIM Workshop

30 September - 4 October 2024, Breckenridge, Colorado

The 11th VERSIM Workshop will be held September 30 - October 4, 2024 at the Village at Breckenridge in beautiful Breckenridge, Colorado. The conference will be fully in-person. Breckenridge is located in the Colorado mountains, but is less than two hours from the Denver International Airport. The early fall meeting period is intended to line up with Colorado's changing fall colors.



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VERSIM is an international group of scientists that are interested in studying the behaviour of the magnetosphere and ionosphere by means of ELF and VLF radio waves, both naturally and artificially generated.

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Since 2004, VERSIM workshops have been held every two years in multiple locations. They are the occasion to present and discuss recent results, new techniques and encourage collaboration within the space physics community.

SCIENTIFIC TOPICS

- Wave-particle interactions
- Wave-induced particle precipitation
- Wave propagation in the ionosphere and magnetosphere
- Results of recent space missions (e.g., Arase, MMS, RBSP)
- Simulations, Data assimilation, and machine learning applications
- Waves in other Magnetospheres
- Active Experiments



RFI2024

14 - 18 October 2024, Bariloche, Argentina

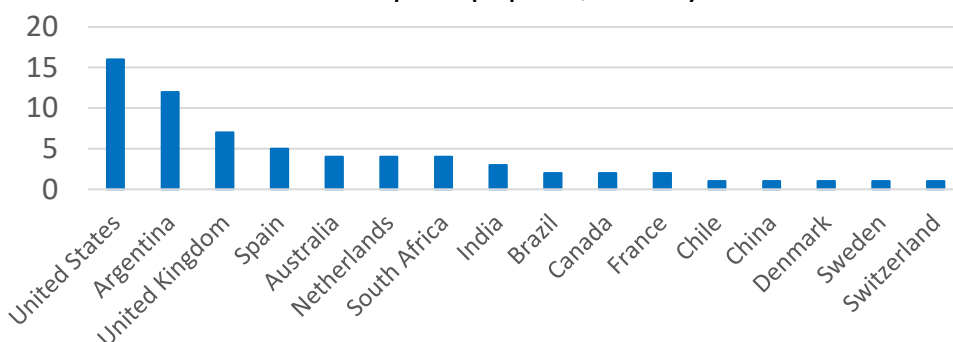
Spectrum sharing has become challenging due to the ever-growing demand for spectrum access by a wide range of emerging radio services. This in turn leads to an increased risk of Radio Frequency Interference between spectrum users. This is particularly true for passive scientific services such as radio astronomy, Earth remote sensing, or meteorology, where sensitive measurements must be carried out in frequency bands defined by the laws of nature.

RFI2024

October 14-18, 2024
Bariloche, Argentina



RFI 2024 accepted papers / coutry



Protecting the scarce radio spectrum resources for science, while accommodating the needs of other spectrum users, can only be achieved in a joint effort. RFI 2024 offers the venue to promote interaction, exchange of ideas, and cooperation between researchers, engineers, and users from

all radio science disciplines dealing with RFI, uniting them under the common goal of working on solutions to minimize the impact of interference. RFI 2024 is the seventh in a series of workshops focusing on this topic, the first of which took place in Bonn, Germany, in 2001. More information on the [RFI2024 website](https://www.rfi2024.org).

RFI 2024 has 66 accepted papers from 16 countries around the world.

RFI 2024 is also supported by a series of international organisations.



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6th URSI-RCRS 2024

22-25 October 2024, Bhimtal, India

The URSI Regional Conference on Radio Science (RCRS) is a biennial flagship conference of the Indian Radio Science Society (InRaSS) and covers the broad research areas of URSI's ten Scientific Commissions. This year's 6th URSI-RCRS is being organized by Aryabhata Research Institute of Observational Sciences (ARIES) and Graphic Era Hill University (GEHU).

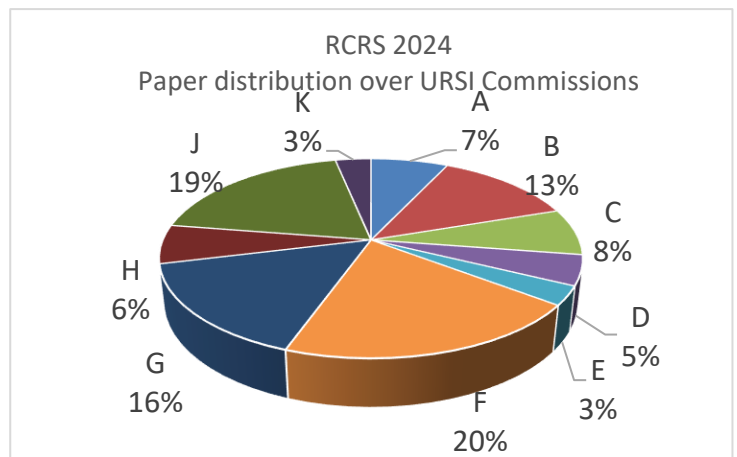
The conference is scheduled to take place at GEHU, Bhimtal from 22 to 25 October 2024. Previous conferences at Symbiosis Pune (January 2014), JNU New Delhi (November 2015), NARL Tirupati (March 2017), IIT BHU (February 2020), IIT Indore (December 2022) and a Asia Pacific Radio Science (AP-RASC 2019) conference at New Delhi (March 2019) have significantly popularized the multi disciplinary research involving the radio science community.

