



United States National Committee (USNC) for the International Union of Radio Science (URSI)

Operating Manual

January 17, 2026



Contents

Section 1 – Purpose

- 1.1 Purpose of the Operating Manual
- 1.2 Abbreviations

Section 2 – The USNC-URSI Committee

- 2.1 Overview
- 2.2 Chair of USNC-URSI
- 2.3 Secretary/Chair-Elect
- 2.4 Immediate Past Chair
- 2.5 Immediate Past Chair of the Previous Triennium
- 2.6 Example Positions/Committees Appointed by the Chair of USNC-URSI
- 2.7 Commission Chairs
- 2.8 Commission Vice-Chairs
- 2.9 USNC Women in Radio Science Chair
- 2.10 Members-at-Large
- 2.11 NASEM Representative
- 2.12 Liaison Representatives from Government Agencies
- 2.13 Society Representatives
- 2.14 Honorary Members
- 2.15 Selection of the New USNC-URSI Chair-Elect

Section 3 – Conferences and Meetings

- 3.1 Conferences
- 3.2 Meetings
- 3.3 IEEE AP-S / USNC-URSI Joint Meetings Committee

Section 4 – Membership

- 4.1 Overview
- 4.2 Membership Guidelines

Section 5 – Information for Members

- 5.1 Opportunities
- 5.2 Help with International Visas

Section 6 – Financial Accounts

- 6.1 Income
- 6.2 Commission Chair and WIRS Budgets
- 6.3 Joint Symposium Finances
- 6.4 Notes and Best Practices

Section 7 – URSI Awards and GASS Travel Support

- 7.1 URSI Awards
- 7.2 Young Scientist Awards (YSA) and Early Career Scientist Travel Support

Section 8 – USNC-URSI Awards

- 8.1 Awards Committee
- 8.2 USNC-URSI Chair's Award
- 8.3 USNC-URSI Distinguished Radio Science Award
- 8.4 USNC-URSI Outstanding Educator Award

- 8.5 USNC-URSI Impact Award
- 8.6 USNC-URSI Awards Committees for URSI Medals
- 8.7 USNC-URSI Booker Award

Section 9 – Ernest K. Smith Student Paper Competition

- 9.1 Judging
- 9.2 Awards

Section 10 – Hans Liebe Fellow Search Committee

- 10.1 Overview
- 10.2 Composition

Section 11 – USNC Women in Radio Science

Section 12 – URSI Matters

- 12.1 Process for Selecting URSI Officer Candidates from the U.S.
- 12.2 Overview of the URSI Elections at the URSI GASS
- 12.3 Other URSI Matters

Appendix A – USNC-URSI Award Nomination Form

Appendix B – YSA and Early Career Scientist Travel Support Form

Section 1 –Purpose

1.1 Purpose of the Operating Manual

This Operating Manual provides practical organizational and operational procedures and best practices for the routine business of the United States National Committee (USNC) for the International Union of Radio Science (URSI). The National Academy of Sciences, Engineering, and Medicine (NASEM) manages the US relationship with URSI through USNC-URSI. Please see the [USNC-URSI Constitution](#) (hereafter known as “the Constitution”) for additional information. Note that if anything in this document disagrees with the Constitution, the Constitution shall be followed.

1.2 Abbreviations

- United States National Committee (USNC)
- International Union of Radio Science (URSI).
- National Academy of Sciences, Engineering, and Medicine (NASEM)
- National Radio Science Meeting (NRSM)
- Memorandum of Agreement (MOU)
- Call for Papers (CFP)
- Radio Science Meeting (RSM) – the joint symposium with IEEE AP-S
- North American Radio Science Meeting (NARSM)
- URSI General Assembly and Scientific Symposium (GASS), one of the three URSI flagship meetings
- URSI Atlantic Radio Science Conference (AT-RASC), one of the three URSI Flagship meetings
- URSI Asia-Pacific Radio Science Conference (AP-RASC), one of the three URSI flagship meetings
- Young Scientist Award (YSA)
- Student Paper Competition (SPC)
- Early Career Scientist (ECS)
- Institute for Electrical and Electronic Engineers (IEEE)
- Antennas and Propagation Society (AP-S)

Section 2 – The USNC-URSI Committee

2.1 Overview

The composition of the USNC-URSI Committee (hereafter known as “the Committee”) is described in the Constitution. This section provides additional information and suggests best practices for various members of the USNC-URSI Committee.

As described in the Constitution, the Executive Committee consists of the Chair of USNC-URSI, the Immediate Past Chair, the Secretary / Chair-Elect, the Accounts Manager Liaison, and anyone else whom the Chair of USNC-URSI may appoint (as described in the Constitution).

The Executive Council consists of the Executive Committee, the Chairs of the USNC-URSI Commissions and the Women in Radio Science Chapter, as well as the NASEM Senior Program Officer for USNC-URSI.

The success of USNC-URSI is important because it is the only U.S. organization that represents applied electromagnetics. Further, the NRSM is one of the few conferences that fosters and promotes works in progress (which allows attendees to obtain feedback from experts in their field). Next, USNC-URSI and the NRSM provides extensive support to students in the form of travel grants, a mentoring luncheon, a friendly a collegial atmosphere (which is particularly suitable for students attending a conference for the first time), etc. Additionally, compared to larger conferences, members can organize special sessions and workshops / short courses on topics of interest to them more easily than at larger conferences. And lastly, unlike many other conferences of a similar size, NRSM abstracts and summaries may be archived in IEEE Xplore (unless the author chooses not to include it upon submitting the abstract / summary).

2.2 Chair of USNC-URSI

The Secretary/Chair-Elect assumes the position of Chair of USNC-URSI during the triennium following their term as Secretary/Chair-Elect. The Chair is an official voting member of the Committee as described in the Constitution. The Chair is the head of the USNC-URSI Executive Committee. The specific duties of the Chair normally include:

- At the beginning of the triennium, the Chair updates the list of Committee members on the NASEM website by emailing the webmaster with the updated information.
- For the National Radio Science meeting (NRSM), the Chair:
 - Organizes and runs the USNC-URSI Business Meeting and Executive Council Meeting.
 - Creates and manages the Call for Papers. As part of this process, the Chair checks the list of topics for each Commission with the Commission Chairs and Vice-Chairs.
 - Sets the NRSM dates and schedule with agreement of the Executive committee, with input from the Officers and Committee, and Christina Patarino at UC Boulder (who provides conference support for the NRSM).
 - Works with the Officers and Christina Patarino to plan and organize the NRSM.
 - Asks the Commission Chairs to organize special sessions for their Commission, review the submissions (abstracts and summaries) in their Commissions, accept/reject the submissions, form sessions, and assign session chairs.

- Arranges the sessions to form the program for the meeting, and oversees putting together the program booklet.
- Ensures that presenters are sent an email confirming the acceptance or rejection of their abstracts.
- Invites and coordinates guest speakers (plenary talks, etc.).
- Works with Christina Patarino at CU Boulder to manage the NRSM website.
- Arranges with (currently) Conference Management Services to oversee the submission and review of abstracts and summaries.
- Attends the student luncheon. Ideally each table of students will include a USNC-URSI committee member.
- Works with the Accounts Manager to determine how many students to support to attend the NRSM.
- The Chair organizes and runs any Strategic Planning Meetings that may occur during the year. (These may take place during the NRSM, RSM – the joint symposium with IEEE AP-S, or may be held online at any time, e.g., during the summer.)
- The Chair may choose to organize an Executive Council Meeting outside the NRSM, (e.g., online or at the joint meeting during the summer) as needed.
- The Chair will interact with the USNC-URSI Committee and conduct votes on matters that arise during the year as needed.
- The Chair oversees USNC-URSI's participation in any MOU's (such as the one with IEEE AP-S for the joint summer symposium).
- The Chair manages any changes to the Constitution (which will need to be voted on during the Committee Meetings) and sends the updated Constitution to the NASEM Representative for approval.
- The Chair may appoint the Student Travel Program & Paper Competition Chair, Accounts Manager Liaison, and other chairs as needed at the beginning of each triennium.
- The Chair invites nominations of people to serve as society representatives, government liaisons and Members-at-Large in advance of the next triennium. The Chair appoints the government liaison and society representatives. The Committee votes on the members-at-large positions.
- The Chair invites nominations for Secretary/Chair-Elect in advance of the next triennium. The Chair oversees the election of the Secretary/Chair-Elect.
- For the URSI GASS, the Chair:
 - The Chair attends the URSI GASS and participates in the URSI Council meetings there, including voting for the USA's choice of URSI President and four Vice Presidents.

