



Commission GASS 2021 Report

Commission J

The Commission J business meeting at GASS 2021 was held during three scheduled sessions on 30 August, 1 September, 3 September, 2021

Attendees

On-site: Pietro Bolli, Max Hawkins, Alex Kraus, Gundolf Wieching, Stefan Wijnholds

Online: Willem Baan, Richard Bradley, Douglas Bock, Claudia Cicone, Les Deutsch, Jacki Gilmore, Assaf Horesh, Lucas Hunt, Devoiyoti Kansabank, Brian Kent, Yuri Kovalev, Joseph Lazio, Michael Lindqvist, Hiroshi Matsuo, Vanessa Moss, Ann Njeri, Sara Salem, David Skellern, Melissa Soriano, Jan-Willem Steeb, Tasso Tzioumis, Sravani Vaddi, Jeff Wagg.

1. Results of Election of Vice-Chair

Prof. Stefan J Wijnholds (ASTRON, Netherlands) was elected Vice-Chair from the end of GASS 2021 until the end of GASS 2023, in a process overseen by the URSI secretariat.

2. Results of Election of Early Career Representative

Dr. Danielle Fenech (University of Cambridge, UK) was elected ECR representative from the end of GASS 2021 until the end of GASS 2026, in a process overseen by the URSI secretariat.

3. Appointment of Associate Editor for *Radio Science Bulletin*

Dr. Rich Bradley (National Radio Astronomy Observatory, USA) was the only nominee for the Commission J Associated Editor of the Radio Science Bulletin. Dr. Bradley was elected.

4. Updates/Status of Working Groups

The commission heard reports from three working groups. The commission also participates in the Interdisciplinary Space Weather WG (GJFEH) and the Computer Simulations in Space Plasmas WG (HJ).

RFI Mitigation and Characterization (FGHJ)

Chairs for Comm. F: A.K. Mishra (South Africa), D. Le Vine (USA) Chair for Commission G: T. Bullett (USA) Chair for Comm. H: H. Rothkaehl (Poland) Chairs for Commission J: R. Bradley (USA), W. Baan (Netherlands)

Willem Baan provided a brief update on the activities of the WG, which included an RFI workshop, and planning for the upcoming RFI 2022 workshop in February.

Interdisciplinary Space Weather (GJFEH)

Co-Chair for G: I. Stanislawska (Poland) Co-Chair for J: R. Fallows (Netherlands)

Written report was tabled (attachment 1)



URSI/IAU Inter-Union Working Group on Historical Radio Astronomy

Chair: Richard Schilizzi, Vice-Chair: Leonid Gurvits, Past Chair: Richard Wielebinski, Secretary: Ken Kellermann

Richard Schilizzi gave a presentation that reminded the commission of the goals of the WG, provided an update on its publications and conferences, and gave an overview of the memoirs added to the archive of the WG in the last triennium. The material of the WG is collected on <http://rahist.nrao.edu>. The working group intends to continue its activities in the next triennium and has, e.g., 10 books already in press or in preparation. The presentation was tabled (attachment 2).

URSI/IUCAF Inter-Union Working Group on Radio Science Services

Chair: H. Liszt (USA)

Harvey Liszt gave an update on the Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF). IUCAF was set up by URSI, IAU and COSPAR and is chartered by the ISC. He then went through the main points of the quadrennial report of WG over the period 2017-2021. A written report on IUCAF was tabled (attachment 3).

5. Updates to Terms of Reference of Commission

The current Terms of Reference were reviewed. No changes were proposed.

6. Meetings proposed to be supported in the coming triennium

The Commission will support RFI 2022 (14-18 February, Reading UK) with €600. Support for further meetings will be considered at URSI-AT in May, or between meetings as necessary, with a preference to support young scientists where possible.

7. Report and comments on the scientific program of the Commission for the current GASS

The scientific program was successful and well received. However, convenors had the impression that total (local and remote) participation in individual sessions was less than might have been expected in the traditional format. Possibly this is because people outside the European timezone joined only for key talks.

Commission J has had feedback that the cost charged for virtual participation is out of step with what is charged by other meetings attended by Radio Astronomers, and that convenors struggled to retain participants who were price-sensitive. Further, a “hybrid” format that requires most virtual participants worldwide to participate during the night for several days does not appear attractive in comparison to a virtual format that is timezone independent.

Commission J understands that some participants may be attracted by the possibility of a refereed IEEE Conference paper and willing to pay a higher registration fee on this basis. However, this does not appear to be a factor for Commission J authors. URSI may wish to consider a lower fee for those whose primary interest is sharing ideas with peers at the meeting and who do not publish in the proceedings.

One suggestion is to target some meetings (e.g. GASS) at in-person attendance (with “back up” virtual participation) while others (perhaps URSI-AT?) are entirely virtual with lower registration fees and a format conducive to multiple timezones. URSI may also wish to benchmark proposed future meetings against competing events such SPIE Telescopes and Instrumentation, the American Astronomical Society or the USNC URSI meeting in Boulder.

Detailed feedback on the meeting format has already been forwarded to the Secretariat by the outgoing Chair.



8. Proposed sessions for the next GASS

Preliminary list of topics (to be finalised, with convenors, at AT-RASC)

- New Telescopes
- Radio Astronomy from Space
- Single Dish Telescopes and Instrumentation
- Very Long Baseline Interferometry
- Antennas and Receivers
- Scientific data processing in Radio Astronomy
- Digital systems for Radio Astronomy
- One or two topical sessions on science themes and related techniques (HI, early universe, time-domain astronomy, etc)
- Mitigation of Radio Frequency Interference
- Latest News and Observatory Reports

9. Proposed sessions for the AT-RASC

The following sessions are proposed for AT-RASC

J01: New Telescopes (C. Ferrari, T. Bourke)

J02: VLBI (F. Colomer, T. Venturi)

J03: Time-domain astronomy - observations and instrumentation (S. Bhandari)

J04: Cosmological HI - observations and instrumentation (N. Razavi-Ghods, D. Price)

J05: Wide-field radio astronomy (G. Heald, D. Fenech, I. Prandoni)

J06: Space-based radio astronomy (M. Bentum, M. Klein Wolt)

J07: Calibration and instrumentation (T. Carozzi, J. Gilmore)

J08: CEM method for radio astronomy (P. Bolli, D.B. Davidson)

J09: Receiving systems and their components (E. De Lera Acedo, D. Prinsloo)

J10: Big Data and AI in radio interferometry (S.J. Wijnholds, U. Rau, G. Hellbourg, N. Gupta)

J11: Latest new and observatory reports (open session) (D. Bock, S.J. Wijnholds)

JE: EMC issues in integration of digital and analog electronics (C. Carobbi, K. Buch, A. Tzioumis)

JG: Mutual Benefit between radio astronomy and ionospheric science (M. Mevius, C. Cesaroni)

JH: Solar, heliospheric and planetary physics (P. Zucca, P. Galopeau)

10. Other business

The meeting

- Thanked Dr. Bradley and Prof. Wijnholds for their service as Chair and ECR representative, respectively, and welcomed the incoming officers.
- Supported the establishment of the URSI Women in Radio Science Committee and the opportunities for increasing diversity broadly in radio science.
- Discussed the hybrid format of the meeting and agreed that Dr. Bradley would provide feedback to URSI Presidency.
- Reviewed the existing arrangement whereby the Chair convening ad hoc specialised working groups as necessary and agreed this remained appropriate. A standing technical advisory committee is not required at this time.



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- Noted that Commission J participated in drafting an URSI resolution to support the elimination of leap seconds to correct UT1 – UTC.