The paper submission deadline for the RCRS 2024 is now closed and a record number of 558 papers were submitted.

Please visit the [website](#).

There will be three pre-conference workshops on 22 October, 2024. Keeping the tradition of URSI, there will be Young Scientists Awards (YSA) and Students Paper Competition (SPC).

The conference is being organized in Bhimtal, which is a well-known lake town adjacent to the hill-station of Nainital. It has many historic and tourist places and weather-wise October is one of the best periods.



Reports from meetings with Technical Support by URSI

International Conference on Ground Penetrating Radar 2024 (GPR2024)

23-27 June, 2024 in Changchun, China.

GPR2024 Best Student Presentation Award

International Conference on Ground Penetrating Radar 2024 (GPR2024) was held during 23-27 June 2024 in Changchun, China. About 160 papers were presented in oral and poster sessions, and about 330 attended from 22 countries.

46 papers in oral sessions, and 32 papers in poster sessions were eligible for the Best Student Presentation Award.

Session chairs of all oral and poster sessions recommended candidates for an award. At the same time, members of the Student Award Committee recommended candidates in all the sessions.

The student award committee was then convened, and all recommended presentations were reviewed by the committee members, and the committee finally selected 6 presentations, 3 in oral sessions and 3 in poster sessions, based on the content of the presentation, the quality of the presentation, and the answers given to questions.

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Recipients of the Best Student Presentation Award:

- Siyuan Ding, Central South University
- Heting Han, Institute of Geology and Geophysics, Chinese Academy of Sciences
- Wenchao He, The Hong Kong Polytechnic University
- Yuxin Liu, Central South University
- Chen Lv, Tongji University
- Zihan Xia, Tongji University

Student Award Committee

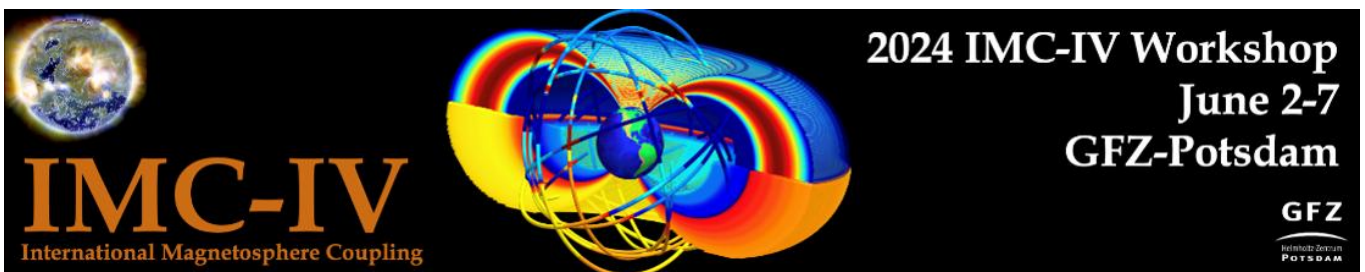
- Motoyuki Sato Tohoku University, Sendai, Japan (Chair)
- Antonis Giannopoulos University of Edinburgh, Edinburgh, UK
- Wallace Lai The Hong Kong Polytechnic University, Hong Kong
- Sebastien Lambot Université Catholique de Louvain, Belgium
- Raffaele Persico National Research Council-IBAM, Italy
- Evert Slob Delft University of Technology, Delft, The Netherlands
- Xiongyao Xie Tongji University, Shanghai, China

URSI Commission F provided € 500 Euro for this award, and GPR2024 contributed another € 100. Each winner received € 100. We think this will encourage young scientists to work in the field of remote sensing and electromagnetic wave propagation. *(Communicated by Motoyuki Sato)*



International Magnetosphere Coupling (IMC-IV) Workshop

2-7 July 2024, Potsdam, Germany



International Magnetosphere Coupling (IMC-IV) Workshop took place at GFZ-Potsdam on 2-7 July 2024. It attracted more than 130 participants from all over the world. The workshop brought together researchers to examine and discuss the strongly coupled magnetosphere system and how disturbances from the Sun can propagate to the magnetosphere, radically altering the plasma, and wave distributions and ultimately influence the ionosphere and upper atmosphere. The workshop was partially sponsored by ESA, URSI and Geo.X.

