

American Nuclear Society (ANS) Conference - Tritium 2016

April 17-22, 2016, Charleston, South Carolina

Lessons Learned

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- I SUMMARY OF THE 11TH INTERNATIONAL CONFERENCE ON TRITIUM SCIENCE & TECHNOLOGY
- II THINGS THAT WORKED WELL: SUMMARY
- III THINGS THAT WORKED WELL: DETAILS
- IV MISCELLANEOUS THINGS THAT WENT WELL
- V THINGS THAT COULD HAVE BEEN BETTER
- VI ROLES AND RESPONSIBILITIES: GENERAL
- VII ROLES AND RESPONSIBILITIES: NATIONAL ORGANIZING COMMITTEE TEAM MEMBERS
- VIII SPECIFIC COMMENTS FROM THE TECHNICAL PROGRAM, CHAIR – DR. JAMES KLEIN

I SUMMARY OF THE 11TH INTERNATIONAL CONFERENCE ON TRITIUM SCIENCE & TECHNOLOGY

The 11th *International Conference on Tritium Science and Technology*, TRITIUM 2016, was held in Charleston, South Carolina April 17-22, 2016. This conference successfully continued a 36-year history which began with the American Nuclear Society (ANS) topical meeting *Tritium Technology in Fission, Fusion and Isotopic Applications* held in 1980. Since then it has been held an additional ten times, rotating between North America, Europe and Asia approximately every three years. It was held in Dayton, Ohio (1980 & 1985); Toronto, Canada (1988); Albuquerque, New Mexico (1991); Belgirate, Italy (1995); Tsukuba, Japan (2001); Baden-Baden, Germany (2004); Rochester, New York (2007); Nara, Japan, (2010); Nice, France (2013); and Charleston, South Carolina (2016). This most recent conference in the series was held in the charming and historic southern city of Charleston where southern hospitality and cuisine were on show for all to enjoy. Charleston, founded in 1670, is one of the grand southern ladies of American cities. Located in the deep-south, Charleston has a long history of Ante-bellum plantations, Revolutionary and Civil War related sites and artifacts. It has a flourishing artistic community, and its cuisine is delightful. Charleston is somewhat similar to Nice, France, where the last conference was held, in that it retains the charms of a bygone era, yet is fresh and ready for business today.

The objective of this conference series is to provide a forum to foster an exchange of information on science, technology, engineering, and general operating experiences in the safe and environmentally sound handling of tritium for fusion, fission, pharmaceuticals, and other isotopic applications. These conferences also provide opportunities to conduct both technical and non-technical excursions. Each of these conferences has been sponsored in some measure by the American Nuclear Society and, apart from the very first conference, the proceedings of all the conferences have been published in the ANS scientific journal, *Fusion Science and Technology*. This is the premier international conference series dedicated to “all things tritium”.

TRITIUM 2016 was organized as a Class I ANS International Topical meeting, with the U.S. Department of Energy’s Savannah River National Laboratory as the host organization. The ANS provided the organizational structure, rigor, review and knowledgeable personnel that come from an international scientific and engineering society well experienced in organizing scientific conferences. The host organization, SRNL, provided knowledgeable personnel intimately acquainted with “all things tritium”, experienced in the planning and execution of conferences, as well as very familiar with the Charleston area to ensure a successful conference. The International Steering Committee for the conference series ensured that TRITIUM 2016 provided an enriching experience similar to those previously enjoyed by attendees at other conferences in the series.

Forming a strong and diverse Technical Program Committee (TPC) was an essential element in ensuring broad international representation in both paper submissions and attendance. The TPC’s membership was composed of one third from Asia, one quarter from Europe, and the remaining 40% from North America. The TPC members were successful in encouraging researchers from around the world to submit papers: of the 246 papers submitted to the conference, about one third were from the USA and two thirds were of an international origin. Some attrition was to be expected and 208 papers were presented at the conference. Withdrawals were for a variety of reasons, often due to a lack of funding for foreign travel. There were 134 oral presentations and 73 poster presentations, with a panel session Friday on Tritium Regulations and Standards.

The nationally diverse TPC was also successful in that, of the 282 attendees, about half were from the USA and about half were international attendees. In all, 16 countries were represented at the conference. In organizing the sessions, feedback the TPC received from researchers’ funding organizations was that if an oral presentation was offered, attendance was likely to increase. To accommodate this, the TPC made a change from recent conferences in this series by carefully designing a series of concurrent sessions to provide more oral presentations. This enabled the TPC

to increase the number of oral presentations and by carefully selecting topics, minimized conflicts from attendees wanting to attend both sessions. Positive feedback was received about the use of parallel sessions and contributing speakers appreciated the longer talk times this allowed them (20 minutes).

