

1) Call to Order and Introductions (Sembiam Rengarajan)

Sembiam Rengarajan, the Chair of USNC-URSI, called the meeting to order at 12:05 pm MST. The following members of USNC were present at the USNC-URSI Business Meeting.

USNC Officers (with vote)

Sembiam Rengarajan (Chair)
Michael Newkirk (Secretary and Chair-Elect)
David Jackson (Immediate Past Chair)
Gary Brown (Accounts Manager)

Commission Chairs and Vice-Chairs (one vote per Commission)

Jeanne Quimby (Commission A Chair)
Branislav Notaros (Commission B Chair)
Eric Mokole (Commission C Chair)
Negar Ehsan (Commission D Chair)
Kamal Sarabandi (Commission F Chair)
Thomas Hanley (Commission F Vice-Chair)
Attila Komjathy (Commission G Chair)
Thomas Gaussiran (Commission G Vice-Chair)
Mark Golkowski (Commission H Vice-Chair)
Jeff Mangum (Commission J Chair)
Alyson Ford (Commission J Vice-Chair)
Majid Manteghi (Commission K Chair)

Society Representatives (with vote)

David DeBoer, AAS (AAS)
Kshitija Deshpande (AGU)
V. Chandrasekhar (IEEE GRS, also Chair, URSI Commission F)
Danilo Erricolo, IEEE AP-S
Steven Reising, IEEE MTT-S

Members-at-Large (with vote)

Reyhan Baktur
Al Gasiewski
Susan Hagness (also IEEE-APS/USNC-URSI JMC member)
Mahta Moghaddam
Zoya Popovic

U.S. Officers of URSI (with vote)

Ross Stone (Assistant Secretary General - Publications)
George Uslenghi (URSI Vice-President, also USNC-URSI Honorary Member)
John Volakis (Vice-Chair, Commission B)
Richard Bradley (Chair, Commission J)

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Government Liaisons (non-voting)

Christopher Holloway, NIST

Sadasiva Rao, NRL

National Academies of Science (with vote)

Mark Reid

National Academies Staff (non-voting)

Ana Ferreras

Also in attendance (non-voting)

Jamesina Simpson (most recent Commission B Chair)

Makoto Ando (URSI President)

Willem Baan (URSI Vice-President)

David Michelson (CNC-URSI Chair)

Frank Prato (CNC-URSI Past Chair)

Ahmed Kishk (CNC-URSI)

David Themens (CNC-URSI Commission G/H Chair)

Lewis Knee (CNC-URSI Commission J Chair)

Alexandre Legros (CNC-URSI Commission K Chair)

Yahya Rahmat-Samii (IEEE-APS/USNC-URSI JMC member)

Yahia Antar (IEEE AP-S President)

2) Approval of the Agenda (Rengarajan)

The meeting agenda was approved unanimously (M: Stone; S: Brown).

3) Approval of Minutes (Rengarajan)

The minutes of the July 2020 USNC-URSI Business Meeting were approved unanimously (M: Stone; S: Brown).

4) Remarks by URSI Vice President (Baan)

- Willem Baan addressed the Committee, noting that USNC-URSI is one of the most active National Committees of URSI. URSI has been discussing how to encourage other countries to be more active outside of the National meetings and the URSI Flagship meeting, and they have recognized that virtual meetings may enable this. He looks forward to participating in the NRSM to see how this virtual meeting will go.

5) Report by the Chair (Rengarajan)

- The Chair recognized special guests in attendance: Makoto Ando, URSI President, Willem Baan, URSI Vice-President, Yahia Antar, IEEE AP-S President, and David Michelson, CNC-URSI Chair.
- The Chair reviewed the URSI and USNC-URSI organizations. The USNC-URSI Committee (the “Committee”) was reminded that the *voting* membership of the Committee

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consists of 4 officers, 6 Members-at-Large, 10 Commission Chairs, 7 U.S. officers of URSI, 6 Society Representatives, and one National Academies Representative. The Chair reviewed the USNC-URSI Leadership (Officers and National Academy Representatives), Commission Chairs, Vice Chairs, Society Representatives, Government Liaisons, Honorary Members, USNC-URSI members holding URSI positions, and USNC-URSI representatives in the Joint Meetings Committee.