- The Chair puts together any reporting required by the NASEM after attending the URSI GASS.
- After abstracts for the URSI GASS are accepted, the Chair works with the Commission chairs to determine which members will receive the USNC-URSI travel grants for the URSI GASS (for more information, see the Financial Accounts section). Applications are solicited from all of the USNC-URSI Commissions. Applicants may be Members, Associate Members, or Early Career Members of a Commission.
 - During the selection process, URSI provides the Chair a list of the URSI Young Scientist Award (YSA) applicants, and their rankings by the URSI Commissions. The Chair then returns back to URSI a suggested ranking of the YSA applicants from the USA. URSI considers this and then decides on the final YSA awardees. Recipients of the URSI Young Scientist Awards are provided free registration and subsidized accommodations from URSI. They are also provided a stipend from USNC-URSI
 - Applicants from the USA to the URSI YSA who were not selected by URSI to receive a YSA automatically receive a travel grant from USNC-URSI as an “Early Career Scientist (ECS)” (funds permitting).
 - Members, Associate Members, and Early Career Members may apply for USNC-URSI travel grants (funds permitting; they apply through their Commission Chairs). If they do not apply to URSI for a YSA award, then they may apply to USNC-URSI for a travel grant as an Early Career Member.
- The Chair works with the NASEM Senior Program Officer for USNC-URSI to put together a proposal that is submitted every three years in an effort to try to obtain funding for the sponsoring of travel grants for USNC-URSI members to attend the URSI GASS.
- The Chair puts together any reports or documentation required by the NASEM.
- The Chair works with the USNC-URSI Committee to solicit nominations for candidates from the USA who are interested in running for the position of URSI President or Vice President. The Chair oversees the voting on these candidates at the USNC-URSI Business Meeting to decide who the candidates from the USA will be. The Chair contacts the Chairs from other URSI Member Countries to try to promote our candidates and get some of the other countries to officially nominate or endorse our candidates.
- The Chair consults with the other USNC-URSI Officers to coordinate any possible funding for the SPC or travel grants for one of the other URSI Flagship meetings (AT-RASC, AP-RASC).
- For any joint conferences, the Chair ensures that the list of topics for the joint conference includes USNC-URSI topics, that USNC-URSI interests are considered in the organization of the conference, and that two USNC-URSI representatives are included on the Special Sessions Committee for the conference (typically the Chair and Secretary serve).

- The Chair works with the NASEM Representative to submit every 5 years a proposal to NSF to help support the activities of the USNC-URSI (the NASEM Representative takes the lead and the Chair provides input). The chair also works with the NASEM Representative to submit a separate proposal to help support student travel.
- Awards:
 - The Chair sends out a call for nominations and the nomination form for the URSI Senior Awards and Early Career Awards, appoints the chair of the URSI Senior and Early Career Awards committees, oversees the award nomination process, and submits the official nomination forms from USNC-URSI to international URSI by the August 15 deadline in the year preceding the URSI GASS.
 - The Chair sends out a call for nominations and the nomination form for the USNC-URSI Awards and appoints the chair of the USNC-URSI Awards committee, oversees the award nomination process.

2.3 Secretary/Chair-Elect

The Secretary/Chair-Elect is an official voting member of the Committee as described in the Constitution. The Secretary/Chair-Elect is elected by the Committee from among the present and past voting members of the Committee. Specific duties of the Secretary/Chair-Elect normally include:

- Acts as a backup for the Chair as necessary.
- Sends a copy or a link to the operating manual to the Commission Chairs and Vice Chairs at the beginning of each triennium so that they are aware of it.
- Membership Lists:
 - Gives the Commission Chairs and Vice Chairs access to their membership lists at the beginning of each triennium.
 - Works with all of the Commissions to manage their membership lists and to maintain a combined membership list (that includes the emails of all USNC-URSI members).
 - After the NRSM or the joint summer symposium, or whenever a new member is added to a commission, the USNC-URSI Chair-Elect should:
 - Notify the NASEM. The NASEM will send out a letter and a certificate to the new members.
 - Make sure that member's email address is added to the commission's membership list.
 - Add that member's email address to the complete USNC-URSI email distribution list.
- Coordinates meeting invitations and presentations for USNC-URSI Committee Business, Executive Council, and any Strategic Planning Meetings.

- Takes minutes during each USNC-URSI Committee Business Meeting and Executive Council Meeting and then:
 - Sends the draft minutes to the Executive Committee (Chair, Immediate Past Chair, Accounts Manager Liaison, Publications Chair, and anyone else appointed to the Executive Committee by the Chair) for edits.
 - Emails the edited draft minutes for both meetings to the full list of members of USNC-URSI (not just the voting members and also not just the members in attendance) for them to review. The draft of the meeting minutes should ideally be sent to the committee members within a couple of weeks of the meetings. Requested edits should be sent back to the Secretary within 30 days of the minutes being emailed; otherwise, the minutes are automatically accepted within 30 days.
 - Posts the final, accepted version of the minutes to the USNC-URSI archive website.
- Attends the NRSM student luncheon. Ideally each table of students will include a USNC-URSI committee member.
- Gives a report at the USNC-URSI Committee Business Meeting on any topics deemed appropriate.
- Prepares and distributes the Commission Feedback Form to the Commission chairs after the USNC-URSI Business Meeting, and collects the results before the USNC-URSI Executive Council Meeting. Shares the results with the Chair, and reports on the results during the USNC-URSI Executive Council Meeting.
- Manages updates to the NASEM USNC-URSI website, as well as updates to the USNC-URSI Archive website.
- Arranges the voting for anything the Committee must vote on (such as the Secretary/Chair-Elect for the next triennium, changes to the Constitution, electing Members-at-Large, etc.). Typically, the votes are collected by a neutral party, such as the NASEM Representative.
- May be asked to serve on the Special Sessions Committee for any joint meetings, such as the summer IEEE AP-S and USNC-URSI Radio Science Meeting.
- Provides information on major milestones and accomplishments (e.g. student paper competition awardees, URSI awardees, videos of keynote speakers posted online, etc.) to the NASEM as needed to publicize (e.g. on social media).

2.4 Immediate Past Chair

The Chair assumes the position of Immediate Past Chair during the triennium following their term as Chair. The Immediate Past Chair mainly has an advisory role, working closely with the other Officers (Chair, Secretary/Chair-Elect, and Accounts Manager) to do planning and policy development, and in general helping USNC-URSI to run smoothly. The Immediate Past Chair is in a position to offer helpful advice, having previously been

the Chair. Although the Chair and Secretary/Chair-Elect are those who are responsible for the routine activities of USNC-URSI, the Immediate Past Chair can take on as many duties as agreed to by the rest of the Officers. The Immediate Past Chair is an official voting member of the Committee as described in the Constitution.

Specific duties of the Immediate Past Chair normally include:

- Alerting Inge Heleu (info@ursi.org) of the new Chair and Secretary/Chair-Elect of USNC-URSI at the beginning of the new triennium.
- Participating in the Business Meeting and Executive Council Meeting at the National Radio Science Meeting (NRSM).
- Assisting with preparations for the NRSM.
- Attending the NRSM student luncheon. Ideally each table of students will include a committee member.
- Participating in and assisting with USNC-URSI business throughout the year and assisting the other USNC-URSI officers to the extent possible.
- Voting on all matters related to USNC-URSI.
- Attending the GASS during the triennium they hold the office, and participating in the URSI Council meetings that take place there.

2.5 Immediate Past Chair of the Previous Triennium

The Immediate Past Chair of the Previous Triennium may be asked to oversee the URSI awards selection process and also serve as the Chair of the USNC-URSI Awards Committee.

2.6 Example Positions and Committees Previously Appointed by the Chair of USNC-URSI

Accounts Manager Liaison

The Accounts Manager is elected by the Committee from among the present and past voting members of the Committee and may be reappointed by the Chair of USNC-URSI for subsequent terms. The Accounts Manager is a voting member of the Committee and is in charge of interacting with USNC-URSI and with the NASEM for all matters related to the Private Account (the account where USNC-URSI keeps its funds; see Section 6). The Accounts manager notifies the NASEM any time the Private Account is used to pay expenses encountered by USNC-URSI. The Accounts manager also gives a presentation during the USNC-URSI Business Meeting at each NRSM to review the status of the Private Account and the financial status of USNC-URSI.