The ANS registration guidance provided a generously low registration fee for students, resulting in 19 registered students, who represent the future of this industry. We also offered a similar rate to entice some retirees to attend the meeting, providing a link to the past. A strong showing of 15 exhibitors enriched the technical discussions during breaks and lunches. Support provided by these exhibitors and a broad spectrum of corporate leaders, including the host Savannah River National Laboratory, enabled conference organizers to provide a generous social program to all registered conference attendees and spouse/guests. The social program included a welcome outdoor reception Sunday evening, a beautiful dinner cruise off Charleston Tuesday evening, a banquet Thursday evening, lunches Monday, Tuesday and Thursday, as well as breakfasts and breaks each day. These donations also enabled organizers to provide a generous spousal program that reflected southern hospitality at its best. Funding for the publication of the Conference Program and the peer reviewed papers in the ANS Journal *Fusion Science and Technology* was provided by a generous grant from the U.S. Department of Energy, Office of Fusion Energy Sciences. We are grateful to these corporate and government leaders who are furthering tritium science and technology.

An excursion to the U.S. Department of Energy Savannah River Site on Wednesday provided a walking tour of the world's largest nuclear waste vitrification facility, the Defense Waste Processing Facility (DWPF) and driving tours of the Savannah River National Laboratory, the Savannah River Ecology Laboratory, the F and H canyons (radiological separations facilities), the Mixed Oxide (MOX) fuel fabrication facility construction site, Salt Stone Processing Facility, etc. A spousal tour was provided of historic Charleston.

Special thanks are due the organizing committee and the TPC for their efforts to ensure TRITIUM 2016 was a successful conference.

The next conference in this series shall be held in Busan, South Korea in 2019.

II THINGS THAT WORKED WELL: SUMMARY

Overall, the major things that worked well were:

- Utilizing a National Scientific Society (the American Nuclear Society) to provide the organizational structure to ensure a successful conference.
- Selecting a strong National Organizing Committee of competent and dedicated members.
- Selecting a strong and active internationally diverse Technical Program Committee.
- Selecting the venue: the city of Charleston in April is a very desirable city.
- Selecting the conference facility: The Charleston hotel is ideally situated for such a conference.
- Negotiating a low room rate for attendees to the conference.

- Utilizing carefully selected dual sessions provided more oral presentations.
- Employing a professional, but aggressive, Exhibits and Sponsor/Supporter team that provided much appreciated funding as well as providing interesting strong technical discussions during breaks.
- Designing a thoughtful and generous spouse/guest program.
- Including students and retired Society members at an extremely low registration fee.
- Show-casing high quality regional food & drink at no cost to attendees and spouse/guests.
- Providing a Welcoming reception, dinner cruise of Charleston harbor, Banquet, lunches and refreshment breaks at no cost to registered attendees.

III THINGS THAT WORKED WELL: DETAILS

Overall, the major things that worked well were:

- *Utilizing a National Scientific Society to provide the organizational structure to ensure a successful conference.* The American Nuclear Society provided the organizational structure to ensure a successful conference. It is well experienced in conferences of this size and technical nature. A detailed listing of the roles and responsibilities are described later. The ANS web site provides a “Topical Meeting Manual” under the Meetings tab. It may be downloaded and provides detailed schedule of when major items should be completed. A national scientific society will ensure that a laboratory or company considers items not normally considered by corporate research facilities: e.g.
 - Seek co-sponsorship from similar scientific societies from related disciplines and from other countries (we were able to secure non-financial co-sponsorship from the Canadian Nuclear Society, the European Nuclear Society (which includes all European nuclear societies), the Atomic Energy Society of Japan, and the U.S. Institute of Nuclear Materials Management.) The co-sponsorship was simply this: they agreed to add TRITIUM 2016 to their calendar of events and add it to their web site for their members to be made aware of the conference, and the ANS provided ANS member rates for registration. This was US\$150 benefit for their members. Their advertising was almost no cost for a significant benefit to their members.
 - Provide low cost registration for students and Society Emeritus (i.e. retirees): US\$100. This provides encouragement for the next generation of scientists and engineers in tritium. It also encourages retirees from this discipline to attend the conference at reasonable cost and provide much from their extensive knowledge during discussions. A strong Exhibits and Sponsor program enabled students and retirees to enjoy meals and other function benefits at no additional cost.
 - Publication of this series of conferences has always been with the ANS Journal Fusion Science and Technology. Including the ANS as a team member in your organizing team facilitates final publication of the peer reviewed papers for a lasting legacy of the conference.