- The Chair reminded everyone that due to the postponement of the 2020 URSI General Assembly and Scientific Symposium (GASS), all URSI Officer terms were extended until 2021 when the next GASS will be held. Per the USNC-URSI Constitution, all current USNC-URSI Committee Members and Commission Officers are therefore eligible to have their term extended by one year, to 31 December 2021. Most USNC-URSI Committee members agreed to serve an additional year. All were thanked for their service.
- Reyhan Baktur is Chair of the USNC-URSI Women in Radio Science (WIRS) Chapter.
- Ross Stone serves as the USNC-URSI Publications Coordinator, where he oversees all issues pertaining to USNC-URSI publications and also interacts with the IEEE AP-S on publication issues.
- Erdem Topsakal, Student Coordinator, is in charge of the Ernest K. Smith Student Paper Competition and the Student Travel Grant awards.
- In addition to Kathie Bailey and Ana Ferreras, National Academies staff that support USNC-URSI include James Manning (Senior Program Assistant) and Flannery Wasson (International Visitors Office). James is now the point of contact for the USNC-URSI webpage on the National Academies site.
- The Chair recognized and thanked individuals who provided outstanding support in the planning and execution of the 2021 NRSM: Christina Patarino, CU Boulder Conference Services; Colin Mahoney, Two Tigers Productions; Billene Cannon, Lance Cotton and Nancy Sutta Berns, Conference Management Services.
- An overview of events at the 2021 NRSM was provided:
 - The first ever USNC-URSI Tutorial (5 January, morning)
 - Commission and WIRS Business Meetings (5 January, afternoon) ;
 - Technical Sessions (6-8 January, all day);
 - WIRS Plenary Talk (6 January, midday);
 - Vendor & Commission Booths and Small Group Discussions with Invited Speakers (6-8 January, afternoons);
 - Student Paper Competition (6 January, evening);
 - Plenary Session and Awards Ceremony (7 January, morning);
 - Student Mentoring Session (7 January, midday);
 - WIRS Reception (7 January, evening);
 - 8th Hans Liebe Lecture (8 January, midday); and
 - USNC-URSI Executive Council Meeting (9 January, morning).
- The Chair reminded the Committee about the process for nominating new members. All Commissions should use the application process through the “Membership” link on

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NASEM's USNC-URSI website. This will direct individuals to the Membership guidelines on the USNC-URSI Archive page that has the link to the online application. Submitted applications are sent directly to the relevant Commission Chairs and Vice-Chairs.

- The Chair recognized three USNC-URSI members that won URSI Awards, to be presented at the 2021 GASS in Rome, Italy:
 1. Prof. Raj Mitra (Karl Rower Gold Medal)
 2. Prof. John Volakis (Booker Gold Medal)
 3. Dr. Xiaolan Xu (Santimay Basu Prize)

The Chair also recognized the recipient of the USNC-URSI Booker Fellowship Award: Dr. Salvatore Campione, of Sandia National Laboratories, "For innovative contributions to the electromagnetic modeling of complex systems and structures from microwave to optical frequencies."

- The Chair recognized three recently deceased members, and observed a moment of silence for them: William Dent, Valeryan Tatarskii, and Robert Trew.
- The Chair reviewed the status of the Commission websites, a recurring item of discussion over the past several meetings. Some Commissions still do not have their pages on the USNC-URSI website. Some of the Commissions do not have their complete membership information. Some of them do not have minutes of their recent meetings or current information for officers. James Manning, the new USNC-URSI web liaison (replacing Chelsea Bock), will help Commissions to update their website pages. It is suggested that all Commissions have their members' names and affiliations on their pages. Commission Chairs were given an action to update their pages on the USNC-URSI website as soon as possible.
- The Chair explained to the Committee that the postponed 2020 URSI GASS will be held as a hybrid event in Rome, Italy, 28 August – 4 September 2021. USNC-URSI will again sponsor the Student Paper Competition.
- There was considerable discussion on how many Government Liaisons could be on the Committee. The Constitution allows for one from NSF and two from other Government agencies, all of which are non-voting members. There was some interest in expanding the number to have a broader representation from the Government. A motion passed (M: Stone; S: Mokole) to amend the Constitution to allow for one NSF member and up to five other Government Liaisons. Ross took the action to provide the updated language for consideration by the voting members by email after the conclusion of the NRSM.

