



Stimulating and co-ordinating, on an international basis, studies, research, applications, scientific exchange, and communication in the fields of radio science

URSI Newsletter – 2024/Q4

Welcome

URSI Newsletter 2024/Q4 ... This is our final issue in 2024, the 1st full year with our quarterly URSI Newsletters. We really hope you enjoy them and that these Newsletters help you to get or remain involved in URSI as a community. Besides the Newsletter, the URSI Flagship meetings are the 2nd opportunity to get together, to exchange results, discuss your research amongst peers and enjoy the social networking occasions we offer.

We also continue to upload material on the URSI YouTube channel, including the Distinguished Lectures organised in the framework of the ISC GeoUnions. Check these out as you can watch the presentations at your own time and ease. Make sure to follow URSI on social media channels as this is the fastest way to spread news in our community.

We remain at your service, and please feel free to contact us or to submit material which you might think to be interesting to publish here.

URSI Flagship Meetings

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

Paper submission to [AP-RASC 2025](#) has been opened a few days ago. All session titles are included and we are sure you will find a match to submit your paper and work to! Use the direct link to the [submission page](#)! AP-RASC 2025 will be held in Sydney, Australia from 17 till 22 August 2025. Check the [website](#) for updated information in the next few weeks.

URSI AP-RASC 2025 General Chairs

- Paul D. Smith, Macquarie University, Australia
- Elena Vinogradova, Macquarie University, Australia
- Kazuya Kobayashi, Chuo University, Japan
- Amitava Sen Gupta, The Northcap University, India

Important dates

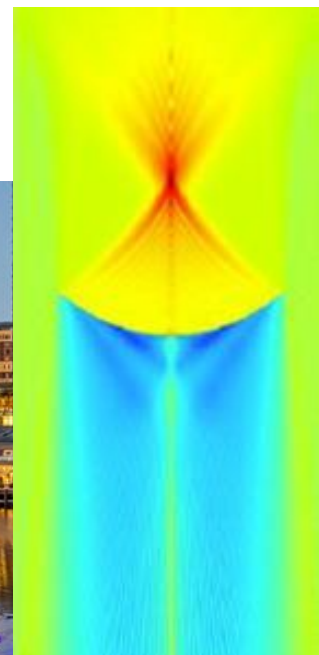


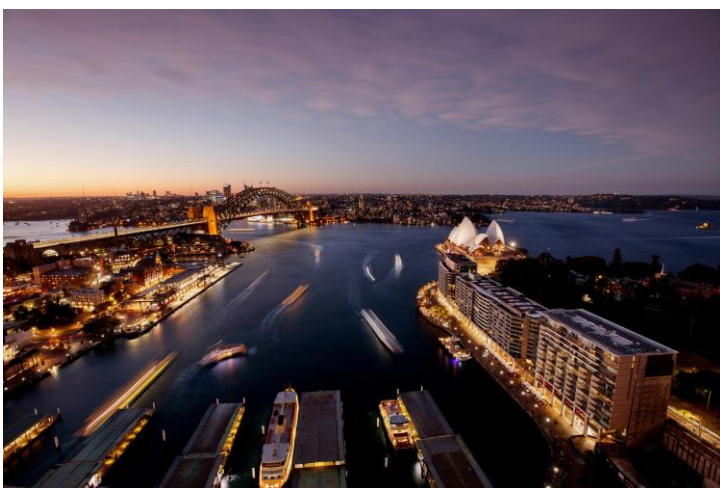
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- Paper submission site opens: 5 November 2024
- Paper submission deadline: 20 February 2025
- Notification of acceptance: 15 April 2025
- Author registration deadline: 15 May 2025 (required to have paper included in the program)
- Preliminary program 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

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.



CALL FOR PAPERS

Website

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.



TOPICS

Contributed papers are solicited in following topical areas:

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

Submission deadline

20/02/2025



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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

Together with the LOC we are gradually gearing up to welcome you all in Krakow!

URSI GASS 2029

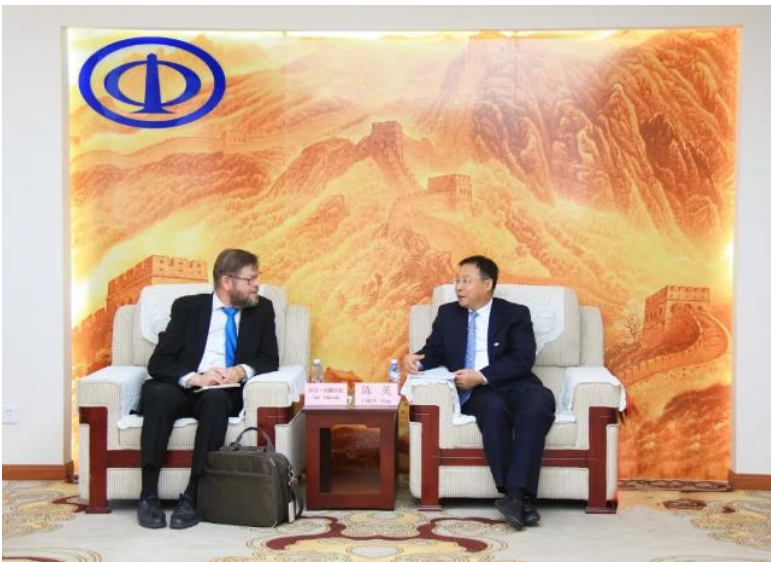
The 37th URSI General Assembly will be hosted in Singapore from 11 till 18 August 2029.

The URSI Secretariat is currently finalising the contracts with the venue and together with the LOC will be working hard to make this again a special event.



URSI Member Committee Activities

URSI Member Committee – China CIE



On the morning of 22 October, Chen Ying, Vice President and Secretary General of the Society, met with Ari Sihvola, President of the International Radio Science Union (URSI).