Student Support & Student Paper Competition Chair

The Student Paper Competition (SPC) Chair is appointed by the Chair of USNC-URSI. The SPC Chair manages the Ernest K. Smith Student Paper Competition and also coordinates which students receive student support for attending the USNC-URSI National Radio Science Meeting. This includes:

- Advertising the SPC and travel support.
- Arranging a committee to review the papers submitted to the SPC.
- Checks that the SPC submissions are compliant.
- Coordinates with the committee the reviews of the SPC submissions.
- Ranks the students according to the reviews submitted by the committee, determines which students are finalists (usually 3), and provides the results for the finalists to the chair of USNC-URSI so that they can be added to the NRSM program.
- Checks that the students who applied for student support are eligible for support and provides the list of eligible students to the USNC-URSI Chair and the NASEM Representative.
- Prepares the slides for introducing the SPC finalists during the NRSM.
- Makes sure the details of the SPC on the NRSM website are up-to-date.

Publications Chair

The Publications Chair may be appointed by the Chair of USNC-URSI. The Publications Chair manages all publication-related matters for USNC-URSI, including:

- Obtaining an ISBN for each upcoming conference (the NRSM and joint meetings) so that abstracts and summaries may be published in IEEE Xplore
- Registering USNC-URSI conferences for submission to IEEE Xplore. This includes filling out the conference application form and conference publication form, providing Lance at CMS the ISBN and LOI document, etc.)
- Maintaining publication agreements signed by authors participating in USNC-URSI conferences.
- Maintaining the USNC-URSI Constitution.
- Maintaining the USNC-URSI Operation Manual.
- Maintaining the domain names for any USNC-URSI websites.

Workshop and Short Course Chair

The Workshop and Short Course Chair creates and oversees a committee. This committee:

- Solicits proposals for workshop and tutorial topics and speakers to be held at the NRSM. This includes updating information and the workshop proposal form on the NRSM website.
- Chooses which proposals will be included in the NRSM program.
- Provides the finalized information to the Chair and Chair-Elect about one month before registration opens for the NRSM.

Sponsors and Exhibits Chair

The Sponsors and Exhibits Chair creates and oversees a committee to help find sponsors and

exhibitors for the NRSM.

2.7 Commission Chairs

There may be up to ten Commission chairs:

- Commission A (Electromagnetic Metrology)
- Commission B (Fields and Waves)
- Commission C (Radiocommunication Systems and Signal Processing)
- 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)

The Commission Vice-Chair normally assumes the position of Chair during the triennium following their term as Vice-Chair (though exceptions are allowed; this is up to the Commission). When Commission Chairs first start their terms, they should make sure that the Commission websites are updated and list the new Commission Officers.

The Commission Chairs:

- Organize and hold business meetings during the NRSM and also the RSM (the joint symposium with IEEE AP-S) if their Commission participates in that meeting.
 - During the Commission Business Meeting at the NRSM, the questions / items in the Commission Business Meeting form should be discussed (the form is provided by the USNC-URSI Secretary).
 - Minutes should be taken by the Commission Secretary (if there is one) or other Commission officer. After the meeting, the minutes should be approved by the members and posted to the NASEM website under their Commission. One approach for this may be to email the draft minutes to all commission members after the meeting and to give the commission members one month to recommend edits to the minutes as needed. Thereafter, the minutes may be considered automatically approved by the commission members, and they can be posted to the NASEM website.
 - New members may be elected during the NRSM or joint summer symposium commission business meetings. Note that the Commission Chair of the previous triennium should forward to the new Commission Chair any nominations they may have received towards the end of the previous triennium but were not voted upon yet. After a new member is elected:

- The Commission Chair (or the Commission Membership Chair) should congratulate the new members and notify anyone whose nomination was not approved.
- The Commission should add the new member's information to their membership list.
- The Commission should alert the USNC-URSI Chair and Chair-Elect, so that they can notify the NASEM. The NASEM will send out a letter and a certificate. Also, that member's email address should be added to the complete USNC-URSI email distribution list.
- Commission Chairs should fill out the Commission Report Form (provided by the USNC-URSI Secretary) after their Commission's Business Meeting at the NRSM, and then submit the form to the Secretary/Chair-Elect before the Executive Council meeting (typically held towards the conclusion of the NRSM).
- Manage the reviews of abstracts submitted to the NRSM and the RSM (the joint symposium with IEEE AP-S) for their Commissions, the acceptance of these abstracts, the formation of sessions in their Commissions, and the assignment of session chairs for sessions in their Commissions (including confirming with those chairs that they will actually serve as session chairs).
 - During the formation of sessions, papers with similar topics should be grouped together into sessions as well as possible in order to avoid angering the speakers within those sessions. Papers from different Commissions may be grouped together into a session if the topics align. Sessions should ideally have 5 or 10 papers (sessions with 4 or 9 papers are less ideal; sessions with 6 and 11 papers are challenging to fit into the NRSM schedule; and sessions with any other numbers of papers should be completely avoided unless discussed with the Chair of USNC-URSI). Each talk in the special sessions should be about 17-18 minutes to leave time for 2-3 minutes for questions.
- Review and edit the topics for the Commissions in the CFP for both the NRSM and the RSM (the joint symposium with IEEE AP-S).
- Solicit special sessions for their Commission and (as appropriate) joint with other Commissions.
- Provide ideas for topics and speakers for the plenary talks at the NRSM.
- Attend the NRSM student mentoring luncheon. Ideally each table of students will include a USNC-URSI committee member.
- Help select the members from their Commission that should receive USNC-URSI travel grants to attend the URSI GASS.
- Recruit and nominate candidates for URSI Vice-Chair positions.

- Receive some funding that they may spend during their term (See Section 6.2 for more information).
- May receive some funding to attend the URSI GASS each triennium (See Section 6.3 for more information).
- Arrange at the end of each triennium for their Commission Members to vote and select the next Vice-Chair for their Commission (and also the next Chair if the Vice-Chair of the previous triennium is not automatically becoming the next Chair). Voting is best completed in person during the Commission Meeting at the last NRSM meeting of the triennium (typically ~12 months before the end of the triennium), however the vote may also be conducted electronically.

To help complete their assignments, chairs of Commissions with a large number of members (such as Commission B) may wish to have additional positions within their Commissions, such as a Secretary, Technical Activities Chair, and Membership Chair.

2.8 Commission Vice-Chairs

Each Commission has a Vice-Chair that:

- Acts as a backup for the Commission Chair as necessary (for example, the vice-chair attends the business and executive meetings usually held at the beginning and end of the NRSM if the chair is unable).
- Assists the Commission Chair with Commission duties throughout the year.

If Commissions have a hard time filling their Vice-Chair positions, they may want to consider adding another leadership position to their commission (such as a technical activities chair or a secretary). For example, in some commissions, the Secretary automatically moves up to the Commission Vice-Chair position during the triennium following their term as Secretary, and the Vice-Chair automatically assumes the position of Chair during the triennium following their term as Vice-Chair. This establishes a pipeline of people who can serve in leadership roles within the commission.

2.9 USNC Women in Radio Science Chair

USNC-URSI established the Women in Radio Science (WIRS) Chapter in 2019; see Section 10 for more details. The WIRS Chapter has three officers: Chair, Vice-Chair and Secretary. The WIRS Chair is a voting member of the Committee. The WIRS chapter receives some funding that they may spend during their term (See Section 6.2 for more information).

2.10 Members-At-Large

Members-at-Large are selected by vote by the USNC-URSI Committee (see the Constitution). Before voting, each candidate could be asked to provide a short statement

about what they hope to accomplish as a Member-at-Large and a resume or CV (or similar). Some possible options for voting include:

- Each voting member votes for six candidates (or the number of Members-at-Large as dictated in the Constitution). The candidates with the most votes will be selected.
- Each voting member votes for six candidates (or the number of Members-at-Large as dictated in the Constitution). Any candidates receiving greater than 50% of the vote are selected. Any candidates receiving less than 50% of the vote are included in a second round of voting until a total of six Members-at-Large are selected.
- Typically, the votes are collected by a neutral party, such as the NASEM Representative.

Members-at-Large are expected to:

- Participate in the USNC-URSI Business Meeting that is usually held at the beginning of the NRSM each year.
- Vote on issues that arise.
- In general, be willing to assist USNC-URSI as needed. Examples include:
 - Serving on ad hoc subcommittees
 - Developing relationships with other scientific and engineering organization, etc.
 - Providing expertise and guidance on radio science-related topics, including emerging trends and technologies
 - Reviewing and providing feedback on USNC-URSI activities and initiatives
 - Advising on opportunities for interdisciplinary collaboration and partnerships within the field of radio science
 - Assisting in identifying potential funding sources and resources for USNC-URSI activities (sponsors for NRSM)
 - Promoting the visibility and importance of USNC-URSI and radio science within the scientific community, government, and industry

As outlined in the Constitution, the officers of the Executive Committee are selected from present and past voting members of the Committee. As a result, the inclusion of Members-at-Large as voting members of the Committee helps to broaden the pool of eligible candidates to serve as the Chair and Chair-Elect of the USNC-URSI.