Discussion Items:

- At the July 2020 Business Meeting, John Volakis had proposed to host future NRSMs at FIU in Miami, FL. COVID-19 prevented Mike Newkirk and Ross Stone from making a site visit, so that proposal has been tabled until the next USNC-URSI Business Meeting in January 2022.
- The dates for the 2022 NRSM are 5-8 January (Wednesday-Saturday), with Saturday used for sessions only if the number of papers requires. The tentative plan is to hold the USNC-URSI Business Meeting on Tuesday evening, 4 January, and the USNC-URSI Executive

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Council Meeting on Saturday morning, 8 January (if overflow sessions are not needed). The Committee felt that we should offer hybrid options for the USNC-URSI Business Meeting and Commission business meetings, regardless of whether the conference is held in person, totally virtual, or hybrid. There was considerable discussion on whether to use a schedule similar to this NRSM, or to return to a schedule similar to the past. It was felt that at this time, it would be premature to make final decisions on the format of the next NRSM until later in the year given the evolving state of the COVID-19 pandemic.

6) Report by the Secretary (Newkirk)

- This NRSM is the first meeting where USNC-URSI is using the new abstract/summary submission and review process provided by Conference Management Services (CMS). CMS already supports the AP-S/URSI summer meetings, which made the transition relatively easy. For this meeting, CMS produced:

1. The program (PDF file with links to abstracts);
2. An HTML file for web applications (searchable, with all abstracts);
3. A downloadable file (compressed version of (2)); and
4. IEEE Xplore submissions.

CMS also provided the information needed as inputs to the Whova platform being used for this NRSM.

- The USNC-URSI Archive includes the programs and abstracts from past NRSM and joint AP-S/URSI meetings. The site address is <https://www.usnc-ursi-archive.org/> and now includes:
 - Programs and abstracts dating back to 1968;
 - A list of past Chairs of USNC-URSI dating back to 1965;
 - A list of Liebe Lecturers and their abstracts that began in 2014;
 - All Minutes from USNC-URSI Business and Executive Council meetings dating back to 2008;
 - Downloadable media for the more recent NRSMs, including 2021; and
 - Commission and Membership information, including the link to apply for Commission membership.

The site will continue to be used to download the media for each NRSM prior to the start of the meeting, but will also serve as a repository for all USNC-URSI materials in the future.

- The consolidated membership database is still not complete. There was some hope that the new website managed by NASEM would provide a Listserv-like capability to send mass emails to members using this consolidated membership list, as well as allow members to update their own contact information. This has not come to fruition, so other options are being explored. Google Sheets was recommended as an option. The intent is also to reduce the information needed for the members, in order to simplify the process of keeping the information updated.
- As previously mentioned, the site visit to FIU for future NRSMs was postponed due to COVID restrictions. Preliminary cost comparisons were started, but COVID impact to

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hotels and airlines rates makes these comparisons suspect. The site visit will be scheduled when practical and hopefully will be reported on at the next Business Meeting.

7) Report by the Immediate Past Chair (Jackson)

- The relatively new tutorial committee is led by Jeff Mangum, with Mark Golkowski, Jonathan Chisum, David Jackson and Mike Newkirk as members. The first NRSM tutorial will be held on 5 January, on the topic of proposal writing. Panel members include Zoya Popovich, Ana Ferreras and Jonathan Chisum. Committee members were encouraged to contact Jeff if they would like to help develop ideas for a tutorial at the 2022 NRSM. It was suggested that more technical tutorials be considered, such as cloud computing, RF signal processing, low-cost ubiquitous RF hardware, cybersecurity in Internet of Things (IoT) hardware, best practices for electromagnetics instruction, and fundamental topics. For the EM instruction topic, it was suggested that recruiting recent IEEE AP-S teaching award winners be considered. Commission Chairs are asked to poll their members for topics and volunteers at their business meetings.
- This was the first NRSM that had an Early Career Member registration rate. This turned into a considerable discussion on the structure of the registration fees for this NRSM as it pertained to students that had submitted papers. It was acknowledged that the fee structure was somewhat complicated and that future virtual or hybrid meetings should be clearer about the fees.
- Commissions were asked to encourage students to attend Commission business meetings, recognize them during the meeting, and have them apply to be Early Career Members. In addition, they were asked to discuss what elements of the meeting should be kept hybrid regardless of whether an in-person meeting is held, and to ask members to provide their feedback in the survey that will be sent to all attendees after the conclusion of the NRSM.

