



Monthly Newsletter of International URSI Commission J – Radio Astronomy
November 2017

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Officers

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Vice-Chair: Douglas Bock
ECRs: Stefan Wijnholds
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News Items

Greetings Commission J Members!

The abstract deadline for the 2018 URSI Atlantic Radio Science Conference (2018 AT-RASC) will be upon us in early January. The Commission J program is coming together nicely, and we hope that you will consider presenting your research at the AT-RASC. If you have questions regarding the theme of a given session please contact the convener listed below.

This month we focus on the young scientist – In the 1960's, URSI general assemblies were much smaller than now and were closed to all but a limited number of official delegates invited by the member committees. These were mainly internationally established scientists and research administrators. This gave the general assemblies considerable mystique for younger scientists who were excluded. Professor Sam Silver, URSI president from 1966 to 1969, introduced the young scientist program. At an URSI board meeting in February 1967 he proposed "*each national committee nominate one or two young research workers in their countries who should be specially invited by the president of URSI to attend the general assembly. This would be a tremendous encouragement for young people and would stimulate their interest and participation in the work of the union. Moreover this should contribute to bringing fresh talent to the general assembly.*" He also proposed a special fund to facilitate the participation of young scientists at URSI general assemblies. How did Commission J members fare in the recent Student Paper Competition and Young Scientist Awards? ECR Stefan Wijnholds provides the answers in this issue of the Newsletter.

I hope you are finding the Newsletter both interesting and informative - your comments and suggestions are always welcome.

Submitted by R. Bradley

2018 URSI Atlantic Radio Science Conference (2018 AT-RASC)

28 May – 1 June 2018, ExpoMeloneras Convention Centre, Gran Canaria

Submission deadline: January 10, 2018

- J.1 *Software Enabled Radio Astronomy*
Richard Prestage, Cedric Viou, Alessandra Zanichelli
- J.2 *Large N Aperture Arrays*
Eloy de Lera Acedo, Kris Zarb Adami
- J.3 *Pattern Recognition Applications in Radio Astronomy*
Abhi Datta, David Rapetti
- J.4 *Novel Instrument Concepts and Observational Challenges*
Douglas Bock, Richard Bradley
- J.5 *Detecting Hydrogen Near and Far*
Jackie Hewitt, Eloy de Lera Acedo
- J.6 *Instruments for Education*
Glen Langston
- J.7 *Mm wave / sub-mm Wave Science and Technology*
Pepe Cernicharo, Juan Daniel Gallego, Rolf Gusten

Special Sessions:

S-JACEFG – *Applications for pattern recognition methodologies*

S-S-EACFJ - *Spectrum Management and Utilization*

Workshops:

JB - *Polarimetry of advanced antenna systems in radio astronomy*

JG - *3-D ionospheric models for radio interferometric calibration*

GJEFH - *Space Weather*

The AT-RASC will also include a Young Scientist Program and Student Paper Competition.

Please see <http://www.atrasc.com/homepage.php> for additional information.

2019 URSI Pacific Radio Science Conference (2019 AP-RASC)

9 -15 March 2019, New Delhi India

Plans are underway for the 2019 AP-RASC in New Delhi, India. Please see

<http://aprasc2019.com/> for details.

2020 URSI General Assembly and Scientific Symposium (2020 URSI GASS)

Rome, Italy

The site for the next URSI General Assembly and Scientific Symposium has been chosen! Stay tuned for details. If you like to organize a session or workshop at the 2020 URSI GASS please let me know.

Activities Spotlight

Student Paper Competition at the URSI GASS

Thanks to the generous financial sponsorship of the URSI-USNC, a Student Paper Competition (SPC) was organized at the URSI GASS in Montreal. To take part in the SPC, the first author and presenter must be a full-time university student and the student should write a 10-page SPC paper besides the regular abstract or paper submitted to the conference. This 10-page SPC paper is not officially published to allow the students to improve and expand it to a journal paper that can be submitted to an appropriate journal. In the SPC, ten finalists are selected based on the quality, originality and scientific merit of the submitted paper. All of them were recognized at the banquet and the top-5 presented their papers in a special SPC session, where their presentations was judged on clarity, adherence to time, accessibility to the wide audience of URSI radio scientists and the ability to answer questions on the work.

