

## **Report on 6<sup>th</sup> URSI Regional Conference on Radio Science (URSI-RCRS 2024), 22 – 24 October, 2024**

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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: <https://www.aries.res.in/ursi.rcrs2024/index.html>). 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, 22<sup>nd</sup> 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 Ananthakrishnan, 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 21<sup>st</sup> 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 at the IEEE Xplore

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. For the SPC awards, out of the 40 applicants, 6 finalists 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 honourble 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 Dr 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.



Fig. 1 The picturesque academic block of GEHU, Bhimtal campus, the venue of URSI-RCRS 2024



Fig. 2 The Inaugural function on 22 October 2024





Fig. 3 The General Lecture on 24 October by Prof Subhasis Choudhury (IIT Bombay)



Fig. 4 The ten YSA awardees pose with their certificates with the InRaSS President



Fig. 5 The six SPC finalists pose with their prize and certificates.



Fig. 6 The vibrant cultural evening at the GEHU amphitheater





Fig. 7 The cultural evening had mesmerizing performances of Indian folk dance and music.