8) Report by the Accounts Manager (Brown)

- There are three accounts of interest: one is funded by NSF and supports BISO operations, URSI dues and GASS/NRSM travel; an Endowment account that supports the Booker Fellowship and Basu Prize; and the Private Account that supports USNC-URSI operations. USNC-URSI major expenses continue to be student travel grants, awards and prizes. The revenue sources are the Boulder NRSMs and the joint RSM/NARSM summer meetings with IEEE AP-S. As of November 2020, the private account balance is approximately \$325K.
- For the NSF Grant, we have underspent that source of funding since the URSI GASS was postponed until this coming summer and there have been few travel expenses in the last year. The Endowment account has gained some interest and has a balance of approximately \$50K.
- The Private account balance was about \$305K at the beginning of 2020. Since then, almost \$21K of income was received from the proceeds of the 2019 Atlanta meeting (RSM) with AP-S. Our normal annual expenses are \$100K (including the student travel support), but this past year our expenses were very low with only the NARSM and GASS SPC awards as major expenses. The result leaves us with a slightly higher balance of just over \$325K.

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compared to December 2019. This may allow us to support more members' travel to the 2021 GASS.

9) Report by URSI Vice-President (Uslenghi)

- The URSI Board has been meeting virtually each month as it deals with the impact of the COVID-19 pandemic on its flagship meetings. The 2020 GASS was held virtually, in that the Scientific Symposium continued but the General Assembly did not take place. This also required all URSI officers to stay in their roles for an additional year, similar to USNC-URSI. The new flagship meeting schedule is as follows:
 - 2021 GASS: 28 August - 4 September, Rome, Italy
 - This will likely be held in a hybrid fashion;
 - The meeting location has changed within Rome;
 - The local organizing committee leadership has been updated; and
 - There are options for those who made 2020 GASS submissions
 - 2022 AT-RASC: 30 May - 4 June in Gran Canaria, Spain
 - 2022 AP-RASC: 20-25 August in Sydney, Australia
 - 2023 GASS: 19-26 August in Sapporo, Japan

Note that two meetings will be held in 2022, separated by several months, and the 2023 GASS remains as originally scheduled. This means that the next triennium will actually be just two years in duration. Another impact is the EMTS meeting that would have been in May 2022 has been postponed to May 2023.

- The new URSI publication *Radio Science Letters* (RSL) has resulted in two Volumes. Volume 2 had 63 submissions, 47 having been accepted, 15 rejected, and 1 is pending review. Submissions for future volumes are encouraged in order to ensure RSL will appear in the citation index, which requires more than 20 titles per year for three years. Volume 3 is expected to receive submissions related to the 2021 GASS. There is a four-page limit to these papers.

10) Report by URSI Assistant Secretary General (Publications) (Stone)

- The *Radio Science Bulletin* (RSB) has been running a bit late, mostly because of delayed receipt of papers for special issues, primarily because of COVID-19 impacts. URSI is actively seeking submissions for this open-access publication on IEEE Xplore that has no article processing charges.
- The URSI Centenary Book has chapter contributions from 21 Member Countries and 8 of the 10 Commissions. It is being edited by Paul Cannon, Phil Wilkinson, Peter Van Daele, and Ross Stone. George Uslenghi and Ross Stone are writing the US Chapter, which includes major US contributions to radio science over past 100 years, plus contributions by US Commissions. It should be completed within two months and will be distributed at the 2021 GASS. Portions will appear in the RSB.
- The 2020 URSI GASS was held virtually in August 2020. There were 1887 papers accepted, which was a record. Authors of accepted papers were given three options:
 1. Withdraw the paper;
 2. Resubmit to GASS 2021 (with updates if desired, requiring another review); or

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3. Publish in the Proceedings of GASS 2020 by submitting a PowerPoint file with optional voice. This would be available to registrants prior to the virtual GASS 2020 and eligible for submission to IEEE Xplore.