The two sides introduced their respective development situations and conducted in-depth exchanges on academic exchanges, scientific and technological awards, journal construction, work of young scientists and female scientists, etc. During the talks, URSI President Ari Sihvola proposed that he hoped that the China Electronics Society would

recommend more outstanding talents to participate in the work of various professional committees of URSI. Secretary-General Chen Ying pointed out that the cooperation between the China Electronics Society and URSI has a long history, broad space and huge potential. The two sides are willing to strengthen open cooperation and contribute wisdom and strength to promote the development of radio disciplines and promote science and technology for the benefit of mankind.



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Wu Jian, President of the URSI China Committee and Director of the National Key Laboratory of Radio Wave Environment Characteristics and Modeling Technology, Fu Haiyang, Chairman of the URSI China Committee Women Scientists Working Group and Researcher at the School of Information Science and Engineering of Fudan University, and Wang Huan, Director of the Policy Research and International Cooperation Department of the Society, attended the meeting.

URSI Member Committee – Egypt



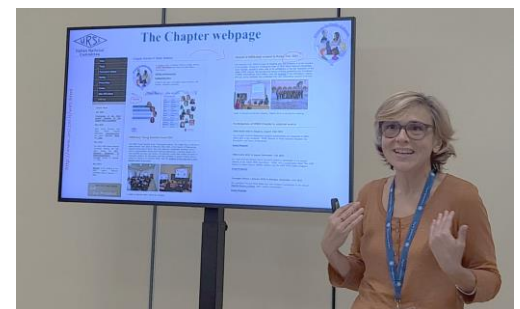
The National Radio Science Committee (NRSC) of the Academy of Scientific Research and Technology (ASRT) and the Arab Academy of Science, Technology and Maritime Transport – Sheraton Branch, are organizing the 42nd National Radio Science Conference NRSC 2025 from the 6th May to 8th May, 2025. The conference program will include invited, industrial, and special sessions,

tutorials and contributed sessions.

Special student sessions including undergraduate, MSc, and PhD students sessions will be held. All these student sessions are without registration fees. The best papers and best student papers will be selected by the organizing committee for awards.

URSI Member Committee – Italy

The annual meeting of the Italian URSI Committee was held on 1-2 October 2024 in Viareggio, Lucca (Italy). The event was co-located with the National Meeting on Electromagnetism (Riunione Nazionale di Elettromagnetismo - RiNEm 2024) organized by the Italian Society of Electromagnetism (Società Italiana di Elettromagnetismo - SIEm). RiNEm provides an excellent contact point for Italian researchers working on Applied Electromagnetics and represents an opportunity for the exchange of professional experiences among young researchers from Universities, Research Centers and industries.



Prof Micaela Liberti introduces the activities of the Italian WIRS Chapter



Dr. Lucilla Alfonsi presented the plenary session entitled “New challenges for radio sciences in Antarctica: AGATA”

The Italian National URSI Committee Meeting was attended by more than thirty researchers working in universities and research institutes.

The meeting offered a vibrant program with outstanding Invited Speakers. Initially, Prof Carlo Carobbi (President of the URSI Italian National Committee) introduced the program of the meeting. Soon after, Prof Micaela Liberti (Chair of the Italian WIRS Chapter) illustrated the activities of the Italian WIRS Chapter and introduced the plenary session entitled “New challenges

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for radio sciences in Antarctica: AGATA” which was presented by Dr. Lucilla Alfonsi (National Institute of Geophysics and Vulcanology – INGV Rome).

During the URSI Special Session chaired by Prof. Carlo Carobbi, three tutorials were presented as multidisciplinary contributions from some URSI Scientific Commissions:

- The first tutorial was a contribution from Commission C (Radiocommunication Systems and Signal Processing), but of interest also for Commission F and J. The tutorial entitled “*One Parabola for Three Commissions: C, F and J*” was presented by Prof. Filippo Giannetti (University of Pisa, Italy).
- The second tutorial was a contribution from Commission G (Ionospheric Radio and Propagation). The title of the presentation was “*Detection of anomalies in time series of VLF signals*”. It was given by Dr. Giovanni Nico (Institute for Applied Mathematics, IAC-CNR, Bari, Italy).
- The third tutorial was a contribution from Commission E (Electromagnetic Environment and Interference), but of interest also for Commissions B and C. Prof. Franco Moglie (Polytechnic University of Marche, Ancona, Italy) presented a talk entitled “*Reverberation Chambers as Complex Environments for Wireless System Optimization*”.

The final of the Italian URSI National Committee 2024 Young Scientist Best Paper Award was chaired by Prof. Giuliano Manara (Secretary of the URSI Italian National Committee and RiNEM 2024 General Chair). In this context, the three finalists presented their papers. In particular, the 2024 Italian URSI Committee Young Scientist Best Paper Award was assigned to Dr. Micol Colella (University of Rome La Sapienza), for the paper “*A novel observable in TMS numerical dosimetry: the Effective Electric Field*”. Honorary mentions were given to the other two finalists: Dr. Giulio Maria Bianco (University of Rome Tor Vergata), for the paper “*Smart Packaging with Microfluidic-Antenna System for Monitoring Meat Degradation,*” and Dr. Luca Tosi (University of Trento), for the paper “*Thinned Array Antenna Design for Interference Suppression Through Quantum Optimization Method.*”



Dr. Micol Colella received the URSI Sorrentino Award 2024 (from left to right: Prof Alessandro Toscano – SIEM President, Prof Carlo Carobbi Dr. Micol Colella, Prof Giuliano Manara).

The URSI award and the honorary mentions were announced at the Italian URSI National Meeting 2024 and RiNEM 2024 gala dinner.

During the RiNEM 2024, a round table was organized to present the activities of international professional societies in which SIEM members reached important positions: IEEE Antennas & Propagation Society (AP-S), IEEE Microwave Theory and Techniques (MTT), International Society for Optics and Photonics (APTICA), IEEE Geoscience and Remote Sensing Society (GRSS), IEEE Oceanic Engineering Society (OES), Virtual Institute for Artificial Electromagnetic Materials and Metamaterials (METAMORPHOSE VI AISBL). In this framework, Prof. Giuliano Manara presented the international activities of URSI.