- *Selecting a strong National Organizing Committee of competent and dedicated members.* Utilizing a National Scientific Society (the American Nuclear Society) provided the organizational structure to ensure a successful conference, scientifically, socially and financially. Although, as usual, there were some problems, but overall these was a huge factor in the success of the conference. We began forming a National Organizing Committee 3 years before the conference. See details in Roles & Responsibilities later in this document.
- *Selecting the venue: Charleston, South Carolina is a very desirable city for a week-long conference.* Charleston has been voted best U.S. city by Conde Naste Travelers Readers' Choice Awards for the last 5 years and the second worldwide. Other surveys also rate Charleston very highly. The ANS has extensive experience of operating successful conferences in this city over many decades. Important items to consider are: transportation to/from the city, transportation within the city and between hotels & conference venue, suitable technical tours, extensive and interesting non-technical tours & activities, etc. We chose not to select conference non-technical tours. We at SRNL are not tour guides and felt that there were simply too many things to do, so we decided to provide ample information of the conference web site and in a fairly comprehensive brochure in each attendee's package. We also believed that many members would simply like to explore the area themselves or in groups.
- *Selecting the conference facility: The Charleston hotel is ideally situated for such a conference.* Located on the Ashley River is close enough to the historic district to either walk or take a free city bus or a hotel shuttle for a small fee. The hotel has more than adequate number and size of ball rooms and conference rooms to accommodate the size of conference we expected for TRITIUM 2016. The ANS has extensive experience organizing conferences with this particular hotel. There is a significant difference between TRITIUM2013 and TRITIUM2016 in that in Nice, the conference was held in a conference center and in Charleston the conference was held in a hotel. In the conference center one must pay for the use of the facilities, which can be quite high. In Charleston, the conference enters a contract with the hotel which requires an agreed upon number of rooms to be occupied, and an agreed amount of food and beverages to be purchased. Audio/visual equipment and support, as well as computers, exhibit tables, power, backdrops etc. are all charges incurred by the conference. The fee to exhibitors pays for their needs. However, use of the ball rooms, conference rooms etc. are agreed ahead of time with the hotel and are NOT charged. Essentially, the registration fee and/or the corporate or governmental sponsors/supporters and exhibitors pay for the food and use of the hotel facilities. This takes advantage of the fact that all conference attendees need to stay at a hotel and if one can negotiate a room rate early enough, one can get a good deal on the rate and that encourages hotel attendance and helps pay for the conference.

Encouraging conference attendees to stay in the conference hotel facilitates a community atmosphere and encourages collegiate discussions.

- *Negotiating a low room rate for attendees to the conference.* We were able to negotiate a room rate of US\$169 for a double room (there were no single rooms). This was an exceptional rate for peak season in Charleston. The U.S. federal per diem rate for this season is US\$203 and the usual rate is much higher.
- *Selecting a strong and active internationally diverse Technical Program Committee.* Dr. Jim Klein, the Technical Program Chair, formed an exceptionally diverse and technically strong Technical Program

Committee that was large enough to do the job, but not too large to be unwieldy. He had a team of 20 plus himself. About one third were from Asia, one quarter from Europe, and the remaining 40% were from North America (Canada and the United States). He selected this group from personal experience, from recommendations from members of the International Steering Committee, and from relevant divisions within the ANS. Such a strong international presence in this committee prompted 246 papers, one third from the USA and two thirds from the rest of the world. A number of authors withdrew their papers due to a variety of factors: funding, lack of visa, personal issues, etc. The final number of papers given was 208, with 134 oral presentations, 73 poster presentations, and 3 panel members. In all, about 50% of attendees were from the U.S. and about 50% from 15 other countries.