2.11 NASEM Representative

The NASEM Representative is responsible for maintaining relationships (including financial) with all international unions, including URSI. The NASEM Representative is also responsible for ensuring that the USNC-URSI annual dues are paid to URSI.

Additionally, the NASEM Representative submits every 5 years a proposal to NSF to help support USNC-URSI activities. They also submit a separate proposal to help support student travel.

The USNC-URSI committee must remember that:

1. USNC-URSI cannot announce any candidates for positions (elections) or ballots without first consulting the NASEM Representative.
2. No statement can be issued or sent using the name of the committee without consulting with the Academies.
3. Any new activity/flyer needs to be sent two months in advance before announcement since a specific group of the Academies needs to review it and approve it.
4. Every year every award letter / email needs to be revised and approved by the appropriate group of the Academies. Further anyone receiving an award must be approved by the Academies before the award is issued.
5. Every time a USNC-URSI member or anyone receiving travel support from the committee needs to notify the NASEM Representative AHEAD of the meeting/travel. Otherwise, the NASEM may not be able to reimburse the traveler.

2.12 Liaison Representatives from Government Agencies

Government Liaisons represent a particular government agency, and bring that unique perspective to the Committee. They are expected to participate in the USNC-URSI Business Meeting usually held at the beginning of the NRSRM each year and engage in discussions. They are also expected to help USNC-URSI in any way that is deemed appropriate. This may include:

- Providing expertise and guidance on radio science-related topics, priorities for agencies, including emerging trends and technologies
- Reviewing and providing feedback on USNC-URSI activities and initiatives
- Advising on opportunities for interdisciplinary collaboration and partnerships within the field of radio science
- Assisting in identifying potential funding sources and resources for USNC-URSI activities (sponsors for NRSRM)
- Promoting the visibility and importance of USNC-URSI and radio science within the scientific community, government, and industry
- Ensuring the radio science community knows how to submit proposals to DoD

The government representatives benefit from their positions as follows:

- They can interact with the next generation of researchers.
- They can recruit students.
- They may choose to ski in Colorado after attending the NRSRM! (Note that funds for skiing are provided by USNC-URSI.)

It may be in particular beneficial to select program managers and end-users to serve in the government representative positions. Candidate government entities include: ARO, ARL, Space Force, IARPA, DARPA, NIST, ONR, NRL, Sandia National Labs, MIT Lincoln Labs, etc.

Since the officers of the Executive Committee are selected from the present and past voting members of the Committee, serving as a liaison representative from a government agency by itself does not qualify them to serve as the Chair and Chair-Elect of the USNC-URSI.

2.13 Society Representatives

USNC-URSI has representatives from national societies and groups in the United States. Candidate societies include the American Astronomical Society (AAS), the American Geophysical Union (AGU), the American Meteorological Society (AMS), the IEEE Antennas and Propagation Society, the IEEE Geoscience and Remote Sensing Society (GRSS) and the IEEE Microwave Theory and Techniques Society (MTT-S). Society Representatives are expected to:

- Participate in the USNC-URSI Business Meeting that is usually held at the beginning of the NRSRM each year.
- Vote on issues that arise.
- Ensure the perspectives from their respective societies are considered in Committee deliberations.

They are also expected to help USNC-URSI in any way that is deemed appropriate. This may include:

- Providing expertise and guidance on radio science-related topics, including emerging trends and technologies
- Reviewing and providing feedback on USNC-URSI activities and initiatives
- Advising on opportunities for interdisciplinary collaboration and partnerships within the field of radio science
- Advising on opportunities for interdisciplinary collaboration and partnerships within the field of radio science

As outlined in the Constitution, the officers of the Executive Committee are selected from present and past voting members of the Committee. As a result, the inclusion of Society Representatives as voting members of the Committee helps to broaden the pool of eligible candidates to serve as the Chair and Chair-Elect of the USNC-URSI.

2.14 Honorary Members

Honorary member positions are reserved for those that have held distinguished roles at the USNC-URSI or URSI levels. This is a non-voting position, but has a lifetime term.

2.15 Selection of the New USNC-URSI Chair-Elect

During the year prior to the last NRSM to be held before the URSI GASS, nominations should be solicited from USNC-URSI members for the USNC-URSI Chair-Elect position for the next triennium. Each nominee should submit to the USNC-URSI Chair, Chair-Elect, and Immediate Past Chair a 1-page description of their relevant experience and a 1-page statement of interest for the position for which they are being nominated by December 1. Self nominations are welcome.

About one month prior to the last NRSM prior to the URSI GASS, the USNC-URSI Chair should email out the list of candidates along with their documents to the USNC-URSI Committee, so that they can review them prior to the Business Meeting to be held during the last NRSM prior to the URSI GASS. During that Business Meeting, each nominee should be given up to 4 minutes to address the USNC-URSI Committee. After each nominee speaks, the candidates should leave the room. The USNC-URSI Committee should then hold a discussion, and the voting members of the USNC-URSI committee should then vote. Any USNC-URSI Officer nominees who are also voting members of the committee should not participate in the voting. The chosen candidate should receive at least 50% of the vote. In the case of a tie, the USNC-URSI Chair-Elect will cast the deciding vote.

The selected Chair-Elect may be appointed by the USNC-URSI Chair to the USNC-URSI Executive Committee for the last year of the triennium to help them become more familiar with USNC-URSI and current issues / activities before their term as Secretary and Chair-Elect officially begins.

Section 3 – Conferences and Meetings

3.1 Conferences

USNC-URSI is typically involved in three types of conferences:

- The USNC-URSI NRSM (National Radio Science Meeting) is typically held in January of each year. The exception is for those years when there is a North American Radio Science Meeting (NARSM), which is any summer meeting that is joint between IEEE AP-S, the Canadian National Committee of URSI (CNC-URSI), and USNC-URSI (i.e. CNC and USNC join together for the symposium).
 - When scheduling the USNC-URSI NRSM, dates that are too close to the new year are more challenging for the organizers (i.e. Boulder). In the case where there may be a conflict with another conference of interest to USNC-URSI Commissions, the sessions for the Commissions having a conflict should be scheduled to avoid a direct conflict with the other conference as much as possible.
- The URSI GASS (General Assembly and Scientific Symposium) is typically held every three years.

- There may be joint meetings/conferences with other organizations (these would include a financial involvement by USNC-URSI). Examples include the summer joint symposium (the RSM or Radio Science Meeting) that is joint with IEEE A-PS and the joint symposium with the Canadian National Committee of URSI (CNC-URSI) usually by way of the NARSM.
 - For the joint meeting with IEEE AP-S, the chair of the special sessions committee (along with the chair of the New Technologies Committee) will ask for two USNC-URSI representatives to serve on the special sessions committee. Typically, the chair and chair-elect of USNC-URSI serve in this role.
 - All commissions are welcome to participate in the joint meetings / conferences, but typically Commissions G, H, and J do not participate in the summer joint symposiums.
 - For each joint conference, USNC-URSI should decide if they will participate (this question is usually posed to the commissions during their business meetings and voted upon) and individual Commissions should decide if they will participate. If USNC-URSI as a whole participates, then the Call for Papers for that conference should be reviewed to make sure USNC-URSI topics are included and the contact information for USNC-URSI representatives for the participating Commissions is included. Additionally, typically two representatives (usually the Chair and the Secretary of USNC-URSI) will serve on the Special Sessions Committee for the conference.
- There may be technical co-sponsorships with other conferences when the topics of the conference and the USNC-URSI overlap (this type of co-sponsorship does not include a financial component). Approval to co-sponsor the conference is obtained by a vote of the executive council. The benefits of this type of co-sponsorship are to bring visibility to USNC-URSI.

3.2 Meetings

There are typically three sets of meetings (see the Constitution for more details about who attends each meeting):

- USNC-URSI Committee Business Meeting. This meeting is typically held prior to the start of the NRSM (Tuesday evening).
- Executive Council Meetings. This meeting is typically held at the conclusion of the NRSM (Friday or Saturday morning), attended by the USNC-URSI Officers, Commission Chairs (or their representatives), and others at the discretion of the Chair. Additional Executive Council meetings may be held at the discretion of the Chair.
- Strategic Planning Meetings. These meetings with the Officers and Executive committee are typically held at least twice each year. They may be held at one of the conferences for convenience, or at some other time (in which case they may be held online).