The workshop consisted of 8 sessions: Solar Wind and Magnetosphere (discussion leaders: D. Baker, T. Pulkkinen), Plasmasphere, Ring Current, and Radiation Belts (discussion leaders: M. Hudson, J. Goldstein), Cross-energy, Cross-scale, Mass Coupling and Transport (discussion leaders: R. Nakamura, D. Hartley), Waves and Wave-Particle Interactions (discussion leaders: Y. Miyoshi, O. Santolik), Ionosphere, Thermosphere, Magnetosphere (discussion leaders: C. Stolle, M. Sinnhuber), Space Weather and Applications (discussion leaders: J. Luntama, T. Onsager), Planetary Magnetospheres and Other Bodies (discussion leaders: E. Woodfield, D. Turner), Mission Synergy (M. Taylor, P. Escoubet, L. Kepko, M. Gkioulidou).

The goal of the presentations was not to provide a lot of technical details, but instead to raise questions and initiate discussions. The presentation time was matched by an equal time allocated to in-depth discussions to promote the exchange of ideas and foster interdisciplinary collaborations. The contributed presentations consisted of a 5-minute presentation followed by a 5-minute discussion period and invited presentations consisted of a 10-minute

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presentation followed by a 10-minute discussion period. The format was very warmly welcomed by the community who unanimously agreed that in-depth discussions are the best way to share the knowledge and ideas.

The workshop was supported by URSI Commissions B, F, G and H.



URSI ECRs – Early Career Representatives

URSI ECR Spotlight - Reflecting on Our Journey and Looking Ahead

Welcome back to the ECR Spotlight! As we move through the year, we are excited to share some key moments and look forward to what lies ahead.

In this edition, we showcase two significant events that have marked our journey. First, take a look at the photo from our ECR meeting in Sapporo during URSI GASS 2023, where the newly elected ECR officers began their term.

Next, we have a snapshot from the YS Party at URSI AT-RASC 2024 in Gran Canaria. URSI AT-RASC 2024 was an exciting event where the new ECR officers introduced themselves to the Young Scientists community and took part in the YS award ceremony. These gatherings not only strengthen our network but also celebrate the achievements and contributions of young scientists.



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Looking ahead, we're eager to continue this journey at URSI AP-RASC 2025 in Sydney. We encourage all young scientists planning to attend to connect with us—whether you have questions, ideas, or just want to introduce yourself, we're here to support you. Reach out to us at ECRnews@ursi.org.

Stay tuned for more updates in our next edition.

Together, we can continue to shape the future of radio science.

Until next time,

(Communicated by Ricardo Figueiredo)

Change of rules for URSI Early Career Representatives approved by the URSI Board

After years of discussions, the URSI Board approved during its meeting at the occasion of AT-RASC 2024 in Gran Canaria that one of the selection criteria for Early Career Representatives (ECR) candidates will no longer be based on age (under 35) but on the time since obtaining a PhD. The new wording of the restrictions for candidates in the [ECR election guidelines](#) now states that those standing for the elections of Early Career Representatives should be less than 10 years (on the first day of GASS) from reaching his or her highest attained level of education, typically from receiving a PhD or an equivalent academic degree.

The Board also decided that a similar modification will not be implemented in the rules for the Young Scientist Awards (YSA) competition. This change, which was discussed by the URSI Board several times in the past, has been recently re-proposed by the UK Member Committee. The majority decision of the URSI Board is that the conditions for participating in the YSA competition will stay to be based on age (under 35). *(Communicated by Ondrej Santolik.)*

URSI WIRS – Women in Radio Science

WIRS Spain Chapter

The newly established Spanish Women in Radio Science (WIRS) Chapter, formally introduced internationally during the WIRS Session at AT-RASC'24 in Gran Canaria, Spain, has invited Prof. Paola Russo, Chair of the Italian WIRS Chapter, to address the audience at the upcoming Spanish URSI National Symposium in Cuenca, Spain, from 4 to 6 September 2024. During the event, the Spanish Chapter will also present its initiatives since its creation and will award the 1st Prize for the Best Project Promoting Radio Science Vocations and Careers among Girls and Women in Spain. The winner will have the opportunity to present her project at the Symposium. Further details about the Spanish URSI Symposium and its WIRS activities will be provided in the next newsletter following the event. *(communicated by Mikel Laso)*

URSI Channel on YouTube

URSI now also has a channel on YouTube on which we post the recordings from our Flagship Meetings. The first ones which have been made available are 4 of the 5 General Lectures from AT-RASC 2024 in Gran Canaria, together with the recordings of the Opening Session as well as the School for Radio Science and the Ionogram Interpretation and Scaling Tutorial Day (direct links below).