In addition, an augmented version of a paper may be published in RSL for reduced page charges of \$100/page.

586 papers were presented as part of virtual GASS 2020. The authors of 711 papers exercised the option to hold their paper and resubmit it to GASS 2021, and the remaining 590 were withdrawn. The Proceedings are available on URSI Website; for authors that requested, their papers were submitted to IEEE Xplore. More than 60 papers were submitted to *Radio Science Letters*.

- The 2021 GASS will be held in a hybrid fashion 28 August - 4 September at Sapienza Faculty of Engineering, in Rome, Italy. The paper submission deadline is 31 January 2021, and GASS 2020 papers that were not presented may be submitted. New papers are also very welcome.

11) Report by USNC-URSI Publications Coordinator (Stone)

- USNC-URSI is sometimes asked to technically cosponsor conferences organized by other organizations, but no formal process exists for doing this. A new Application and Agreement for Technical Co-Sponsorship of Conference by USNC-URSI has been prepared for this purpose. The document lists the requirements, which when signed becomes the agreement. The USNC-URSI Executive Committee will review and approve applications. The Application and Agreement will be made available on the USNC-URSI Website.
- With the new approach of holding meetings virtually, there were some questions on how two-page summaries qualify to be archived in IEEE Xplore. The EuCAP and Montreal joint AP-S/USNC-URSI symposium were two of the first major IEEE-sponsored conferences to go totally virtual. AP-S has thus established criteria under which virtual papers could go onto Xplore for meetings it technically or financially co-sponsored. Papers can be submitted to Xplore if a PowerPoint or PDF version (preferably with sound) is made available for online viewing by conference registrants. Duration of availability can be decided by conference organizers: the minimum is the day of conference, and the suggestion is at least a week.

12) Report by the JMC USNC-URSI Coordinator (Stone)

- Statistics for the 2020 joint symposium in Montreal were presented. There were 1338 AP-S papers and 447 URSI papers submitted. The accepted papers by AP-S and URSI were 1168 and 346 respectively, for a total of 1514. The USNC-URSI share of the surplus is about 23%, which should be about \$23K, once the final accounting has been completed. Since this was a joint meeting with CNC-URSI, there was a question regarding the share of the surplus due to CNC-URSI. The answer was not available during the meeting but it will be resolved during the final accounting for the meeting.
- After the start of the COVID-19 pandemic, AP-S passed a motion stating that it would protect any partners in conferences it financially cosponsors against loss in 2020. This was updated to protect USNC-URSI from loss for the 2021 RSM joint meeting in Singapore,

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as well as to protect USNC-URSI from loss for the 2021 ICEAA/APWC/USNC-URSI meeting in Hawaii.

- For the 2021 RSM joint meeting in Singapore, there has been a great deal of chaos over the past few months due to the contract with the Marina Bay Sands (MBS) hotel effectively having no Force Majeure clause. As a result, if the meeting were to be held in July as scheduled, it is likely that the in-person attendance would be quite low, resulting in the conference having to pay room block and food & beverage penalties of as much as \$875K. Several scenarios were investigated and it was determined that the best option to avoid significant penalties was to reschedule the meeting to 5-11 December 2021 with a hybrid option. The new submission deadline is 15 May 2021.
- Since AP-S has decided that the joint summer symposium will be held outside North America no more often than every three years, USNC-URSI has agreed to hold a joint topical meeting inside North America in those years. After considering various options, AP-S and USNC-URSI decided upon the International Conference on Electromagnetics and Advanced Applications & Antennas and Propagation in Wireless Communications joint meeting (ICEAA/APWC), which will be held 9-13 August 2021, in Hawaii. This is the only AP-S meeting to be held in North America in 2021.
- The dates, venue, and chairs of the future joint symposia are:
 - 5-11 December 2021 in Singapore; Zhi Ning Chen, General Chair.
 - The updated submission deadline is 15 May 2021.
 - 10-15 July 2022 in Denver, Colorado; Branislav Notaros, General Chair.
 - 23-28 July 2023 in Portland, Oregon; Jamesina Simson, General Chair.
 - 14-19 July 2024 in Florence, Italy; Agostino Monorchio, General Chair, Giuliano Manara, Co-Chair. Fortezza da Basso is the venue.
 - 2025: Detroit proposed by Premjeet Chahal (MSU) and Amir Mortazawi (U Mich)
 - There was heavy opposition on the basis of perceived safety issues.
 - The organizers are looking at other venues: San Francisco likely.
 - 19-25 June 2027 in Kyoto, Japan; Jiro Hirokawa, General Chair.
- The Joint Meetings Committee is actively seeking proposals for 2026 and after 2027. Contact Ross Stone or Roberto Graglia for information on how to propose.
- Future USNC-URSI and URSI meetings include:
 - ICEAA/APWC/USNC-URSI 2021, 9-13 August in Hawaii.
 - URSI GASS 2021 28 August - 4 September in Rome.
 - AT-RASC 2022, 30 May - 4 June in Gran Canaria, Spain.
 - AP-RASC 2022, 20-25 August in, Sydney, Australia.
 - EMTS 2023, Late May, Moscow, Russia.
 - URSI GASS 2023, 19-26 August in Sapporo, Japan.
- Ross Stone also described the details of how future joint AP-S/USNC-URSI meeting surpluses will be handled. For the next five years, USNC-URSI will receive a fixed amount of \$66K per meeting, which is the average amount of the surplus received over the last five years.