3.3 IEEE AP-S / USNC-URSI Joint Meetings Committee

The IEEE AP-S / USNC-URSI Joint Meetings Committee has four USNC-URSI representatives and four AP-S representatives. All four USNC-URSI representatives are appointed by the Chair of USNC-URSI, serve for the triennium, and may be reappointed for additional terms. One of the four USNC-URSI representatives is appointed as the USNC-URSI Meetings Coordinator, who often serves several terms to take advantage of his or her corporate memory and experience.

Section 4 – Membership

4.1 Overview

Individuals may become members of one or more of the ten USNC-URSI Commissions. Membership in a USNC-URSI Commission comes from election of new members held by the Commissions. The election of new members normally occurs during the Commission business meetings held at the NRSM or the RSM (for those Commissions that participate in the RSMs). However, elections of members are allowed by email or other electronic means. The official nomination form should be used by all Commissions. This form may be found from the USNC-URSI Archive (<https://www.usnc-ursi-archive.org>) or the USNC-URSI website (www.usnc-ursi.org). The membership guidelines may also be found on the USNC-URSI Archive site. The guidelines are copied below.

When a new member is added to a commission, the commission should alert the USNC-URSI Chair and Chair-Elect, so that the Chair-Elect can notify the NASEM. The NASEM will send out a letter and a certificate. Also, that member's email address should be added to the complete USNC-URSI email distribution list.

4.2 Membership Guidelines

- Nominees for Full Member must be citizens or permanent residents of the US.
- Nominees for Associate Member must reside in the US, and Associate Members must reside in the US to remain Associate Members. There is no citizenship or permanent residency requirement for Associate Members.
- Nominees for Early Career Member must be either (a) enrolled as a student at a US university, or (b) employed at a US university or government organization, or at a company with facilities in the US, and must reside in the US. Early Career Members must continue to reside in the US to remain Early Career Members. There is no citizenship or permanent residency requirement for Early Career Members.
- Nominees for Early Career Member are limited to individuals having ten (10) years or fewer of professional experience since their last academic degree (bachelor's or higher). The experience need not be continuous.

- Any member of the Commission can nominate qualified persons for Member, Associate Member, or Early Career Member in the Commission, provided that the person making the nomination holds a level of membership at least as high as the level for which the nomination is made. A separate nomination form should be completed for each nominee.
- No limit is imposed on the number of nominations that a Commission member can make if the nominees are from outside the sponsor's institution. A sponsor is allowed to nominate one person from his or her own organization for Member and one for Associate Member for consideration at any one regular meeting of the Commission. No limit is imposed on the number of Early Career Member Nominations.
- Membership in Commissions of USNC-URSI is predicated on technical competence in radio science/engineering and interest in the activities of USNC-URSI and URSI. Evidence of technical competence is to be found from the nominee's publications and accomplishments, and evidence of interest in the activities of URSI is to be supported by the nominee's participation in URSI symposia. Guidelines for minimum requirements are as follows:
 - Full Member: Five to six journal publications and three USNC-URSI or URSI presentations, with two in the Commission. In addition, Member nominees should have evidence of scientific maturity and leadership in their work.
 - Associate Member: Two to three journal publications and two USNC-URSI or URSI presentations, with one in the Commission.
 - Early Career Member: co-author of one USNC-URSI or URSI presentation in the Commission and attendance at one USNC-URSI symposium.
 - Allowances will be made for fewer articles of special significance, or for scientific and research accomplishments of unusual merit.
- Nominations are normally considered only at the regular Business Meetings of the Commissions. Exceptions to this (e.g., holding elections of new Members by email voting) are allowed by the USNC-URSI Constitution; the USNC-URSI Executive Committee (Chair, Secretary/Chair-Elect, Immediate Past Chair, Accounts Manager, and Publications Manager) should be informed in advance of an email election of new Members. The results of the election must be forwarded to the USNC-URSI Executive Committee as soon as possible after the election is held.
- Early Career Members and Associate Members are nonvoting members of the Commission; Full Members are voting members of the Commission. Early Career Members and Associate Members may not serve as officers of the Commission. They may serve on committees of the Commission as directed by the Chair or Vice Chair of the Commission.

Section 5 – Information for Members

5.1 Opportunities

Members may become more involved in USNC-URSI by:

- Expressing an interest in being considered for a position within the USNC-URSI Committee, such as those appointed by the Chair of USNC-URSI or one of the member-at-large positions.
- Self-nominating or being nominated for the following positions, which may be available within a particular Commission. These positions are voted upon by each Commission during the Commission business meetings (typically towards the end of each triennium):
 - Commission Vice-Chair/Chair-Elect
 - Commission Secretary (Note: Not all Commissions have this position.)
 - Commission Membership Chair (Note: Not all Commissions have this position.)
 - Commission Technical Activities Chair (Note: Not all Commissions have this position.)

5.2 Help with International Visas

The International Visitors Office (IVO) at NASEM 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. USNC-URSI 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. Flanner Wasson (FWasson@nas.edu) is the person in charge of the program at NASEM.

Section 6 – Financial Accounting

6.1 Income

There are generally five sources of income for USNC-URSI:

- Revenues from the NRSM and the RSM (the summer meeting that is joint with IEEE AP-S).
- A National Science Foundation grant, which is obtained through a proposal from the Board of International Scientific Organizations (BISO) of the NASEM (covering all United States National Committees). This funding pays for URSI dues.
- A National Science Foundation grant, every three years, which helps pay for travel grants for USNC-URSI members to attend the URSI GASS (we must remember to apply for it).
- Donations, either in honor of past members of USNC-URSI (usually provided by family or a private collection of individuals) or grants (provided by an agency of the US Government in response to a proposal from the NASEM on behalf of USNC-URSI).

URSI). These funds are typically used for student awards and travel to USNC-URSI meetings.

Funds that belong to USNC-URSI are held in what is called the USNC-URSI “Private Account,” which is held and managed by the NASEM. The USNC-URSI Accounts Manager is in charge of interacting with USNC-URSI and with the NASEM for all matters related to the Private Account. Although the funds belong to USNC-URSI, the NASEM must be notified any time the Private Account is used to pay expenses encountered by USNC-URSI and typically levies a charge for removing money from the Private Account.

6.2 Commission Chair and WIRS Budgets

Commission Chairs are provided funding that they may spend during their term. The present allowance is \$3K for each triennium. Commission Chairs have leeway in deciding how to spend these funds, as long as it benefits their Commission. They may use the funds to help pay for their travel expense to attend the NRSM if they wish. Normally, their travel expenses to the URSI GASS will be covered separately (funds permitting), so they do not need to spend their allowance on this. **Please note:** Commission chairs must receive approval from the USNC-URSI Accounts Manager and also alert the NASEM BEFORE the meeting takes place in which they want to spend this funding. Further, the commission chairs must fill out the reimbursement forms prior to the meeting.

The WIRS Chapter receives 500 Euros each YEAR from URSI to support their activities. Each member country (USNC-URSI) must request this amount from the Secretariat of URSI (currently Peter van Daele) with a simple description of its use. Typically this has been applied to the WIRS reception during the NRSM, however it can be used on whatever the WIRS officers decide.

6.3 Travel Support

Travel support may be available under the circumstances listed below. Approval from the USNC-URSI treasurer and the NASEM must be obtained well before the date of travel. Any travel support for the NRSM comes from a National Science Foundation grant, and thus the airfare must be booked through the NASEM travel agency (because we must comply with the American Fly Act). Any travel support for the joint meeting or GASS comes from the private account, and thus airfare does not need to be booked through the NASEM travel agency (however, confirm this before booking).

- The chair, past chair, and chair-elect of USNC-URSI can request travel support to the NRSM, the joint symposium, and the URSI GASS. Travel to the NRSM is covered by an NASEM grant, whereas travel to the joint symposium is covered by private funds.

- The commission chairs may use their \$3k (their allotment for the entire triennium) for travel to the NRSM or joint symposium (for themselves or for others in the commission). They must notify the NASEM before they intend to use any funds for travel.
- A finite amount of funds are used to support student and plenary speaker travel to the NRSM.
- A finite amount of funds may be available for commission chairs, Young Scientist awardees, past URSI (not USNC-URSI) officers, Student Paper Contest applicants, and regular members to travel to the URSI GASS. The NASEM NSF grant pays for some of this travel and the private account pays for the rest that are selected: Early career members without a Young Scientist award from URSI, Young Scientist awardees from URSI (they get free registration and lodging, and we provide funds for travel), regular members. Section 7 for more info.
 - Commission Chairs may receive up to \$4k to attend the URSI GASS if they receive prior approval from the NASEM. Receipts are required for all (air, rail, rental car) transportation costs, and all expenses over \$75 (hotel, meals) will be required.
 - As just an example, in 2023 for travel to Japan, YSA awardees received \$1500, YSA applicants who did not receive an award received \$2000, and USNC-URSI members who were able to receive support received \$1500.