Make sure to check them out and subscribe to our channel!



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AT-RASC 2024 Opening Session



Welcome address

Prof. Peter Van Daele
URSI Secretary General

Transcription (Spanish & English) of Welcome address by Mr. Antonio Morales Méndez, President of the Cabildo de Gran Canaria



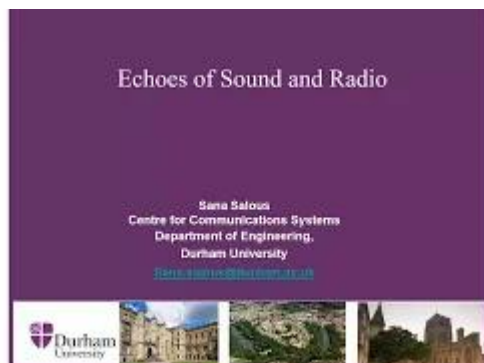
URSI AT-RASC 2024 GL1 Prof. Cristina Garcia Miro



URSI AT-RASC 2024 GL3 Dr. Sergio Buonomo



URSI AT-RASC 2024 GL4 Prof. Sana Salous



URSI AT-RASC 2024 GL5 Prof. Hidetoshi Katori



AT RASC 2024 - URSI Radio Science School for Young Scientists



AT-RASC 2024 - Ionogram Interpretation and Scaling Tutorial Day



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URSI as a member of the ISC GeoUnions

ISC-GeoUnions

The GeoUnions (GUs) is a network of representatives of the international scientific unions of the International Science Council (ISC) dealing with Earth and space sciences. The GUs established a Steering Committee in 2004 (in Paris, France) to promote the sciences worldwide, to communicate and to coordinate scientific activities of individual unions, and to speak on behalf of GUs members to ISC Governing Board, ISC Members and its interdisciplinary bodies and at international level, especially to the United Nations organizations and other global stakeholders.



The current Members of the GUs are:

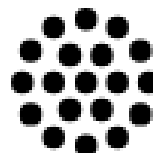
- International Astronomical Union (IAU)
- International Cartographic Association (ICA)
- International Geographical Union (IGU)
- International Union of Quaternary Research (INQUA)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- International Union of Geodesy and Geophysics (IUGG)
- International Union of Geological Sciences (IUGS)
- International Union of Soil Sciences (IUSS)
- International Union of Radio Science (URSI)
- International Union of Speleology (UIS)

The Steering Committee of GUs meets normally a day before of the ISC General Assemblies and Scientific Unions Meetings of ISC. The GeoUnions Procedures can be found [here](#).

From the list above, URSI is one of the members of the GeoUnions and our Vice-President, Prof. Giuliano Manara also serves as the Vice-Chair of the [ISC GeoUnions Steering Committee](#). (*communicated by Giuliano Manara*)

ISC GeoUnions Steering Committee Activities

The relation between URSI and the International Science Council (ISC) together with its predecessor the International Council for Science (abbreviated as ICSU for historical reasons) was summarized in the [2017-2021 report](#) at the URSI General Assembly held in Rome. ICSU had been the international umbrella organisation for pure and applied sciences and URSI was one of its scientific union members. In 2018, the merger of the ICSU for natural sciences and the International Social Science Council (ISSC) to form the International Science Council (ISC) was agreed. Consequently, URSI became a Member of ISC.



**International
Science Council**

ISC manages its affairs through a structure similar to the former ICSU (the structure is very similar to the one of URSI), with a Council, a Board of Officers, and a General Assembly (GA) which is organized every three years. URSI representation to ISC, to follow a previous procedure established during the ICSU period, is through the President and/or the Past-President, and more recently with the help of Vice-Presidents depending upon the specific

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individual initiatives. ISC takes over the mission of ICSU and strengthens international science for the benefit of society. The mission of the ISC is to act as the global voice of (and for) science. In particular, a very important part of ISC mission reads as: 1) Stimulate and support international scientific research and scholarship on major issues of global concern; 2) Articulate scientific knowledge on such issues in the public domain.