- *Utilizing carefully selected dual sessions provided more oral presentations.* The TPC made a change from recent conferences in this series by designing two parallel sessions. This enabled the TPC to increase the number of oral presentations and by carefully selecting topics, minimize conflicts from attendees wanting to attend both sessions. Our organizers did not hear any complaints about the parallel sessions, but the speakers did appreciate the longer talk times this allowed them (20 minutes). We did receive many complimentary comments regarding the number and quality of the oral presentations.
- *Employing a professional, but aggressive, Exhibits and Sponsor/Supporter team.* The US Department of Energy redesigned how it managed and sponsored conferences, as well as how it allowed its National Laboratories to manage and sponsor conferences. Sponsorship and support was a very fine line to negotiate. Our Exhibits and Sponsor/Supporter Committee began a little slow, but finished on a very successful level of interactions with government and corporate entities. The sponsors/supporters and exhibitors enhanced the technical program a great deal by providing opportunities for discussions during breaks and lunch. They also provided almost US\$100,000:
 - The US DOE Office of Fusion Sciences provided a grant to the ANS to cover the publication costs of the conference. This included the Program and abstracts available at the conference and the peer reviewed ANS Journal Fusion Science and Technology at no cost to registered attendees and no page charges to authors or their institutions. This should be available either at the end of 2016 or very early 2017.
 - The corporate parents of the Managing and Operating Company of the Savannah River National Laboratory, viz. Fluor, Stoller Newport News Nuclear, and Honeywell, provided \$20,000 to support the Conference Banquet and the tour of the Savannah River Site.
 - 15 other companies provided generous support and exhibits: Swagelok, Tyne Engineering Inc., Premium Analyse, RADDEC International, Ontario Power Generation, and GAU Radioanalytic Laboratories, Power+Energy, Air Squared, Senior Aerospace Metal Bellows, Kurion, LabLogic, NSSI, National Fusion Research Institute, US Nuclear. Overhoff Technology Corporation.

The increased revenues enabled the conference to provide an enhanced social program to registered conference attendees and spouse/guests, an ample supply of meals and breaks. These included a welcome reception Sunday night, a dinner cruise off Charleston Tuesday evening, a banquet Thursday evening, lunches Monday, Tuesday and Thursday, as well as breakfasts and breaks each day. A dinner was also provided for the International Steering Committee to review presentations and decide on the host for TRITIUM 2019. All evening meals and reception s were accompanied by an open bar, except for the dinner cruise which had a cash bar. We endeavored to provide exceptional quality food from the area representing the local culture.

- *Designing a thoughtful and generous spouse/guest program.* The spouse/guest program cost the attendee US\$125, but they received many times what they paid due to funds provided by sponsors:
 - Welcome reception with hors d'oeuvres, fixed stations, open bar
 - Bus tour of Charleston (only for spouse/guests)
 - Hot breakfast Monday to Friday: plus deluxe continental breakfast included (regular attendees received continental breakfast)
 - Lunches: Monday (plated), Tuesday (buffet), Thursday (buffet)
 - Dinner cruise Tuesday evening
 - Banquet Thursday with open bar

- *Including students and retired Society members at an extremely low registration fee.* The students and retirees received full access to the conference and all activities regular registered attendees received.

- *Show casing high quality regional food & drink at no cost to attendees and spouse/guests.* Special dietary requests were communicated at registration and the hotel provided options to cater to these requests.

- *Welcoming reception, dinner cruise of Charleston harbor, and Banquet at no cost.* The Welcoming reception had a considerable variety of southern foods available at numerous special stations in an outside hotel venue with a view of the Ashley River. A harpist providing pleasant, but not intrusive music, to provide atmosphere. Several open bars provided unlimited beer, wine and spirits at no cost. The evening cruise of the Charleston harbor on Tuesday evening provided southern bar-b-que and a cash bar. The full moon and calm conditions made for a very pleasant evening. The Thursday evening Banquet began with an open bar to accompany a poster session, followed by a seated banquet meal with a selection of several kinds of wine. Formal talks were kept to a minimum, but conversations were plentiful at each table.

- *Luncheon speaker on "Radiation: What is Important?"* During the Monday seated luncheon, Mark Hart, from Lawrence Livermore National Laboratory, gave a presentation of Radiation in the environment. He had many tables full of exhibits of items from everyday use that are radioactive. The presentation was entertaining and instructive. Many attendees commented on the merit of the presentation. The only criticism was that it went for 45 minutes and should have been only for 15 minutes to allow colleagues to engage in discussions.

IV MISCELLANEOUS THINGS THAT WENT WELL:

- *Arrangements / Venue:*
 - Banner and arch gave a good impression & focal point.
 - Direction signs & room signs were right size and clear.
 - Easy access - everything close by (oral presentation rooms, posters, exhibitors, meals, registration desk, etc. all close by was convenient)
 - Hotel WIFI and signs for passwords were helpful.
 - Combination of seating styles (tables and chairs conference rows) well received.