(Communicated by: Prof. Carlo Carobbi, Prof. Giuliano Manara, Prof. Paolo Nepa, Dr. Andrea Michel)

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URSI Member Committee – India

The 10th AP Mitra Memorial Lecture will be held on 15 November 2024. Prof. Paul Cannon, former URSI President will be the speaker for the webinar on "A New HF Over the Horizon Radar Architecture" which can be followed [live 1:00 PM – 2:00 PM UTC](#) The [webinar](#) will also become available through the URSI Channel on YouTube.

URSI Member Committee – Spain

The 39th URSI-Spain National Symposium (XXXIX Simposio Nacional de la Unión Científica Internacional de Radio / XXXIX Spanish URSI Committee Symposium) took place from 4 to 6 September at the Polytechnic School of Cuenca, hosted by the University of Castilla-La Mancha. The event gathered 243 attendees and featured 165 presentations, showcasing the vibrancy of Spain's radiocommunication research community.

Three keynote speakers headlined the event: Javier Tegedor from the European Commission's JRC, Akram Alomainy from Queen Mary University of London, and Miguel Ferrando from the Universitat Politècnica de València, who reflected on his career in research.

Italy was the guest country, represented by Carlo Carobbi, President of the Italian URSI Committee, and Paola Russo, President of the Italian Women in Radioscience Chapter. The symposium also saw the launch of the Spanish Chapter of Women in Radioscience, which was warmly received by the community.

At the gala dinner, multiple awards were presented across four categories (full list of awardees at www.ursi.es):

- Young Scientists Award: First prize went to Miguel Barona Ruiz (UMA) for his work on broadband TM-pass polarizers using tilted subwavelength metamaterials.
- Women in Radioscience Visibility Award: Lianet Méndez and team (UC3M) won for their project "How Do Mobile Phones Communicate? Our Friends the Bits."
- Best Paper on Low Observability Technologies (sponsored by Indra): Sergio Ortiz-Ruiz and colleagues (UGR/UMA/INSA Rennes) won for their work on a novel frequency-selective surface absorber based on laser-induced graphene.
- Three-Minute Thesis Award: Marc Lázaro (URV) won for his presentation on long-range, low-power communications for the next generation of IoT devices.

Tenth A. P. Mitra Memorial Lecture

(15th November, 2024 18:30 – 19:30 IST)

Webinar on:

A New HF Over the Horizon Radar Architecture

Prof. Paul S Cannon

Space Environment and Radio Engineering,
University of Birmingham, B15 2TT, UK



Over the Horizon Radar (OTHR) provides wide-area, persistent surveillance options particularly for aircraft and ships and it can also be used to monitor sea-state and sea-ice. OTHR operates by reflecting signals in the high frequency (HF, 2-30 MHz) band of the ionosphere at altitudes ~ 300 km to provide a beyond-line-of-sight (BLOS) capability. Typical operational ranges lie between 500 km and 3000 km but shorter and longer ranges are possible. Conventional OTHR uses large transmit antenna arrays (typically 100-200 m long) and even larger multi-element receive antenna arrays, often extending to many kilometres, to provide sufficient azimuthal target discrimination relative to the receive antenna.

Recently a new OTHR architecture has been proposed by the author. This is the Networked OTHR (NOTHR), so called because it consists of multiple bistatic radar paths (plus an optional monostatic path) which are processed cooperatively. In contrast to conventional OTHR, NOTHR consists of a large aperture antenna array on transmit and several single antenna or small aperture receive antenna systems. NOTHR operates in either a multiple input, multiple output (MIMO) configuration or a multiple input, single output configuration (MISO) mode.

In this talk, we will compare and contrast conventional and NOTHR architectures, including discussing their relative advantages.

Organised by

Indian Radio Science Society
InRaSS

NPL Former Scientist Forum
NPL-FSF

National Physical Laboratory
CSIR-NPL



Webinar Link: https://www.youtube.com/live/i7dmmmgU_tg



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URSI provided funding for the Young Scientists Award and the Women in Radioscience Visibility Award.

URSI-Spain's 2024 General Assembly coincided with the symposium.

The event was supported by a range of sponsors, from platinum sponsors like Keysight and Indra to bronze sponsors such as BTO Digital ([see full list at website](#)).

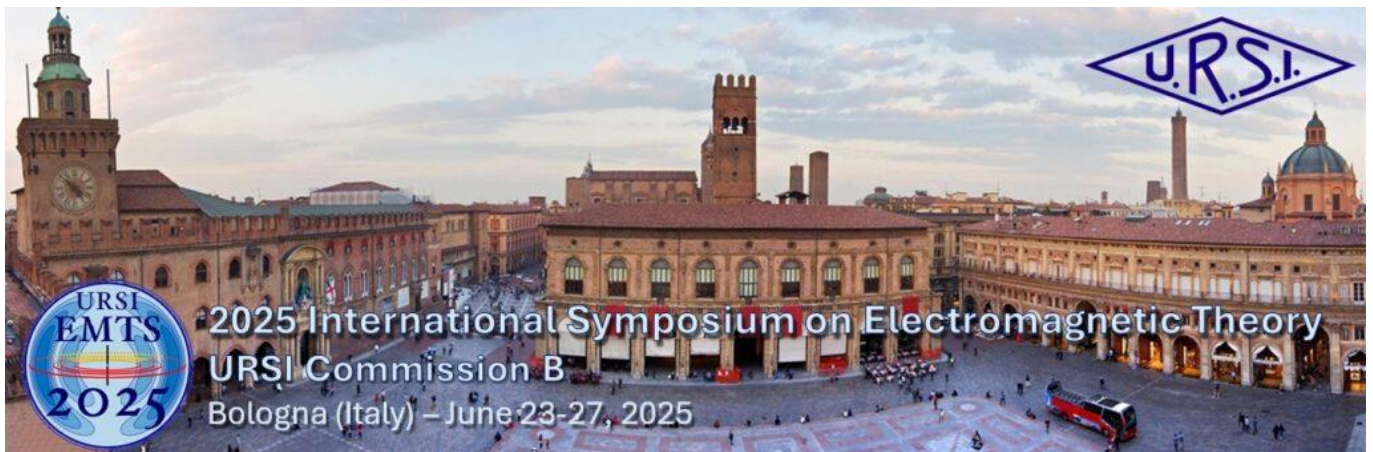
Next year, the 40th edition of the URSI National Symposium will be held in Tarragona from 3 till 5 September 2025. It so happens that it will actually be the 46th edition, as, at the beginning of URSI-Spain's history, the National Symposia were thematic meetings of Commission B. See you in Tarragona for three days of sun, beaches, and radioscience. *(Communicated by Mikel Laso)*