6.4 Joint Symposium Finances

In dealings with the IEEE AP-S, the most frequent contact is the treasurer of IEEE AP-S.

We may be asked (jointly with IEEE AP-S) for an advance for the joint symposium each year. The AP-S treasurer will alert USNC-URSI as to whether any advance funds have been requested and are owed for future APS-URSI summer meetings (usually, about \$15k – 20k). The AP-S Treasurer (with information from AP-S AdCom) will also inform USNC-URSI whether these advance funds may be covered from the surplus of the past conference.

- It is good practice to advance funds from site-to-site because the funds are then not “taxed” by NASEM. This process is a bit more complicated when the joint meeting is held outside of the US (approximately every three years) because different amounts of advance funding may be required.
- We would expect to make up each advance when the meeting is held (as long as it doesn’t go into the red).
- Each advance needs to be provided in a timely manner according to the terms outlined in the IEEE/NASEM (USNC-URSI) MOU.
- Although USNC-URSI papers usually comprise about 20-25% of the presented papers at the symposium, historically USNC-URSI has provided 50% of the advance funds requested by the steering committee. If a very large amount is requested as an advance, we may want to be careful about providing such large funds in advance (even though we should in the end get it back). We should also consider if such a large advance will work with our overall budget. When the joint meeting is held outside of the continental U.S., the surplus from the joint symposium must be shared with the local URSI

committee (if they participate). We may want to consider this when we decide how much of an advance we can support.

- Each advance is paid for through the USNC-URSI private account.

The surplus resulting from the summer joint symposiums is distributed according to a formula that involves the number of AP-S and URSI attendees, numbers of papers, and a few other elements (“Appendix A” of the MOU between IEEE AP-S and USNC-URSI). However, starting in 2021 the portion that URSI is awarded will be fixed at \$66K per meeting with USNC-URSI having no liability for any meeting losses should they arise (according to “Appendix A2” of the MOU) (the \$66K is adjusted for inflation after the first five years). Starting with the 2021 meeting in Singapore, and assuming a surplus from the meeting, the IEEE AP-S should thus send a check for \$66K to the NASEM for deposit in the USNC-URSI private account and the NASEM Representative will notify the Secretary/President-Elect of the transfer. When another URSI national commission co-hosts the joint symposium, the USNC-URSI usually shares the proceeds 50/50 with the other commission (to keep things simple, and to avoid the need to count papers from different commissions, etc.).

The USNC-URSI usually sponsors the student paper competitions at AT-RASC (\$2500 for four cash awards of \$1k, \$750, \$500, and \$250) and URSI GASS (\$5k for five cash awards of \$1.5k, \$1250, \$1k, \$750, and \$500). We sponsor these because it seems to be good publicity and because the USNC-URSI is in a better financial situation in general than many of our international counterparts. The request to sponsor these usually comes through email from the URSI president.

6.5 Notes and Best Practices

Any surplus from the NRSM meeting will be sent to the NASEM, and we will be notified by NASEM Representative. The amount can range from almost nothing (such as with the 2021 virtual meeting) to an amount in the neighborhood of \$40K depending on the attendance and the registration fee.

It should be noted that the best total income we can normally hope for is approximately \$100K/year. These funds must pay for:

- Student travel to the Boulder meeting (typically around \$60k each year)
- Student and USNC-URSI awards
- Support for Commission Chairs (\$3k per triennium)
- Travel and awards during the year of a GASS.

From these figures, it is obvious that we cannot afford many low-income meetings.

Notes & Warnings:

- Although the funds in the Private Account “belong” to USNC-URSI, the NASEM should be notified when expenditures are planned (via the NASEM Representative, the NASEM Senior Program Officer, presently Ana Ferreras). For protection, every

expenditure should be justified with a paper trail, and that usually starts with a document defining the need for the transfer of funds to the NASEM Representative. The NASEM Representative will take the necessary action depending on the request. An example of this is when the IEEE AP-S asks for advance funding to be forwarded for the next RSM. The AP-S Treasurer sends a Statement of Work to the NASEM explaining why and for what the money is needed. This is the justification that the NASEM needs for tax purposes. Following this, the NASEM sends the check for the USNC-URSI share of the advance to the IEEE and on to AP-S.

- USNC-URSI wants to minimize the dispersing of funds requiring NASEM to write a check because these are “taxed” quite heavily with “G&A” (General & Administrative overhead). If it is a “flow-through,” the tax is considerably less. The NASEM Representative is the best source of an explanation of flow-through. This is a consideration for issuing travel grants to students at the NRSM. (Sometimes this has been done by issuing checks to the students from the NASEM, and sometimes by issuing reimbursements to the students by the NASEM.)
- Never, never, and never be afraid to ask questions. If the person being asked doesn’t know the answer, ask who does and contact them! It can be a laborious process but sometimes it’s the only way.
- Finally, much of the budgeting for the next occasion of an event where we have to tap into the Private Account is based to some extent on what was spent the previous time. For example, the budgeting for the 2021 GASS in Rome was loosely based on what was spent for the 2017 GASS out of the money given by the NASEM (from NSF) and the Private Account plus a small increase due to the change in locations (Rome vice Montreal).

Section 7 – URSI Awards and GASS Travel Support

7.1 URSI Awards

Information about the international URSI awards is provided on the international URSI website. Nominations are due by Aug. 15th in the year before each URSI GASS, however USNC-URSI has an internal deadline of July 15th so that one U.S. nomination per award may be forwarded to URSI for consideration. Typically, an Early Career Awards Committee and a Senior Awards Committee are appointed by the Chair to help in the selection process for the awards. In the case that only one nomination is received for any award, the Chair may decide to forward that nomination to URSI for consideration without utilizing the awards committee. The Immediate Past Chair for the Previous Triennium may be asked by the Chair to oversee the awards selection process.

The Senior and Early Career Awards Committees are each typically comprised of three to five members. Candidate members to serve on the committees may be suggested by the Immediate Past Chair for the Previous Triennium; the Chair will make the final selections and appointments. Previous URSI awardees may be good candidates to serve on the committees. When selecting committee members, an effort should be made to have a

suitable balance between commissions, gender, etc. Committee members may be asked to serve multiple times, so that members who have previously served may be asked to serve as the chair of one of the committees. Committee members are encouraged to reach out to various chairs of the USNC-URSI Commissions if that commission is not represented on the committee, and the committee needs assistance evaluating a nominee's qualifications.

7.2 Young Scientist Awards (YSA) and Early Career Scientist Travel Support

In the year of the URSI GASS, there is a Young Scientist Award and Early Career Scientist Program that provides travel support. URSI will email the USNC-URSI Chair the list of applicants from the U.S. along with their abstracts, CV's, and publication lists. The USNC-URSI Chair will be asked to return a ranked list. The URSI committee will use the rankings to allocate a limited number of awards. The awardees will be announced on the URSI website (usually by mid-April). USNC-URSI will then allocate additional travel support awards (early career scientists) depending on the level of funding that is available.

- We assign each YSA applicant on the spreadsheet that we receive from international URSI a "quality" score Q (from 0 to 1) given by $Q = 1 - (R-1)/(N-1)$, where R is the ranking given by the international URSI Commission (1 through N) and N is the total number of YSA applicants that were ranked by that particular commission (the R score in the spreadsheet will probably be column J, and N will be in column K). A higher Q score is the better rank (the best possible score is slightly less than 1).
- We rank all of the USA applicants on the spreadsheet by using their Q scores. Check the ranked list with the list for the previous GASS so we can prioritize first-time applicants.
- After we have entered the final USNC-URSI rankings on the spreadsheet, we send this to URSI by March 30. We wait to see which ones are selected by URSI for YSA awards. We fund all of these applicants, as YSA recipients. They are funded at \$770. They also receive a hotel stipend of \$770 from URSI. Their total award is therefore \$1,540. If these numbers should be increased, we can discuss it with our NASEM representative.
- For the applicants on the spreadsheet that were not selected by international URSI to be YSA recipients, we fund them as Early Career Scientists. We fund them at \$1,000.
- We check the ranked lists of travel support applicants provided by each USNC-URSI commission (see Appendix B, which commissions can use, but each commission can decide on their own how they want to rank their applicants), to make sure that we are not missing any Early Career Scientists who applied using our USNC-URSI travel grant form, but who did not apply for a YSA award on the URSI website. We also fund them at \$1,000.
- We use the \$30k that we have from the NSF grant through the National Academies to fund all of the YSA awardees, assuming that there are less than 30 of them (use the Travel Code for NSF Funding). We use the remaining amount of NSF funds to fund as

many of the Early Career Scientists as we can, up to a limit of \$30k (use the Travel Code for NSF Funding). After we use up the \$30k NSF funding, we use the USNC-URSI Private Account to fund as many of the remaining Early Career Scientists as we can (use the Travel Code for USNC-URSI private funding). If necessary, we can rank the Early Career Scientists by using the same Q formula. (If an applicant did not apply for a YSA award, and therefore was not ranked by an international URSI Commission, we will use a Q score obtained from the rankings of our USNC-URSI Commission Chairs.)