GeoUnions constitute a cluster and an interdisciplinary consortium of ten ISC International Scientific Unions, which is officially recognized by ISC. The members of ISC are: the International Astronomical Union (IAU), the International Cartographic Association (ICA), the International Geographical Union (IGU), the International Union of Quaternary Research (INQUA), the International Society for Photogrammetry and Remote Sensing (ISPRS), the International Union of Geodesy and Geophysics (IUGG), the International Union of Geological Sciences (IUGS), the International Union of Soil Sciences (IUSS), and the International Union of Radio Science (URSI), the International Union of Speleology (UIS). The GeoUnions have been sharing common interests and opinions in a variety of activities in the context of ISC and issued proposals and statements to ISC.

GeoUnions activities are coordinated by a steering committee. URSI is represented in the committee by its Vice-President, Prof. Giuliano Manara. In particular, the Chair of the GeoUnions Steering Committee is Prof. Michael Meadows, President of IUGG. Prof. Manara has been nominated Vice-Chair of the committee. In collaboration with ISC, GeoUnions have created a standing committee on Disaster and Risk Reduction. The ISC GeoUnions Standing Committee on Disaster and Risk Reduction identifies and encourages activities of global scientific communities for the implementation of the Sendai Framework as furtherly defined by the ISC. Proff. Madhukar Chandra, Tullio Tanzi, Yasuhide Hobara, and Giuliano Manara represent URSI in this last committee. The committee is chaired by Prof. Orhan Altan, Istanbul Technical University, Istanbul, Turkey. (*communicated by Giuliano Manara*)

International Decade of Science for Sustainable Development – Distinguished Lecture Series



**International
Science Council**

International Decade of Science for Sustainable Development

Distinguished Lecture Series

Following the successful distinguished lecture series launched in 2022 in support of the International Year of Basic Sciences for Sustainable Development (IYBSSD), the International Science Council GeoUnions are launching a new lecture series in recognition of the ratification by the United Nations of the International Decade of Sciences for Sustainable Development (IDSSD).

The lectures are aimed at highlighting the importance and role of science in achieving the Sustainable Development Goals and will be of interest to researchers and students.



The first in the new series is to be presented by Professor Ferdinando Boero of the University Federico II, Napoli on **10 September 2024 at 13h00 GMT**. Attendance is free, join the session on Zoom by clicking [here](#).

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“Knowledge about how the living world functions is the premise of sustainability”

Professor Ferdinando Boero

Fondazione Dohrn of the Stazione Zoologica Anton Dohrn, Naples. Italy

The world ocean covers 71% of the surface of the planet and, with about 4000 m of average depth, its volume represents more than 90% of the life-inhabited space. Land-based life, furthermore, depends on ocean-based water cycles, coupling atmospheric with oceanic dynamics. The great ocean conveyor connects all oceans in a single grand system, triggered by ice formation at the poles, where oceanic deep waters are generated, bringing oxygen in the dark deep sea. The shape of the coasts and of the sea bottom define coherent spaces where ecosystem processes take place: the cells of ecosystem functioning are natural units of management and conservation characterized by high internal connectivity among the living components through three types of fluxes. Ecosystem functions are usually studied by distinct disciplines focusing on biogeochemistry (extraspecific fluxes of non living matter that flow "outside" species), life cycles (intraspecific fluxes of living matter that flow "inside" species through a sequence of generations), and trophic networks (interspecific fluxes of living matter that flow from species to species). The three fluxes determine ecosystem functioning and must be framed both spatially and temporally, so as to manage our activities according to a knowledge-based ecosystem approach towards sustainability. As terrestrial animals we are used to define ecosystems by the vegetation, but this is not possible in the ocean: the sea bottom is just a portion of the oceanic domain and most of the "environment" is represented by the water column, where large plants are absent. Furthermore, the greatest majority of the oceanic space is in the dark, and is dominated by animals and microbes; oxygen reaches the deep through downwelling currents and by the recently discovered dark oxygen production. The bulk of oceanic primary production derives from the metabolism of photosynthetic microbes (the phytoplankton) that are invisible to us. They are the food for herbivores that can be either benthic or planktonic (the herbivorous zooplankton, mostly composed of small crustaceans) that, in their turn, are the food for tertiary producers, including the planktonic larvae and juveniles of fish which grow up and, as adults, start to eat each other and to be the major food source for higher trophic levels, from sharks to marine birds and mammals. In the dark there are no primary producers and trophic networks are based on a continuous flow of detritus (marine snow) that sustains detritus feeders and the carnivores that feed on them. These aspects are mostly studied by reductionistic approaches that reduce the complexity of ecosystems and that must be assembled into a single, holistic vision. The ecological transition processes that determine the functioning of ecosystems and will plan our activities while taking care of not compromising the health of the living planet.

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