Jan-Willem Steeb, a Ph.D. student at Stellenbosch University (SU) supervised by David Davidson (SKA SA Research Chair at SU) and Stefan Wijnholds (researcher at ASTRON and visiting professor at SU), took part in the SPC with a paper on "Computationally Efficient Near-field Radio Frequency Source Localization". This paper deals with the problem of near-field source localization, which is an important topic for radio interferometric arrays as many sources of radio frequency interference are actually in the near-field of large radio astronomical arrays like LOFAR and SKA. For this paper, he received an honourable mention, congratulations!

Young Scientist Awards at URSI GASS

The Young Scientist Program provides a number of awards to assist young scientists to attend the GASS. These young scientists must be less than 35 years on September 1, 2017 and should have a paper submitted and accepted for a regular session of the GASS. After the call for the Young Scientist Awards (YSA), 273 applications from 39 countries were received through an online application procedure. Some candidates were removed from the list immediately, since their application documents were not complete, they were too old to apply or they had received the YSA already in the last triennium.

Activities Spotlight - continued

Compared to previous GASSs, the procedure to select the YSA winners was modified a bit. For the first time, the YSA candidates were ranked by both the URSI Member Committees and the URSI Commissions. The Member Committees were free to modify the Commission ranking bearing in mind the following desirable characteristics:

- The paper should demonstrate significant benefit to both the applicant and URSI.
- The subject of the paper should fall within the terms of reference of URSI and should ideally report significant progress.

The following Young Scientists with Com J as primary Commission were selected

- Karen Lee-Waddell (CSIRO, Australia)
- Cherry Ng (University of British Columbia, Canada)
- Yue Ma (National Astronomical Observatories, China)
- Ruta Kale (National Centre for Radio Astrophysics, India)
- Rodrigo G. Freundt (Pontificia Universidad Catolica del Peru, Peru)
- Jan-Willem W. Steeb (Stellenbosch University, South Africa)
- Kirill Rudakov (University of Groningen, The Netherlands)
- Francesco de Gasperin (Leiden University, The Netherlands)
- Mykola V. Shevchuk (Institute of Radio Astronomy, Ukraine)
- Lei Liu (Jodrell Bank Centre for Astrophysics, UK)
- Vratislav Krupar (NASA Heliospheric Physics Laboratory, USA)

Congratulations to each of them! The YSA consists of free registration, lodging and a cheque to cover living expenses during the URSI 2017 GASS in Montreal. The YSA winners from Low Income Countries also received travel support from URSI central to attend the URSI GASS. The Young Scientist program was considered very successful due to the high number of applications and due to the high quality of those applications.

Submitted by S. Wijnholds

Photo from the Field



Several 14 meter diameter antennas of the Hydrogen Epoch of Reionization Array (HERA) located in the Karoo, South Africa on the SKA-SA site are shown along with several members of the HERA team. The array, operating from 50-250 MHz, will be used to search for the radio signature of hydrogen that was cast during the epoch of initial star formation. At present, about 50 such antennas are deployed, with expansion to 350 currently underway. Major funding for the array comes from the U.S. National Science Foundation and the Gordon and Betty Moore Foundation. The array's predecessor, the Precision Array for Probing the Epoch of Reionization (PAPER) appears behind the HERA dishes with the SKA-SA MEERKAT array visible in the distance near the upper left in the photograph. For more information see <http://reionization.org>

Photograph by D. Jacobs

If you have an interesting photograph that you wouldn't mind sharing with others in the public domain I encourage you to please send a copy to me along with a brief caption and the person's name to whom I should credit.