Meetings with financial support by URSI Commissions

EMTS 2025

23-27 June 2025, Bologna, Italy



Join us from 23 to 27 June 2025, in Bologna, Italy, for the 25th International Symposium on Electromagnetic Theory (EMTS 2025), organized by URSI Commission B (Fields and Waves) of the International Union of Radio Science (URSI) and the Alma Mater Studiorum University of Bologna. This premier event, set in the historic heart of Europe's oldest academic hub, promises a rich program spanning all facets of electromagnetic theory and applications.

- Paper submission opens: 2 December 2024
- Submission deadline: 26 January 2025
- Notification of acceptance: 16 March 2025
- Early bird and author registration ends: 20 April 2025

We invite contributions from researchers around the globe to explore the diverse domains of electromagnetic theory. Join us for an enriching experience in Bologna amidst academic, art, architectural and food attractions!

[Check the website for more information.](#)

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IWAGPR 2025

2-4 July 2025, Thessaloniki, Greece

IWAGPR2025 is set to take place in Thessaloniki, Greece from 2 till 4 July 2025, and will be hosted by the [School of Geology](#) at the [Aristotle University of Thessaloniki](#).



Since its inception in 2001, IWAGPR has been a premier event for exploring advancements in Ground Penetrating Radar (GPR) research, techniques, and applications. This biennial workshop brings together scientists, engineers, industrial delegates, and end-users to share the latest developments in GPR, from fundamental advances in methods and technologies to compelling case studies.

IWAGPR2025 offers a unique opportunity for participants to network, discuss, exchange ideas and collaborate on future projects. We encourage you to [read more about the workshop](#) for detailed information about its specific content and sessions.

- 21.10.2024 – Paper Submission Opens
- 21.01.2025 – Paper Submission Deadline
- 17.03.2025 – Notification of Acceptance
- 16.04.2025 – Final Paper Submission
- 25.04.2025 – End of Early-Bird Registration

ISAP 2025

27-31 October 2025, Fukuoka, Japan

ISAP2025 is intended to provide an international forum for the exchange of information on the progress of research and development in antennas, propagation, electromagnetic wave theory, and related fields as shown in the SCOPE. It is also an important objective of this meeting to promote mutual interaction among participants.



Reports from meetings with Technical Support by URSI

2024 COSPAR Capacity Building Workshop on the International Reference Ionosphere

2 – 13 September 2024, Kilifi, Kenya

The 2024 COSPAR Capacity-Building Workshop (CCBW) on the International Reference Ionosphere (IRI) was held in Kilifi, Kenya during 2-13 September 2024, expertly organized locally by Dr. Joseph Olwendo from Pwani University. The workshop was supported by COSPAR and by the Kenyan Space Agency. Additional funds were provided by URSI and SCOSTEP and Pwani University provided the administrative and secretarial support. In response to the official announcement of the workshop in early 2024 we had received applications from 69 students, and young researchers, mostly from African countries, to participate in the workshop. Out of the 69, 35 were selected based on an evaluation of their submitted CVs, Letters of Recommendation and Research Plans. The final selection included attendees from eight African countries: Kenya, Egypt, Nigeria, Uganda, Tanzania, Ghana, South Africa,



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Ethiopia. One selected Kenyan student accepted the invitation but did not come to the meeting and no explanation was provided.



The workshop involved a week of lectures, tutorials, and project work for students followed by a week-long IRI Workshop. During the first week tutorials, lectures and hands-on demonstrations taught the students the basics and recent advances in observation techniques and modelling approaches for the Earth's ionosphere. An important goal of the workshop was to familiarize the students with the access to and usage of ionospheric data sets and models

so they will be able to continue their research interests at their home institution. The 34 selected students, were divided into 7 groups and each team received a specific research problem to be studied during the 2-week meeting. Each team had one of the lecturers as their main advisor, but was free to ask help from other lecturers as well.



The students continued their work during the second week and presented their project results at the end of the second week to the full IRI Workshop audience. Three senior scientists served as judges evaluating the project work, results, and presentation of the seven groups. The first to fifth placed teams received the Mandana Sigaroudi Young Scientist Awards which, thanks to the generous contribution by the award sponsor, include a monetary award.

1st Place Team (from left to right): Haris Haralambous (Advisor), Kisembo Francis (Uganda), Mefe Moses (Nigeria), Nahum Maundu (Kenya), Mostafa Hegy (Egypt), Wilberforce Muniafu (Kenya), Joseph Olwendo (LOC).

1st Place Team (from left to right): Haris Haralambous (Advisor), Kisembo Francis (Uganda), Mefe Moses (Nigeria), Nahum Maundu (Kenya), Mostafa Hegy (Egypt), Wilberforce Muniafu (Kenya), Joseph Olwendo (LOC).



2nd Place Team (from left to right): D. Bilitza (Advisor), S. Degefa (Ethiopia), M. Kololuo (Kenya), T. Ojebisi, (Nigeria), A. Hiyadutu (South Africa), K. Webber (Kenya).