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13) Remarks from IEEE AP-S President (Antar)

- Yahia Antar expressed his appreciation for the impact and leadership of USNC-URSI in both URSI as well as AP-S. As a former CNC-URSI Chair he is well aware of the USNC-URSI organization's efforts in Radio Science. He stated that the USNC-URSI and AP-S relationship is important and mutually beneficial, and wishes to continue to strengthen that relationship. He noted that many from each organization have served in important positions and roles in the other organization.
- Moving forward, he feels we should investigate holding more joint, topical conferences, similar to Willem Baan's comments about URSI. He encourages USNC-URSI and its members to continue being active in AP-S.

14) Comments by CNC-URSI President (Michelson)

- Dave Michelson provided an overview of the Canadian National Committee (CNC) leadership, including Commission Chairs. He noted that CNC has just adopted the use of the URSI officer designations of President, Past-President, etc. The National Research Council of Canada is the adhering body.
- Several CNC-URSI accomplishments in 2020 were described, including successfully hosting the virtual AP-S/URSI meeting, incorporation as a Non-Profit Corporation, publishing columns in *IEEE Canada Review*, and becoming a constituent society of the Engineering Institute of Canada. He pointed out that as a non-profit, they now have access to a wide range of technology at low or no cost and he encouraged USNC-URSI to investigate these resources.
- CNC-URSI is seeking USNC-URSI support for an URSI officer nomination and URSI Commission nomination, a bid for the 2026 AP-S/URSI meeting in Ottawa (which could also be a NARSM), and an URSI Resolution on Strengthening the URSI and ITU relationship at URSI GASS 2021. He also described other initiatives planned for 2021.

15) Report from the National Academies (Ferrerias)

- Ana reviewed NASEM efforts to address COVID-19 and diversity efforts. Many COVID-19 activities included generating reports and holding webinars. NASEM staff are not expected to return to the office until at least summer 2021, dependent on availability of vaccines. NASEM also initiated efforts to increase diversity of membership both internally and externally, and launched a series of talks from distinguished speakers on diversity.
- Most unions (such as URSI) postponed their congresses to 2021; a few held virtual elections and/or partial General Assemblies during the year. Most unions plan to hold 2021 congresses virtually, although a few (like URSI) are planning to hold hybrid meetings while some have simply postponed their meetings until 2022.
- The Board on International Scientific Organizations (BISO) has members from across the community, including several USNCs. Mike Newkirk is the USNC-URSI representative to BISO, advising the board on USNC-URSI and reporting BISO matters to USNC-URSI. His second term began on 1 January 2021 and will end on 31 December 2024.
- A single, NSF "Consolidated Grant" was recently awarded, simplifying NASEM's process to provide annual reports from individual USNCs and covering a period of five years (2019-2024). The first annual report was approved and second year funding received. NSF

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feedback is expected early this year to prepare for a mid-term evaluation using the Theory of Change methodology. NSF expects BISO to measure Union impact, USNC impact, and the value added in the U.S. (society, science, and policy). Ana may be in contact with USNC-URSI for information to support this effort.