- Exhibits / Sponsors:
 - Exhibitors brought enhanced interactions during breaks and were mutually beneficial to conference attendees as well as helping vendors meet their contact goals. One vendor exceeded his target for the year; four exceeded their targets for the meeting.
 - Flexibility in attributing revenue from sponsors & exhibitors encouraged companies to donate money and receive positive acknowledgements.
 - Extending the exhibits from Wednesday noon to Thursday evening was very well received by the vendors and cost little and generated great good will.
 - Although we were a little slow to start contacting corporations for exhibits and sponsorship, the team pulled together and brought in a surprisingly large group of generous supporters.
 - The Chair (Lee Hamilton) found that a lot of TLC (tender loving care) of the vendors was rewarded with good will all around. The key to success is personal attention.

- Planning:
 - Advertising the meeting date and location at the close of TRITIUM 2013 gave adequate time (2.5 years) for researchers to plan to attend.
 - Anticipating that many researchers procrastinate, we planned early deadlines with the intent of allowing several planned slippages. This gave researchers ample time to procrastinate, begin to feel guilty and then respond in what they did not realize was the timely manner we originally intended.
 - Sending out periodic emails was useful to remind researchers about the conference and gently nudge them to submit papers.

V THINGS THAT COULD HAVE BEEN BETTER:

Overall, the major things that could have worked better were:

- The audio / visual:
 - The hotel had one AV vendor. Competition may have provided greater selection of technology and service.
 - Overhead screens could have been newer with higher screen resolution.
 - Audio during the Monday Luncheon was too soft. It was adjusted, but still too low.

- We were slow in getting an active WEB site up and operating.
- Communications with the ANS staff could have been better.
- Coordinating the final program, incorporating late cancellations with the ANS print shop to incorporate in the Program Booklet could have been smoother.
- Providing a clear method for the researcher to identify whether they wanted a poster or oral presentation apparently was misleading as many researchers who submitted a paper as a poster really wanted an oral presentation.
- Downloading electronic presentations only on the morning of the talk during the speakers' breakfast did not work efficiently. We recommend requiring speakers to download their files earlier than the day of the talk.
- The computers we used were not fully tested before the conference and a few glitches had to be resolved at the last minute. Test your computers (all of them) in advance of the conference.

VI ROLES AND RESPONSIBILITIES: GENERAL

The roles and responsibilities regarding this conference are described as follows: (excerpted from a request for approval document to allow SRNL to host TRITIUM 2016):

1. The conference is being organized as an ANS International Topical Meeting. The ANS is fully financially responsible for the conference. Any loss or profit incurred from this conference is fully their responsibility. No U.S. federal government funds are at risk. The ANS Headquarters has established the procedures for planning and executing Topical meetings. ANS staff and ANS members assigned to specific society functions review and approve the plans determined by the meeting organizing committee, such as: meeting location selection, calendar placement, meeting facility selection, preliminary and final meeting budget, publication plans, registration, etc.
2. The Savannah River Local Section of the ANS is responsible for providing key personnel to organize the details of the meeting according to the ANS rules, regulations and oversight by ANS headquarters staff and members (as described in 1 above). The Savannah River Local Section of the ANS is very experienced in organizing topical meetings: in 2014 it won the ANS Local Section Meritorious Award for Best Large Section for Meetings and Programs, Section Management and Membership. Employees from SRNS (including SRNL and SRTE), SRR, WSMS, Southern Company, DOE etc. and many retirees are involved in the ANS/SR Local Section. The TRITIUM 2016 National Organizing Committee is comprised of individuals from the ANS/SR Local Section and other local volunteers. The National Organizing Committee's roles and responsibilities are to organize the meeting:
 - a. A detailed listing of the members of this committee and their positions is attached.
 - b. A description of the roles of key positions is listed in the ANS Topical Meeting Manual. An excerpt listing these roles and responsibilities is attached.
3. An International Steering Committee overseeing the series of International Conferences on Tritium Science and Technology was formed many years ago. The listing of members of the International Committee is attached. They also provide contacts for international members of the Technical Program Committee. Dr. Robert Addis, Director of SRNL's Defense Programs Technology, is the U.S. representative to this International Committee. Prior to Dr. Addis taking over this position, for many years Bob Rabun of SRTE was that representative, so the SRS has had representation on this committee for a very long time. The responsibilities of the International Committee are:
 - a. to select the host/organizers of the next meeting, ensuring a balance between the three continents;
 - b. to ensure that the organizer/host are capable of ensuring a successful meeting;
 - c. to ensure that the integrity of the fundamental purpose of the conference is retained.
4. The Fusion Energy Technical Division of the ANS is the technical sponsoring division within ANS. Other ANS technical divisions also lend their support to address non fusion aspects, such as environmental, safety, isotopes & radiation. Many of their members work at DOE facilities, universities, commercial nuclear facilities, technology provider companies, private labs etc. Their responsibilities are to provide technical experts:
 - a. to foster sessions, papers and attendance;
 - b. to assist reviewing, selecting and editing papers submitted.