3rd Place Team (from left to right): E. Odhoch (Kenya), J. Tanin (Kenya), J.B. Habarulema (Advisor), H. Awad (Egypt), B. Kyamules (Uganda), A. Ogwala (Nigeria)

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4th Place Team (from left to right): D. Bilitza (MO), I. Adawa (Egypt), H. Safary (Kenya), D. Athward (Kenya), J. Olwendo (LOC),



5th Place Team (from left to right): D. Bilitza (MO), H. Cherop (Kenya), Z. Njeri (Kenya), S.O. Lomotey (Ghana), A. Yassen (Egypt), J. Olwendo (LOC)

VERSIM XI Workshop

30 September - 4 October 2024, Breckenridge, CO

The recent VERSIM workshop successfully brought together experts from various fields to discuss the latest advancements in VLF and ELF science and foster collaborative research. There were 55 attendees in total at the VERSIM workshop. Of these, there were 11 students, 11 early-career scientists (within 5 years of completing their PhD), and 33 “senior” scientists. The mix of participants reflects a well-rounded representation of career stages, with significant contributions from both emerging and established researchers. This diversity offered an enriching environment, encouraging knowledge exchange between experienced professionals and those early in their scientific journey.



This year’s workshop drew attendees from 12 countries and four continents. Researchers from North America (43), Europe (13), Asia (6), and New Zealand (1) were present, fostering an environment of

cross-cultural dialogue and exchange.

With 56 talks presented, the workshop facilitated an intensive exchange of ideas. Talks were sorted into seven categories: i) Simulations, Data assimilation, and machine learning applications; ii) Wave-particle interactions; iii) Active Experiments; iv) Results of Recent Space Missions; v) Wave Propagation in the Ionosphere and Magnetosphere; vi) Wave-induced Particle Precipitation; and vii) Waves in other Magnetospheres. The range of topics underscored the breadth and depth of current research in the field, promoting insights across various specialties. Overall, VERSIM succeeded in its goal to promote international collaboration, advance scientific innovation, and strengthen professional networks across different career stages and regions.

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

9-13 September 2024, Rostock, Germany

The 16th International Workshop on Technical and Scientific Aspects of iMST Radar and Lidar (MST16/iMST3) took place in person from 9-13 September 2024, in Rostock, Germany. MST workshops are traditionally held every 2–3 years in different countries, and MST16/iMST3 was the first to be held since the pandemic-induced break.

The conference brought together experts in atmospheric sounding with radar and lidar techniques, standing as the world's only event dedicated specifically to radar methods and their applications in atmospheric research. Since the inaugural MST conference in 1984, the 2024 event in Rostock marked its 40th anniversary. Significantly, MST16/iMST3 was the first to actively invite participation from the lidar community engaged in both the technical and scientific aspects of middle atmosphere research.



The workshop welcomed 110 participants from 19 countries, including 31 representatives from six German institutions. The program included 133 presentations, with 14 invited talks, organized into 96 oral and 37 poster presentations across seven thematic sessions. More details about MST16/iMST3, including the program and abstracts, are available at <http://www.iap-kborn.de/mst16>. The abstracts can also be accessed through the German National Library of Science and Technology at <https://www.tib.eu/>.

The next MST meeting, MST17/iMST4, will take place in Beijing, China, in 2027.

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6th URSI Regional Conference on Radio Science (URSI-RCRS 2024)

22-25 October 2024, Bhimtal, India

The URSI Regional Conference on Radio Science (URSI-RCRS 2024) was jointly organized by Aryabhata Research Institute for Observational Sciences (ARIES), Nainital and the Graphic Era Hill University (GEHU), Bhimtal (Website:). It was held at the picturesque campus of GEHU, Bhimtal during 22–25 October, 2024. The conference was the sixth edition of the biennial flagship event of the Indian Radio Science Society (InRaSS) sponsored by URSI and



technically co-sponsored by the IEEE Antennas and Propagation Society. It was co-sponsored by premier Govt scientific agencies of India including ISRO, NCRA, PRL, IIG, IITM and ISTRAC. Several leading Indian industries including JV Micronics, AIMIL/Safran, Accord systems, Quantum AI Global, Agmatel, VVDN Technologies, Anritsu, Thermo-Fisher, Zenith Electronics, Om Optronics and Scicom Software were among those that participated in the conference as co-sponsors and exhibitors. The Metrology Society of India (MSI) participated as co-organizers with a generous funding.



Two pre-conference workshops were organized on the opening day, 22nd October - (a) Workshop on Ionospheric Measurement Techniques and Instrumentation and (b) Workshop on Antenna Measurements. Both these workshops were well attended, predominantly by young researchers and PhD students. At the Inaugural function on the

evening of 22 October, Prof S Ananthkrishnan, General Chair of the conference briefly traced the history of radio science in India on the 10th year of RCRS conferences. In his inaugural keynote science talk, Prof. S A Ramakrishna of IIT Kanpur described the very exciting research on “Stealth technologies in the 21st century using metamaterials”.

A record submission of about 540 papers were made to the URSI-RCRS 2024, spread over the ten URSI Commissions. This was a clear indication that the RCRS event has established itself as a major event among the strong radio science researchers’ community in India. A total of 408 delegates registered for the conference from the leading research and academic institutes of India. Out of these, about 42% were PhD students and about 35% were women scientists.

About 70% of the accepted papers, including invited talks, were assigned to oral presentations in 108 sessions over 9 parallel tracks during 23 – 25 October, 2024. The remaining about 160 papers were presented in two poster sessions scheduled during 24 and 25 October. There were three General Lectures by eminent radio scientists – Prof Anil Bhardwaj (PRL), Prof Subhasis Choudhury (IIT Bombay) and Prof Kazuya Kobayashi (Chuo University), one on each day during 23 – 25 October, 2024. The detailed scientific program is available on the link (<https://www.eventure-online.com/eventure/login.form?U829aab69-740f-466a-86cf-48efe2ad7ad9>). The proceedings of the URSI-RCRS 2024 will be archived on the URSI website. Also, a selected group of Summary papers, which were presented at the conference, will be published in IEEE Xplore.