- Our NASEM Representative will be in touch with all of the awardees to communicate the details of how they will be reimbursed.

Section 8 – USNC-URSI Awards

The USNC-URSI awards nomination form is provided in Appendix A.

8.1 USNC-URSI Awards Committee

- The USNC-URSI Awards Committee is composed 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 USNC-URSI awards. The members should serve for one triennium only, and will be selected during the NRSM held at the beginning of each triennium.
- The Awards Committee and the USNC-URSI Officers should actively seek nominations.
- The Awards Committee reviews all of the nominations and makes one selection each for the USNC-URSI Distinguished Radio Science Award, the USNC-URSI Educator Award, and the USNC-URSI Impact Award. The USNC-URSI Chair makes a selection for the USNC-URSI Chair's Award.
- After the Awards Committee and USNC-URSI Chair have made their selections for the awards, approval (with at least a 50% response and a 50% approval rate) by the voting members of the USNC-URSI Committee is required.
- Awards are given at the National Radio Science Meeting or the North American Radio Science Meeting in the year of the URSI-GASS.
- All nominees who are not selected for an award will be respectfully notified by the chair of the Awards Committee after the recipients are notified.

8.2 USNC-URSI Chair's Award

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.

No current member of the USNC-URSI Officers is eligible and ordinarily only one award is made per triennium. It will not be unusual if no award is made.

8.3 USNC-URSI Distinguished Radio Science Award

The USNC-URSI Distinguished Radio Science Award recognizes significant contributions to radio science made throughout an entire career.

8.4 USNC-URSI Outstanding Educator Award

The USNC-URSI Outstanding Educator award recognizes outstanding career achievement by a distinguished educator in the field of radio science. Criteria for the award include:

- Excellence in teaching
- Effective mentoring
- Curriculum development
- Authorship of course material

8.5 USNC-URSI Impact Award

This 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.

8.6 USNC-URSI Awards Committees for URSI Medals

Each triennium, the Chair of USNC-URSI will appoint the chair of an URSI Senior Awards Committee and an URSI Early Career Awards Committee. Traditionally, the chairs have been past recipients of URSI awards (though there is evidently no rule about this). The chairs of these two committees will then invite and establish the other members of these committees (typically each committee will have about four or five members). The purpose of the Senior Awards Committee is to evaluate the nominations that have been received for the URSI Senior Awards (Appleton Prize, Booker Gold Medal, Dellinginger Award, van der Pol Gold Medal, Rawer Gold Medal) and the URSI Early Career Awards (Basu Prize and the Koga gold Medal). The names of the candidates must be received by the Secretary General of URSI not later than August 15 of the year preceding that of the URSI GASS at which the award is to be made. Therefore, these two committees should be established well before that, e.g., at least three months before the August 15 deadline. URSI will typically send out the call for nominations and the nomination form about four months before the August 15 deadline.

It is not necessary for the awards committees to nominate a candidate for each award

category. If a committee does not feel that there are any viable candidates for a particular award, then they may so indicate this to the Chair of USNC-URSI. It will then be up the Chair to decide to either accept this recommendation, or to make a nomination after consulting with the other USNC-URSI officers.

It is recommended that the Chair of USNC-URSI establish a deadline to receive nominations no later than about six weeks before the August 15 deadline, to give the committees enough time to make their selections for the awards. The USNC-URSI Chair has the final decision on who the nominees will be, and forwards the final nominations to URSI by the August 15 deadline.

It is recommended that the Chair of USNC-URSI send out a call for nominations to the USNC-URSI Committee and to all Commission Chairs so that they can distribute it to their members. The URSI awards nomination form should be sent along with the call for nominations.

URSI will typically announce the award recipients around February of the year of the GASS (about six months after the deadline to receive the nominations).

8.7 USNC-URSI Booker Award

Each triennium, the USNC-URSI will award the USNC-URSI Henry G. Booker Fellowship Award to a deserving young scientist. This fellowship is awarded by USNC-URSI once every triennium to a deserving individual not over 35 years of age as of September 30 in the year preceding the URSI GASS. This award will be decided by the USNC-URSI Early Career Awards Committee and the Chair of USNC-URSI, according to the procedure described below. The award includes a certificate and a monetary prize of \$2,000 USD to assist with the travel costs to attend the URSI General Assembly and Scientific Symposium (though the funds do not have to be used for this purpose).

When the USNC-URSI Early Career Awards Committee selects their top candidates for the URSI Isaac Koga Gold Medal and the URSI Santimay Basu Prize, the Committee should also, independently, prepare a ranked list of all nominees who were nominated for either of these two awards (these awards are both URSI Early Career awards). The ranked list will be provided to the Chair of USNC-URSI, along with the Committee's recommendation for the top candidate choices for each award.

Note that USNC-URSI typically sets the deadline for receiving the nominations for these two URSI awards around July 1 in the year preceding the URSI GASS (with the nominations then due at URSI typically by Aug. 15). This gives the USNC-URSI Early Career Committee about a month to do its evaluations and provide the Chair of USNC-URSI the results around Aug. 1. The Chair of USNC-URSI then has about two weeks to send the nomination forms to URSI.

The Chair of USNC-URSI, working with the USNC-URSI Executive Committee, will select the winner of the Booker Fellowship Award after URSI announces the URSI award

winners, so that it is known who has won the Koga Gold Medal and the Santimay Basu Prize. The procedure will be to start with the top candidate on the ranked list, and proceed down the list until highest ranking candidate is reached who did not win either the URSI Koga Gold Medal or the Santimay Basu Prize that year, and who also has not won the Booker Fellowship award previously.

URSI normally announces its award winners in February of the year of the GASS. Therefore, USNC-URSI should be able to select the winner of the Booker Fellowship award by March of the year of the GASS. The award can then be presented at the Radio Science Meeting (USNC-URSI summer meeting that is joint with AP-S) that takes place in the year of the GASS. (In some years the Radio Science Meeting may not be held and will be replaced by the North American Radio Science Meeting instead.) The Booker Fellowship award can also be presented or announced at the National Radio Science Meeting (the USNC-URSI meeting that usually takes place in Boulder, CO in January) in the year after the GASS.

Section 9 – Ernest K. Smith Student Paper Competition

USNC-URSI sponsors a Student Paper Competition (SPC) at every NRSM. The latest details for this competition are posted at: <https://www.nrsmboulder.org/student>

9.1 Judging

All SPC papers will be judged by the reviewers assigned by the Commission Chairs. The papers will be ranked based on the total score received (1-10 scale). As indicated on the NRSM website, the SPC paper submissions and the finalists' oral presentations will be evaluated according to the following criteria:

- Quality (e.g. clarity, organization, style, etc.)
- Description of the research relative to previous work
- Potential impact
- Verification and/or validation of reported results
- (Only for the finalists' oral presentations) Ability to clearly and thoroughly answer questions

The top five finalists from this phase of the judging will compete live during the conference.

- Student presentations will be 20 minutes long with 15 minutes presentation and 5 minutes Q&A.
- After the presentations, the review committee will convene to rank the finalists. There will typically be 15-30 min discussion before the final ranking takes place.
- The scoring will be based on the following criteria (Total - 20 pts);

- Quality of the presentation (e.g., clarity, organization, figure size, style, etc.) – 5 pts
- Sufficient depth and breadth of research work – 5 pts
- Innovation and impact of research work – 5 pts
- Verification and/or validation of results – 5 pts
- Based on the criterion scores, each chair will rank the finalists from 1 to 5 and provide their ranking to the SPC chair.
- The SPC Chair will announce the top 5 after the votes are counted.