- NASEM has been using a new Unified Web that makes information more accessible across the entire organization. This now means that a central team is responsible for updates to the website, which has caused some delays in making updates to the USNC-URSI pages. For future website updates, contact James Manning (jmanning@nas.edu) and copy Ana. BISO is also on Social Media (Twitter) using @NASEM_BISO; NASEM welcomes each USNC to send any information they would like to have posted on this platform.
- BISO has developed a webinar series that aims to bring more visibility to USNCs and help with outreach and engagement of young scientists, and explore collaboration between USNCs and other communities.
- The Committee was reminded that the International Visitors Office (IVO) provides an institution-wide service in monitoring the international visa situation. The IVO assists international scientists/engineers and students by bringing their pending visa cases to the attention of the Department of State. Members are encouraged to take advantage of this assistance should they need help with international visitors, as they have been very successful in helping visitors in the past. Details are accessible on the NASEM webpage.
- Pam Gamble left BISO in 2019 and Chelsea Bock left in 2020. James Manning replaces them and Flannery Wasson is now in charge of the IVO and Social Media.
- There was considerable discussion on the recent collapse of the William E. Gordon radio telescope at the Arecibo Observatory and potential plans for a replacement. The facility director led the drafting of a white paper by a team of experts and users, which provides a conceptual design for the “Next Generation Arecibo Telescope” (NGAT). The director is seeking feedback on the white paper from USNC-URSI and possibly a letter of support for the construction of a new instrument at the site, if USNC-URSI agrees. It was noted that several USNC-URSI Commissions and members have had close association with the design, construction and occasional upgrades to the telescope. There was a desire to have a letter of support very soon, prior to a Congressional Hearing on the facility, so a virtual meeting led by Jeff Mangum (Commission J) was planned for later in the week so that interested parties (including those outside of USNC-URSI) can discuss the proposal in the white paper and advise USNC-URSI at the Executive Council meeting on whether to offer a letter of support.

16) Election of USNC-URSI Secretary and Chair-Elect for 2022-2023 (Rengarajan)

- Two candidates, Jeff Mangum (Commission J Chair) and Jamesina Simpson (Commission B Chair, 2018-2020), gave presentations on their goals for the position. After an anonymous vote, Jamesina Simpson was elected to the position. Both candidates were thanked for their willingness to serve in the role.

17) Remarks by URSI President (Ando)

- Makato Ando thanked USNC-URSI for the invitation to address the Committee, for organizing the virtual meeting, and arranging an excellent program in this difficult time. He pointed out how important this meeting is for students starting their careers and having

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a timely virtual alternative is indispensable for them. The URSI activities include Flagship meetings, Commission-led meetings, and those organized by national member countries. USNC-URSI has a long history of having the most active of the latter category, with strong support from the government and industry, making it an example for other member nations. He expressed his appreciation to the Committee and others who supported this effort technically and financially.

- Disaster Risk Management is one of the specific goals for radio scientists in the Sustainable Development Goals (SDGs) as defined by the United Nations. In addition, Sensing and Beyond 5G Wireless Communication and Human Health and Medicine are related to radio science, and URSI feels responsible for contributing to all these SDGs. COVID-19 emerged as the most important Disaster Risk Management SDG of 2020. The issues of the economy and health concerns must be balanced every day. Communication between individuals in science, government, politics and economies are very important today. He highlighted The Johns Hopkins University COVID-19 Dashboard as an example that provides the best data for policy makers worldwide. He is confident that USNC-URSI and URSI will continue to enhance these interdisciplinary efforts. The creation of the ISC, which merged natural and social sciences, is another example of strengthened communications between disciplines and policy makers.
- He also thanked USNC members serving in URSI positions, including Commission Chairs, and noted that 30 of the 95 URSI Fellows are from the US. He added special thanks for the financial support for the Student Paper Competition at the Flagship meetings since 2008.