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An important part of the URSI-RCRS 2024 were the Young Scientist Awards (YSA) and the Students' Paper Competition (SPC). Out of the 78 applicants this year, 10 were selected for the YSA award to be given a certificate, complementary conference registration and local hospitality (picture at right).



For the SPC awards, out of the 40 applicants, 6 finalists (picture at left) were selected to attend the conference with complementary registration and local hospitality and to make their presentations in a special session on 22 October, 2024 during which, the first, second and third prize winners and the 3 remaining honourable mentions were selected by an eminent panel of judges. Each one of the SPC finalists received a certificate and a cash prize, sponsored

by URSI. The formal certificate and prize presentations to the YSA and SPC awardees were made during the Cultural function.



An important highlight of the URSI-RCRS 2024 was the delightfully entertaining cultural function held at the GEHU Amphitheater followed by a lavish banquet dinner hosted by the Director, ARIES on the evening of 24 October. The cultural function

was presented by the students of the GEHU and consisted of a potpourri of regional folk songs and music from different parts of India.

We would like to gratefully acknowledge the help from



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Prof. Peter Van Daele, Secretary General, URSI in allowing us to use the Eventure paper submission software and Ms Inge Lievens for her dedicated help during the paper submission and processing. The Local organizing Committee headed by Dr Manish Naja had worked very hard in the run up to and during the conference to ensure that everything ran smoothly. The GEHU management headed by their Vice Chancellor, Dr Sanjay Jasola, Director Col A. K. Nair and ably supported by Dr Pushpa Negi were very kind to (a) allow the use of the academic premises and ensure all the technical facilities ran without any hitches (b) to provide their buses for the local transportation and (c) to kindly host the Inaugural dinner.

(Communicated by Amitava Sen Gupta)

URSI-CIE host the ISAPE conference and young scientist WIRS forum

24-26 October 2024, Hefei, China

On 24-26 October 2024, the 14th International Conference on Antennas, Propagation, and Electromagnetic Theory (ISAPE 2024) was successfully held. The conference was organized by the China Institute of Electronics(CIE), with support from CIE Radio Propagation Society, CIE Antennas Society, the China Research Institute of Radiowave Propagation, and Anhui University. A total of 832 experts and scholars from 15 countries and regions gathered to exchange cutting-edge advancements and trends in the fields of antennas, propagation, and electromagnetics, as well as to explore cross-border, interdisciplinary fields. The conference has received a total of 751 papers,



URSI-CIE President Prof. Jian Wu serves as the ISAPE Conference Chairman



URSI President Prof. Ari Sihvola addressed the opening ceremony speech and also presented a plenary keynote

included in 57 sessions and 2 special sessions, a total of 127 invited talks, 190 oral talks, 426 posters for academic exchanges, and cooperated with IEEE to publish conference proceedings. This year's conference marked the largest participation in the history of ISAPE. The URSI-CIE President Prof. Jian Wu serves as the chairman of the ISAPE conference.

The URSI President Prof. Ari Sihvola gives the opening ceremony speech for the ISAPE conference. He introduced the history of URSI and also the URSI activities. The ISAPE conference invited 8 keynote speakers, including Prof. Ari Sihvola, URSI President, Prof. Sana Salous, URSI Vice President, Prof. Stefano Maci, IEEE AP-S President, Prof. Ke Wu, IEEE MTT-S President, and etc.

President Sihvola gives a plenary keynote talk with title "The Fascinating World of Lorenz-Mie Scattering" The talk discusses a variety of known and unexpected results of the wave scattering by various objects, in particular when the response of the scattering particles is generalized into complex media and into objects characterized by non-traditional boundary conditions.

Also, the URSI Vice President Prof. Sana Salous gives another keynote talk with title "Challenges of 6G deployment in the mm Wave and sub-THz bands". The talk gives an overview of the proposed use cases, identified frequency bands and the propagation models under development in both the International Telecommunications Union ITU and European Telecommunications Standards Institute ETSI and the challenges for the deployment of the higher frequency bands for 6G.

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At this conference, the chair of URSI-CIE women scientist committee Prof. Haiyang Fu and the chair of URSI-CIE young scientist committee Prof. Ruisi He has jointly organized an exciting Young Scientist and WIRS forum activity. During the forum, Prof. Ari Sihvola, President of URSI, warmly welcomed the young scholars and devoted to promote the young scientist career. Prof. Sana Salous, Vice President of URSI and President of URSI-WIRS, briefly introduced the history and academic activities of URSI-WIRS and expressed the hope that more outstanding female scientists can join the URSI committees. Prof. Ruisi He discussed URSI's organization, highlighting experiences from his tenure as URSI-ECR, focusing on conferences, publications, scientific awards, and academic management.



URSI Vice President Prof. Sana Salous



Committee members Prof. Ari Sihvola, Prof. Sana Salous, Prof. Jian Wu, Prof. Steven Gao, and Prof. Yi Huang and eight URSI young scientists

There are six young scientists to share academic research from Chinese institutions, including The Hong Kong Polytechnic University, Beijing Institute of Technology, China Research Institute of Radiowave Propagation, Visionox Technology Inc., Anhui University, and Fudan University. The panel committee provided critical comments, advice, feedback on each talk, including Prof. Ari Sihvola, Prof. Sana Salous, Prof. Jian Wu, Prof. Yi Huang (University of Liverpool), and Prof. Steven Gao (Chinese University of Hong Kong). In the final discussion, the forum

chair Prof. Haiyang Fu has raised three key questions: AI's impact on radio science with URSI, career advice for young scholars, and promoting international collaboration. Prof. Ari Sihvola emphasized AI's role in electromagnetics and the value of traditional theories in driving new discoveries. Prof. Sana Salous advocated for interdisciplinary learning and networking, while Prof. Jian Wu highlighted the importance of participating in events to expand horizons. Prof. Yi Huang encouraged young scholars to listen, reflect, and chart their own paths to excellence. Several female scholars shared their experiences balancing work and family, highlighting women's leadership in science. The forum served as a valuable platform for global academic exchange, fostering innovation in antennas, propagation, and electromagnetic theory, and promoting international collaboration.