9.2 Awards

- The SPC Committee Chair or their designate will announce the winners at the Awards Ceremony during the NRSM.
- A monetary award and a certificate/plaque will be given to each student paper competition winner. The monetary awards are presently \$1000 for first place, \$750 for second place, \$500 for third place, and honorable mention for the 4th and 5th places. In addition, all awardees will receive URSI memorabilia.
- All applicable taxes are the responsibility of the award recipients. All recipients will be required to complete and sign a United States Internal Revenue Service Form W-8 or W-9 before award funds will be disbursed.
- The primary distribution method for the monetary awards will be by check, available for pickup at the NRSM. Wire transfers can also be arranged, but awardees should anticipate at least six weeks of processing time after the conclusion of the Symposium.

Section 10 – Hans Liebe Search Committee

10.1 Overview

USNC-URSI, with the generous support of the Liebe family, has established the Hans Liebe Lectureship in microwave and optical spectroscopy as applied to radio science, remote sensing, and telecommunications. This lectureship provides travel support and an honorarium for a distinguished member of the radio science community to deliver a lecture on the professional topic of their interest at each of the annual USNC-URSI NRSMs.

The Hans Liebe Fellow Search Committee seeks to annually identify the candidate whose accomplishments over their career in the area of "microwave and optical spectroscopy as applied to radio science, remote sensing, and telecommunications" have been most notable, and invite them to become the year's Hans Liebe Fellow. The selected individual, pending their acceptance, is invited to present a keynote lecture to the USNC-URSI NRSM.

To accomplish the above, the search committee maintains a list of notable candidates that is updated annually prior to each candidate selection. From this list, a period of approximately one month is allotted for search members to provide their numerical (0-5) candidate rankings to the HL Fellow teller, who is a non-conflicted individual (such as a separate USNC-URSI member who is not on the Hans Liebe Fellow Search Committee, or possibly the USNC-URSI NASEM representative) that provides anonymized results back to the committee on the aggregate rankings of the candidates. The search committee chair announces the name of the highest ranked candidate to the search committee, USNC leadership, and the Liebe family. Provided that there are no objections, the candidate is notified of their being conferred the Fellowship by personal communication from the search committee chair. Updating of the candidate list occurs beginning in May of each year, so that selection and notification can be completed by the end of August.

After the lecture is presented, the committee chair may wish to send a hard copy certificate to acknowledge the presenter.

10.2 Committee Composition

The search committee is comprised of the three founding members Albin J. Gasiewski (chair), Edgeworth R. Westwater, and Phillip W. Rosenkranz, along with several members who are themselves previous HL Fellows. A target count of seven search committee members is maintained by annual review of the membership by the search committee, proposal of new members from the previous list of HL fellows, and committee approval. In this process a balance of career stage, gender, and sub-areas of expertise within the scope of the HL Fellowship is sought. Membership review and changes are completed by April of each year in due time for the candidate selection process to proceed. Committee retirements are by choice of an individual committee member.

Section 11 – USNC Women in Radio Science

In 2019, USNC-URSI voted to create the first Women in Radio Science (WIRS) Chapter for any National Committee of URSI. The focus of the WIRS Chapter is to create a community where women and men with interests in Radio Science can meet to encourage and mentor early-career women as well as enable women at all stages in their radio science careers to collaborate and learn from shared experiences.

USNC-URSI considers the WIRS Chapter much the same as any of the ten USNC-URSI Commissions, in that the Chapter has Officers and members. In addition, the WIRS Chapter may wish to invite prominent women to deliver a presentation at each NRSM.

Section 12 – URSI Matters

12.1 Process for Selecting the URSI Officer Candidates from the U.S.

During the year prior to the last NRSM to be held before the URSI GASS, nominations should be solicited from USNC-URSI members for the URSI Officer positions for the next triennium (President, four Vice-Presidents, and Secretary General). Each nominee should submit to the USNC-URSI Chair, Chair-Elect, and Immediate Past Chair a completed Election of the Board of Officers Form provided by URSI by December 1. If this form is not yet available (the document might not be emailed out by URSI until the end of November in the year prior to the URSI GASS), the form from the previous triennium can be used until the new form is available. Self nominations are welcome.

About one month prior to the last NRSM prior to the URSI GASS, the USNC-URSI Chair should email out the list of candidates along with their forms to the USNC-URSI Committee, so that they can review them prior to the Business Meeting to be held during the last NRSM prior to the URSI GASS. During that Business Meeting, each nominee should be given up to 5 minutes to address the USNC-URSI Committee. After each nominee speaks, the candidates should leave the room. The USNC-URSI Committee should then hold a discussion, and the voting members of the USNC-URSI committee should then vote. The chosen candidate should receive at least 50% of the vote. In the case of a tie, the USNC-URSI Chair will cast the deciding vote. The outcome of this vote serves as a recommendation to the USNC-URSI Executive Committee, which makes the final decision for who the final candidates will be for the URSI Officer positions. In case of a tie during the Executive Committee discussions / voting, the USNC-URSI Chair will cast the deciding vote. The expectation is that the members of the USNC-URSI executive committee will have additional information (relative to the broader USNC-URSI Committee Members) from the existing or past URSI officers and other member countries as to which nominees from the U.S. may be the best candidates for being elected to the URSI Officer positions at the international URSI level. (The strongest candidates from the U.S. will already be known to some degree by other member countries and URSI Officers.) The composition of the executive committee is described in the USNC-URSI Constitution and also in Section 2.1 of this Operating Manual.

The forms for the selected URSI Officer candidates for the URSI Officer positions should be submitted by the USNC-URSI Chair to URSI by the stated deadline (likely the end of March in the year of the URSI GASS).

12.2 Overview of the URSI Elections at the URSI GASS

At the URSI GASS, the USNC-URSI Chair submits votes to elect the URSI Officers for the next triennium. In advance of this meeting, the USNC-URSI Chair ask other National Committees to seek their support for URSI Officer nominees from the U.S. It is advantageous to seek their support starting in January in the year of the GASS, before they might be approached by other member countries.

USNC-URSI can only support one candidate for president. For the position of vice president, USNC-URSI can nominate only one candidate from the U.S., however, we can

support a larger number (equal to the number of open positions) of vice presidents from any member countries.

The voting is silent and is performed in rounds. The voting members vote for four candidates in the first round. A new round of voting is then performed with the top three candidates and then with the top two candidates.

Note that the URSI President serves one term, but the URS Vice Presidents can serve two terms.

12.3 Other URSI Matters

A representative from USNC-URSI should prepare the awards well in advance of the URSI GASS and also take them to the URSI GASS (anything with gold must be declared).

Appendix A –USNC-URSI Award Nomination Form

1. Nomination Form (maximum of 5 pages, minimum 10 pt. font).

Name of nominee:

Name of the award the nominee is being nominated for:

Professional affiliation and title:

Address (include Email):

USNC-URSI Member: Yes / No ; Commission:

USNC-URSI Membership: full, associate, or early career

Principal Employment: # years, short description:

Education beyond twelfth grade. Please include institution/location, degree, year received:

Achievements pertinent to the qualifications for the Award (please address criteria listed above pertinent to the specific Award):

Evidence of the significance of the nominee's contributions relevant to the award:

Proposed citation (maximum 25 words):

Nominator's name, business affiliation, work or home address, telephone, fax, email:

As nominator, how long and in what capacity have you known the candidate?

2. Endorsement Letters (maximum of 4 letters, minimum 10 pt. font).

Letters should include the name, address, and email of the endorser, and how long and in what capacity they have known the candidate. Each letter should be limited to two pages in length.

Appendix B –YSA and Early Career Scientist Travel Support Form

202X URSI GASS

Application for USNC-URSI Travel Support, Commission X

This application form is for members of USNC-URSI Commissions who wish to apply for travel support to attend URSI GASS 202X in <FILL IN>. Travel support is contingent on available funding and the funding level will be decided later. Please return this form by email to the Chair, Vice-Chair, and Secretary of the USNC-URSI Commission X, <NAMES> at <EMAILS>. Please return the form by <DATE>.

Part 1

Please provide your name and complete mailing address, as well as phone and email information:

Part 2

Please provide the date that you submit this form to Commission Chair, Vice-Chair, and Secretary:

Part 3

Please indicate your citizenship status (this is needed for tax purposes):

U.S. citizen or Permanent Resident
 Not a U.S. citizen or Permanent Resident

Part 4

Please indicate your status by checking the appropriate line(s):

Early Career Scientist (under the age of 35 on Sept. 1, 202X).
 Member of one or more USNC-URSI Commissions
 Early Career Member, Associate Member of one or more USNC-URSI Commissions

Part 5

Please provide the full title and list of co-authors for all papers on which you are a co-author at the **202X** URSI GASS. Please put an asterisk next to the name of the author who is expected to present each paper.