5. The TRITIUM 2016 Technical Program Committee develops the technical scope and content of the program, which is closely aligned to the historical scope of this conference series. The international nature of this conference requires a significant involvement of key representatives from those nations who typically are active in tritium work and usually attend this meeting series or meetings which may address similar technical issues. The Technical Program Chair forms the committee from technical experts from the host organization (SRNL, SRTE, SRR etc.), the ANS Sponsoring Division (the Fusion Energy Division), from other supporting ANS divisions (e.g. Environmental Sciences), from other tritium experts in the DOE and NNSA community, and from tritium experts from the International Committee, who may either act as members themselves or recommend members from their continent or their technology area.

VII ROLES AND RESPONSIBILITIES: NATIONAL ORGANIZING COMMITTEE TEAM MEMBERS

Excerpted from the ANS Topical Meeting Manual and expanded as necessary:

General Chair (*Dr. Robert P. Addis, SRNL*)

At least 24 months before the meeting, the ANS division/technical group or section should appoint a General Chair, who resides within the geographical area in which the meeting is to be held, and is a member in good standing of the national ANS. The General Chair has the major responsibility for the meeting, making the committee chair appointments (with the exception of the Technical Program Chair and Publications Chair), directing the preparation and presentation of the meeting, and, in coordination with the meeting's Finance Chair, ensuring that expenditures do not exceed the approved budget. It should be noted that only national ANS members can be appointed as chairs for the various meeting related functions.

Technical Program Chair (*Dr. James E. Klein, SRNL*)

The Technical Program Chair is appointed by the ANS sponsoring division/technical group. This appointment should be made at least 24 months before the meeting. The Technical Program Chair works with the NPC (ANS national Program Committee), the appropriate divisions, and others in developing the technical scope and content of the meeting. The Technical Program Chair is responsible for organizing the Technical Program Committee and appointing a Publications Chair. The Technical Program Chair has the final responsibility for all meeting publications.

Publications Chair (*Dr. Kevin R. O'Kula, SRR*)

The Publications Chair is responsible for the timely preparation of the meeting TRANSACTIONS and/or PROCEEDINGS. The Publications Chair should contact the ANS Director of Scientific Publications as soon as possible to develop a publications plan.

Finance Chair (*Mr. John N. Dewes, SRNL*)

Under the guidance of the General Chair and the Finance Chair, the meeting's preliminary and final budgets are prepared. As discussed in greater detail below, the preliminary budget should be developed and signed by the General Chair and the Chair of the local section and sent to the Director of Meetings at ANS Headquarters at least 18 months before the meeting. The Excess Revenue Distribution Form (Form 4) should be completed, signed by the Chair of the local section, the Division Chair, and the ANS Director of Meetings. The completed form which details the responsibilities of the local section, division, and headquarters and delineates the share of excess revenue from the meeting should be included and submitted as part of the meeting budget. The Finance Chair works closely with the General Chair to validate meeting expenses and keeps a record of all expenditures and receipts. Within three (3) months after the meeting, the Finance Chair prepares the final financial report and sends it along with the funds due to ANS to the ANS Director of Meetings. (If the PROCEEDINGS are published and distributed after the meeting, a financial report is still required within three (3) months of the meeting, but a final update shall be made within two (2) months of distribution of the PROCEEDINGS.)

Meeting Bank Account (*ANS/SR Local Section – Chair Mr. T.J. Corder, Southern Company*)

The Finance Chair must make arrangements with the local section for receipt and disbursement of meeting funds.

Registration Chair (*Mr. Tinh M. Tran, SRR*)

The Registration Chair is responsible for the physical arrangements for registration and collection of all fees. The registration process is very important as it is usually the first contact that an attendee has with a meeting.

Other Local Organizing Committee Chairs (*see attachment*)

The General Chair may make other appointments as deemed necessary. These appointments may include Honorary Chair and chairs for such functions as hotel liaison, guest program, publicity, workshops, website, technical tours, and exhibit. We chose to create the following:

Exhibits/Sponsor Chair: (*Mr. E. Lee Hamilton, SRNL & Mr. Gregory C. Staack, SRNL*)

The Exhibits/Sponsors Chairs and committee are to co-ordinate an professional program to aggressively seek relevant commercial and government entities that would (a) add significantly to the professional dialogue at the conference, enriching the technical and social fabric of the conference, and (b) generate significant revenue to supplement registration fees to provide a cost effective conference that enabled the attendees to have a generous and enriching experience and enable the conference to return suitable excess revenues to satisfy the ANS investment in the conference.