URSI-CIE the young scientist WIRS forum during ISAPE in Hefei, China, Oct 2024

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Salon meeting hosted by Haiyang Fu (Fudan University, WIRS Chair of URSI-CIE) and Ruisi He (Beijing Jiao Tong University Young Scientist Chair of URSI-CIE)

Finally, Prof. Ruisi He and Prof. Haiyang Fu has jointly organized an exciting salon activity. At the beginning of the salon, Prof. Jian Wu, delivered an opening speech and briefly introduced the history and academic activities of URSI-CIE, encouraged more outstanding young scientists and women scientists to participate in URSI affairs and join URSI committees. Then, Prof. Ruisi He introduced the organizational structure of URSI and shared his URSI-related experiences in conferences, publications, scientific awards, academic management, etc. Prof. Haiyang Fu made a supplement, sharing her interesting experiences with URSI, and encouraged women scientists to actively participate in URSI affairs, broaden international horizons, strengthen international cooperation, and make women's voices heard.

Subsequently, some winners of the URSI Scientist Award & Young Scientist Award shared their experiences with URSI and put forward several constructive suggestions to promote the development and growth of URSI-CIE. Finally, Profs. Jian Wu, Steven Gao, Qingxin Chu, and Bing Wei introduced their own experiences and provide valuable suggestions to young scientists and women scientists. The salon served as an open and valuable platform of discussions and collaborations for URSI-related scientists.

(Communicated by Jian Wu, Haiyang Fu, Ruisi He)

URSI ECRs – Early Career Representatives

URSI ECR Spotlight - Unique Opportunities Await You at AP-RASC 2025!

Hello, Early Career Scientists!

We're thrilled to announce that AP-RASC 2025 is set for August 17–22 in sunny Sydney, and it's packed with two unique programs tailored for early career scientists:

- Student Paper Competition – Present your research in a dedicated spotlight session, with cash prizes for the top four winners. A fantastic way to share your work and gain recognition!
- Young Scientist Award – Receive free registration, accommodation, and travel support. This award is designed to fully immerse you in the AP-RASC experience and help you build connections with scientists from around the world.

Learn more and submit your paper by 20 February 2025, at <https://www.aprasc.org/>.

Don't miss out on these opportunities to make an impact at AP-RASC 2025!

Until next time!!

(Communicated by Ricardo Figueiredo)



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URSI WIRS – Women in Radio Science

WIRS Spain Chapter

The creation of the Spanish Chapter of Women in Radio Science was proposed during one of the latest URSI-Spain Committee periodical meetings, and was formally introduced to the international community at URSI AT-RASC 2024, held last May in Gran Canaria. In September, the initiative was warmly welcomed by URSI President, Professor Ari Sihvola, during the opening ceremony of our annual URSI-Spain National Symposium held in Cuenca, where it was also very well received by the Spanish community attending the Symposium. Paola Russo, Secretary of the Italian WIRS Chapter, attended as an invited guest and shared examples of their activities, offering their logo for adoption by other chapters. Since May and particularly since our National Symposium in September, membership in the Spanish Chapter has grown steadily.



The goal of the Spanish Chapter is to support girls and women in Spain in achieving personal growth and success in the diverse and exciting careers that contribute to the advancement of radio science. By fostering a more equal and inclusive society, with appropriate professional recognition for everyone, we create a healthier and happier citizenry. This, in turn, creates a community prepared to tackle challenges that can contribute to the progress of our society. Radio Science in Spain has the opportunity to promote these necessary changes and aspires to become an example to follow.

The Spanish Chapter aims to inspire young girls from an early age to pursue careers in the radio wave disciplines. It seeks to combat myths and misinformation about science, while increasing the number of women in science and technology at universities. In addition, the Chapter is committed to supporting the development of women's professional careers in these fields and warmly welcomes female scientists who are interested in contributing to the activities of URSI-Spain.

These aspirations are based on previous experiences of the members of the group. We are united, above all, by our passion for sharing our vocations. The Spanish Chapter is currently led by:

- Chair: Cristina García Miró (Yebes Observatory and National Astronomical Observatory, IGN)
- Co-Chair: Elena Abdo Sánchez (University of Málaga)
- Secretary: Rocío Sánchez Montero (University of Alcalá)
- Treasurer: Mikel Laso (Public University of Navarra and URSI-Spain president)

In line with our vision, the first initiative was the organisation of the Women in Radio Science Visibility Award, supported by URSI. The award aimed to highlight Spanish initiatives to promote female scientific and technical vocations in radio science. The call received numerous relevant proposals, and with the support of a jury comprising Professors Ángela Coves (University Miguel Hernandez), Eva Rajo (Carlos III University), Beatriz Ortega (Valencia Polytechnic University), and the WIRS team, the merit and dedication of all the candidates were acknowledged. The jury encouraged them to continue their outstanding programmes. The first prize was awarded to the project:

"How Do Mobile Phones Communicate? Our Friends the Bits.", a programme aimed to primary school children, led by Lianet Méndez and her team (Carlos III University).

Given the relevance of all the projects, honourable mentions were awarded to the following three initiatives:

- The Hedy Lamarr Women and Technology Chair at the University of Málaga.
- Technovation Girls, promoted by Power to Code.
- Interplanetary Journey with Astronaut Lili.