18) Proposal for new USNC-URSI Awards (Quimby)

- Currently there is only one USNC-URSI award for a US member and that is the Booker award given at the NRSM during the year of URSI GASS. A Committee was formed (Jeanne Quimby, Jamesina Simpson and Ross Stone) to investigate and propose additional awards that USNC-URSI could provide during a triennium but separate from the GASS. The proposed awards are:
 1. The USNC-URSI Chair's Award honors outstanding contributions to the work and mission of USNC-URSI. Candidates for this Award are nominated by the USNC-URSI chair. The award includes a plaque.
 2. The USNC-URSI Distinguished Radio Science Award recognizes significant contributions to radio science made throughout an entire career. The award includes a plaque and \$1,500.
 3. The USNC-URSI Outstanding Educator award recognizes outstanding career achievement by a distinguished educator in the field of radio science. The award includes a plaque and \$1,000.
 4. The USNC-URSI Impact Award recognizes an individual or team whose radio science work has made a positive impact on the broader society in areas ranging from diversity, inclusion, and outreach in areas relating to radio science, to applications of research with societal benefit. The award includes a plaque and \$1,000.
- The awards committee is comprised of three members appointed by the USNC-URSI chair. It is recommended that the members be the Immediate Past Chair of USNC-URSI for the previous triennium, along with two other members who have previously received URSI or

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USNC-URSI awards. Additional details were provided in a draft proposal, including a nomination form.

- A motion (M: Stone, S: Hagness) was made to establish these awards and monetary amounts. After some discussion and refinement of the award amounts and descriptions as shown above, the motion passed.

19) Comments by National Academies Representative, Members-at-Large, Society Representatives, Government Liaisons

- Dave DeBoer (AAS) noted that this was a rare year where the annual AAS meeting did not conflict with the NRSM.

20) Preliminary Report on the 2021 NRSM statistics (Rengarajan)

- A preliminary report on the upcoming meeting statistics was provided, which did not include any updates due to withdrawals:
 - Number of abstracts and summaries submitted/accepted: 236/229.
 - Number of withdrawn submissions: 10.
 - Number of sessions: 40.
 - Number of Special Sessions: 20.
 - Number of registrations: 297.
- It was noted that Colin Mahoney (Two Tigers Production) has provided outstanding support to the authors preparing and uploading their video presentations.

21) Plenary and Special Sessions for the 2022 NRSM in Boulder (Rengarajan)

- Sembiam Rengarajan reviewed the past Plenary Session topics as well as some suggested topics that did not result in a Plenary session talk. Commissions are asked to poll their members for ideas to discuss at the USNC-URSI Executive Council meeting on Saturday.
- There was a significantly lower number of special session topics this year. Commission Chairs were asked to discuss with their members and provide additional topics at the USNC-URSI Executive Council meeting. The deadline for finalizing these sessions is 1 May 2021.
- It was suggested that the process to organize Special Sessions should be improved, as some Commissions have trouble finding people willing to do this in the current process. One idea was to have someone at the USNC-URSI Committee level be charged with working with Commissions to arrange the sessions.

22) Action Items for Commission Business Meetings (Newkirk)

- Mike Newkirk will email the Commission Business Report Form that includes several announcements for the Commission members, as well as these action items:
 1. Will your commission participate in the 2022 Joint IEEE AP-S/USNC-URSI Meeting in Denver, CO?

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2. Will your Commission participate in the 2023 Joint IEEE AP-S/USNC-URSI Meeting in Portland, OR?
3. Will your Commission participate in the 2021 Joint IEEE AP-S ICEAA/USNC-URSI Meeting in Honolulu, HI (early August or late September 2021)?
4. Does your Commission have any suggestions & presenters for tutorial/workshops/short courses for the 2022 NRSM?
5. How does your Commission feel about having some online components in the 2022 NRSM, in addition to face-to-face events?
6. Do you have any volunteers to serve in the committee to solicit exhibitors/sponsors in 2022?
7. Any suggestions for plenary topics/speakers of 2022 NRSM?
8. Would someone in your Commission consider staffing a virtual Commission booth this week?

23) Old Business (Rengarajan)

- None.

24) New Business (Rengarajan)

- None.

25) Adjournment

- A motion to adjourn (M: Stone; S: Erricolo) was passed at 5:20 pm MST.