Assistant General Chair (*Dr. X. Steve Xiao, SRNL*)

The Assistant General Chair was responsible for all items required by the General Chair (above) and would attend all National Organizing Meetings to remain fully informed of conference status. He was an essential element to cover the responsibilities of the General Chair should the General Chair become incapacitated and unable to fulfill his responsibilities.

Communications & Arrangements Chair (*Ms. Joanne B. Hay, SRNL*)

The Communications & Arrangements Chair was responsible to oversee all formal communications regarding the conference, document tasks assigned and accomplished throughout the preparation for the conference, provide a central point of communications with ANS (except for publications and finance), and manage arrangements with the hotel.

Tours/Events Co-Chairs (*Wanda H. Morgan, SRNL and H. Tommy Sessions, SRNL*)

The Tours/Events Co-Chairs organized the special events, such as the spouse/guest program (bus tour), Charleston evening dinner cruise, luncheon presentation by Mr. Mark M. Hart of LLNL, etc.

SRNL Protocol Officer & SRS Tour Chair (*Rosalind H. Blocker*)

SRNL Protocol Officer & SRS Tour Chair coordinated all aspects of the SRS tour and facilitated all foreign National security clearances.

VIII SPECIFIC COMMENTS FROM THE TECHNICAL PROGRAM CHAIR – DR. JAMES KLEIN

I will give you my opinion about managing the Technical Program.

1. Advertise the date and location more than one year in advance (at least 18 months). Some people stated they did not attend the Tritium 2013 conference because the date (from the conference website or call for abstracts) was not known far enough in advance for them to put on their list of conferences to attend for the year. Some organizations make technical staff submit proposed conference attendance for the next fiscal year for budgetary planning purposes. With this in mind, having at least a conference web site with the conference date and location identified at least 18 months before the start of the conference is recommended. We sent out save-the-date announcements/emails about 18 months out to remind and inform people of the conference.
2. Have members of your committee attend as many of the tritium/fusion-tritium related meetings as possible and actively recruit/inform people of the meeting. Leading up to the Tritium 2016 meeting, I had attended the SOFE 2013, TOFE 2014 SOFT 2014, SOFE 2015, ISFNT 2015, APSOT 2015, along with American Nuclear Society (ANS), Canadian Nuclear Society (CNS) CWFEST (Canadian Workshop on Fusion Energy Science and Technology), and a European Work Package Planning meeting (fission-fusion tritium issues). For some of the meetings, I made technical presentations. For others, I was allowed to make a short presentation about the conference. At these meeting, I would have hand-outs and business cards to give people with information about the conference. I think my meeting and personally inviting people helped increase participation, but I cannot claim this for certain. I can say it did not decrease attendance.
3. Send out periodic reminders about the upcoming schedule (abstract submission, registration fees, etc.) with a link to the conference website. With people being busy, a reminder email does not hurt, but there is a balance between gently reminding people and irritating them with too many emails.
4. Although it may not appear this way, we had a schedule of dates to slip the final abstract submission deadline. We had the initial submission date, a new deadline, another deadline, and another (final deadline) (I think at least 4 dates). This is becoming common with many conferences and is almost expected now by authors. Sometimes even those who intended to make one submission date were delayed due to getting organizational approval to submit abstracts so the slipping of the date was welcomed by many. As some point, I did have to turn away papers, but I finally cut off accepting abstracts about 11-12 weeks before the start of the conference. As far as having draft manuscripts due by the start of the conference, there are both advantages and disadvantages to either way and is really a choice of the host. We tried to have the manuscripts in by the start of the conference so people could enjoy the conference and slipped it one month after so they could have a little time to submit before the new deadline.
5. Of the twelve topical areas listed as part of the conference, I would suggest rewording the topical areas and then giving examples of what would be included in those topical areas (I have some suggestions in this area we can discuss another time). This will reduce the amount of sorting of the abstracts submitted. For example, many abstracts were funded by breeding activities and submitted in the area of Tritium Breeding and Extraction, but were really focused on materials, tritium processing technologies, etc. and needed to be re-assigned to a different topical area.
6. Something we intended to have, but missed was the clear identification of the preference of oral or poster presentation. I was surprised by the number of authors selected for oral presentation that stated they wanted poster presentations.
7. Most importantly, have a strong technical program committee with international representation. I took each of the 12 topical areas and had 3 to 4 committee members review the abstracts and make recommendations on which should be oral and which should be posters. Pick at least one person for each topical area you can rely upon to do this selection if you do not get responses from any of the other committee members on a topical area. The number

of Material related abstracts (47!) was large and the sorting of these into 4 oral sessions with a common technical focus by the committee members was a great help and I was glad I did not have to do this. I sent out the abstracts to each of the committees because it would be difficult to get them trained on the database system we used so keep this in mind on how you want the committee members to get the abstracts and feedback. If you have a clear set of instructions on how to use an electronic database for managing the abstracts, that may work. In my case, the committee members provided their selections in spreadsheet format. Excel was a lot easier for me to manage changes than the database, but that may be my preference.

8. My biggest task was to take the suggested oral presentations and put them into the different size oral sessions available for the duration of the conference. The International Steering Committee was initially hesitant to have parallel sessions, but feedback from conference participants was overwhelmingly positive about parallel sessions. I would limit parallel sessions to 2 sessions and try to pair the sessions with dissimilar interests if possible. I was mostly successful in this area with Thursday being the day that participant stating they had to make some choices between which of the two sessions to attend [having the two rooms next to each other helped greatly in this manner). There was a lot of balancing between the technical program and the social program and so I had to be flexible in the time I had for presentations (adding some, deleting others to make the sessions fit). Some sessions had only a few papers and could easily fit into a given time slot. Others could be broken into 2 small sessions or one longer session. It is an iterative process.

9. Notify people of their type of presentation as soon as possible. Some wanted to change from oral to poster and I had to contact poster presenters to see if they wanted their paper "promoted" from poster to oral.

Things you already know, but will say anyway....

10. As people withdraw from oral presentation/participation, keep contacting others to replace the speakers.

11. Compare your list of oral presenters with the registration list for the conference. If I had an oral presenter that did not register for the conference, I would email the individual to find out if they planned on participating in the conference. I learned this from you for the ISFNT-12 meeting and it worked well for us. I learned many of the selected presenters were not attending and they were replaced by other speakers.

12. Delay printing the program booklet as long as possible. We did not plan it this way, but it helped minimize the number of changes in the program booklet. We chose to have the abstracts printed in the booklet which was my preference. I did not hear much about if people liked this or not. I am assuming if they did not like it, I would have heard it. I like to make notes on the abstracts so at least I was happy!

13. Have a good program change sheet/booklet. What I learned from your handling of ISFNT-12 is that you (to my knowledge) did not need a change/errata sheet because it was not needed! I don't recall ever being to a conference where changes were not announced each day, but I thought ISFNT-12 had none or minimal changes so I have great confidence you already know how to manage this aspect of the conference.

14. Number of Oral versus Poster Presentations. I got many positive compliments about having most of the presentations oral and having fewer as poster presentations. Participants stated it was a good way to stimulate conversation between conference participants.

15. Oral presenters also making poster presentations. This was initially suggested, but not implemented. I am not in favor of doing both an oral and a poster presentation and many agreed with me. My impression was with 2 parallel sessions and most presentations being oral, participants got to hear the talks they were interested in and would follow-up with the speaker afterwards with follow-up questions during the breaks. Having as many meals supplied as part of the conference as possible also enabled interactions between participants and we received compliments about this too.

16. Proximity of technical presentations to other conference activities (food and beverage, vendors, conference staff). The final conference configuration (rooms, vendor locations, food and beverage, meals) was not our initial plan, but actually worked out better than we initially planned. Keeping everything as close as possible to one another was one of the better compliments we got about the conference. The interactions between people was greatly increased and was repeated by many participants (Rob gets credit for this one).

17. Downloading of electronic presentations at the speaker's breakfast the morning of the presentation. This was one thing we did I would not recommend doing for all presentations for that day. In my opinion, the earlier you can get the presentations, the better and then chasing down the few presentations is easier. Some speakers did not attend the breakfast or showed up after the start of the first session of the day so I had to chase down some people to get their presents for an afternoon session. We used the speaker's breakfast as a means to avoid having an individual in the room all day collecting presentations. My concern was if the computers were not attended, someone could accidentally delete presentations already loaded onto the computer and I would then have to find the speaker again to get their presentation. We considered requesting the presentations before the conference, but just decided to collect them at the conference.

I am sure there are other comments/ideas that I will remember later, but hopefully this will give you my perspective on some of the successes of the Technical Program for our conference.