The jury also recognized the merit of other candidates who were finalists. They were the following:

- Women and Technology Section at the Telecommunications Museum of the Polytechnic University of Valencia.
- RACOBUEU: Radio Astronomy Collaboration between European Universities: Developing Scientific and Technological Skills Through Astronomy, Public University of Navarra.

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- IT Female Pioneers Award, Spanish Official College of Telecommunication Engineers.
- Women in Science and Engineering Day, Rey Juan Carlos University.
- Science and Technology led by women at the Yebes Observatory, Guadalajara Regional Teacher Training Centre.
- Technological Challenge: "Engineering is written with an A", Málaga University.
- WiSMC: Women and Engineering Day, Málaga University.

The Spanish Chapter of Women in Radio Science has taken off with great enthusiasm, and we invite you to join us, follow our work, and participate in our activities (<https://ursi.es/mujeres-en-radio-ciencia/>).

(Communicated by Cristina García Miró)

WIRS Sweden

WIRS Sweden was founded already on 28 June 2022, with the following officers:

- Chair: Asta Pellinen-Wannberg, Professor Emerita of Physics, Umeå University and Swedish Institute of Space Physics, URSI Commission G
- Vice-Chair: Jonna Wilén, Associate Professor, Umeå University, Commission K
- Secretary: Mariana Dalarsson, Associate Professor, Royal Institute of Technology, Commission B
- Membership Chair: Carol Norberg, Associate Professor, Umeå University and Swedish Institute of Space Physics, Commission H

Women in Radio Science engagement within URSI has quite a long history in Sweden. We have contributed to the WIRS column at the Radio Science Bulletin since 2015 and the very first WIRS event at AT-RASC on Gran Canaria in 2018. We became a Swedish WIRS Chapter qualified for central URSI support in 2022 and presented WIRS nationally on the Swedish Microwave Days 2023 in an invited talk at the Swedish URSI SNRV (Svenska Nationalkommittén för Radiovetenskap) session.

Planned WIRS activities in Sweden:

We will administrate the network through the professional platform LinkedIn, where we have started a homepage (<https://www.linkedin.com/company/women-in-radio-sciences-sweden/>). We will ask female scientists at different stages of their careers to shortly present their work there, reveal some keys to success, but also talk about challenging phases in their careers. Our ambition is to recruit scientists within all the URSI Commissions to offer mentorship to students and researchers in early careers.

With the contribution from URSI we will organize workshops and inform about the WIRS network during national and international meetings in Sweden covering radio science. The EuCAP 2025 will be organized in Stockholm in March and about 1500 attendees are expected. We plan to support an event together with the EurAAP Early Careers and Women in Antennas and Propagation.

Further we plan for an event during the Swedish URSI (SNRV) national annual meeting in May, when we also are celebrating the World Heritage Grimeton Radio Station 100-year Anniversary. The number of senior women in radio science is still quite limited. We hope that an event at the World Heritage site will attract many more and especially young female scientists to attend and become inspired about WIRS.

(Communicated by Asta Pellinen-Wannberg)

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URSI Channel on YouTube

In our previous issue, we already announced that URSI has a channel on YouTube on which we post the recordings from our Flagship Meetings. We just added a few more... 2 lectures from the GASS 2023.



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

<p style="text-align: center;">GASS 2023 – General Lecture 1</p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: right; font-size: small;">URSI GASS 2023 General Lecture August 21, 2023, Sapporo</p> <p style="text-align: center; font-size: large;">Photonics for Next Generation Radio Access Network (RAN)</p> <p style="text-align: center;">Masataka Nakazawa Tohoku University, Japan</p> </div>	<p style="text-align: center;">GASS 2023 – Public Lecture</p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; font-size: large;">Harmonization of Scientific, Commercial, and Other Radio Uses with Regulatory Science for SDGs</p> <p style="text-align: center; font-size: large;">Ryuji KOHNO</p> <p style="text-align: center; font-size: x-small;">IEEE Life Fellow & IEICE Fellow Associate Member, Science Council of Japan (SCJ) Professor Emeritus, Yokohama National University, Japan Vice-President, YRP International Alliance Institute, Japan</p> <p style="text-align: center; font-size: small;">kohno@ynu.ac.jp</p> <p style="text-align: left; font-size: x-small;">YRP</p> </div>
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URSI as a member of the ISC GeoUnions

International Decade of Science for Sustainable Development – Distinguished Lecture Series



**International
Science Council**

International Decade of Science for Sustainable Development

Distinguished Lecture Series

The 2nd lecture in the new series was presented by Professor Yongguan Zhu, Director General of the Research Center for Eco-environmental Sciences, Chinese Academy of Sciences, on **12 November 2024 at 13h00 GMT**. Check the URSI channel on [YouTube for revisiting the lecture](#).



“Antimicrobial resistance in the ecosystem: A One Health approach”

Professor Yongguan ZHU

Director General of the Research Center for Eco-environmental Sciences, Chinese Academy of Sciences

The microbiome contributes to ecosystem sustainability and human health through complex interactions between the physical environment and other organisms dwelling in that environment. Given the enormous diversity and functions performed by ecosystem microbiomes, in this presentation, Professor Zhu will use antimicrobial resistance (AMR) as an example to explore microbial connectivity across entire ecosystems. He finds that both urban wastewater treatment plants and

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intensive animal farms are major sources of AMR pollution in the environment. Once anthropogenic AMR enters the environment, it can be spread through mass microbial movement within the ecosystem and transported through various pathways at regional and even global scales.

Professor Zhu will highlight the application of single-cell methodologies for in situ analysis of AMR, specifically targeting the "distribution-diffusion-development" (3D) process of active antibiotic-resistant bacteria (ARB). Targeted singlecell sorting and metagenomics make it possible to pinpoint "who is doing what and how" in the most active ARB, and to track the physiological evolution of resistance and analyze the underlying genetic mechanisms. In summary, AMR within the ecosystem can be cycled between humans, animals, plants and the environment, and we should adopt the One Health framework in assessing microbial cycling.

Make sure to follow URSI on social media:

