



AMERICAN NUCLEAR SOCIETY

Nuclear Criticality Safety Division

Executive Committee Meeting
Sunday 17th June 2018
3:00pm – 4:30pm
Franklin 9/10
Marriott Philadelphia Downtown

1. Call to Order

The Executive Committee Chair, Deborah Hill, convened the meeting. A quorum of the Division Officers and Executive Committee members were present. The serving Division Officers and those participating were as follows:

Position	Name	Participating
Chair	Deborah Hill	Yes
Vice Chair/Chair Elect	Kevin Reynolds	Yes
Treasurer/ Finance Chair	Fred Winstanley	Yes
Secretary	Catherine Percher	Yes
2016/17 Chair	John Miller	No

Five members of the Executive Committee were present. The serving Executive Committee members and those participating were as follows:

Term Ending June of (Year)	Name	Participating
2020	Julie Ezold	Yes
2020	David Pilgrim	No
2020	Tom Hines	No
2019	Brandon O'Donnell	Yes
2019	Andrew Wyson	No
2019	Brittany Williamson	Yes
2018	Tracey Henson	No
2018	Margaret Marshall	Yes
2018	Jason McCall	Yes

2. E-mail Votes since last meeting (D. Hill)

- Approval (2017-12-22) of Executive Committee Minutes from 2017 Winter Meeting

3. Results of 2018 NCSD Elections (D. Hill)

- Chair: Kevin Reynolds

- Vice Chair: Catherine Percher
- Treasurer: Fred Winstanley
- Secretary: Katherin Goluoglu
- Executive Committee: Theresa Cutler, Tracy Stover, Jen Alwin

4. Division Officer Reports

i. Chair's Report (D. Hill)

- "My chair term is up at the end of this meeting, so thought it would be a good time to reflect on the NCSD successes in the last 12 months. One of my main goals was to help people get things done through efficiently navigating through bureaucracy. The NCSD Bylaws and Rules are close to complete. We have continued our 6-weekly committee catch-up meetings (started by J. Miller) and Committee Chairs continue to progress NCSD matters. I wanted to get more young members involved, and during this year we got many younger members on Committees, had a very successful Membership Challenge, and really got people talking about NCSD! There was a reinvigoration of the Education Committee, with additional focus on what brings value to our members. Beyond that, we are also promoting links with the ANS standards, and had a session at the 2017 Winter Meeting to discuss standards. Our technical program is going strong, with 7 sessions at this meeting, 9 or 10 at the next meeting. Communications is great - website is higher impact thanks to N. Zhang and T. Henson. We had a very successful Topical Meeting and Awards Banquet. No other Division gets as much support from peer and paper reviewers. Our success is very much down to the immense efforts of a significant number of NCSD members – thanks to everyone!"

ii. Vice Chair's Report (K. Reynolds)

- This Division functions because of the membership, hope to keep up the momentum.
- President's Meeting: large number of goals, perhaps too many. Need to adjust and wants to narrow down focus on a few specific goals. The new President wants to provide a "solid foundation" rather than provide solutions. ANS national is trying to get ANS to function as a cohesive unit as opposed to many sections, and we had a first combined division session this meeting. The President also wants us to be agile and "can-do" and wants to stop bureaucracy. The society really wants to grow membership and we have to improve the financials of the society, as we currently continually run a deficit. Most of the money the society makes is from meetings.

iii. Secretary's Report (C. Percher)

- Will turn over to K. Goluoglu at the end of this meeting, although Catherine will produce the minutes from this meeting.

iv. Treasurer's Report (D. Winstanley)

- The NCSD is quite healthy financially, \$40,000 funds

- Main expenditure this year so far is (i) \$3,000 to students, and (ii) topped up our Pioneer Scholarship by \$3,000, which is now fully funded with \$74,000 in the fund
- Overall running at a slight loss year by year
- Topical Meeting is our major source of funding, and we need to keep an eye on how the national push to embed meetings goes
- Finance Committee needs new members, please contact F. Winstanley
- F. Winstanley will be contacting Committee Chairs in next few weeks for input on the 2019 budget.
- Discussion:
 - o D. Hill: In the interests of efficiency, it would be beneficial to plan well ahead for any potential expenses from the Committees in 2019. We had to approve funding associated with the Membership Challenge via e-vote in the middle of 2017.
 - o M-L. Dunzik-Gougar: A way to address this is to have a standing budget item, like a discretionary fund for the Chair
 - o S. Larson: We used to have a Chair discretionary fund, but I think we got rid of it as we never used it.
- v. 2016 / 17 Chair's Report (J. Miller or nominated deputy) *{To include NCSD Echelons}*
 - In the absence of J. Miller, D. Hill summarized her current understanding of progress. In the UK there are charterships that are professional recognitions from professional societies such as the Institute of Physics. There are currently two camps emerging from the NCSD chartership (Echelon) discussions - either (i) be very prescriptive on the requirements for recognition, or (ii) have general guidelines and leave it up to the applicant to make their case to the Division on how they meet them. J. Miller welcomes new members to join the discussion, get in touch with him if you'd like to help. He has a Collaborate site set-up, and descriptions of potential chartership levels are available.

5. Sub-Committee Reports

- i. Program (T. Cutler)
 - For this meeting, we have 24 papers, 7 sessions. The paper deadline was extended for Winter 2018, currently have 22 papers, 9-10 sessions planned. We expect 30+ papers.
 - There is a push from ANS headquarters to have Topicals embedded. Our Division benefits financially from the stand-alone Topicals and increased international participation.
 - o C.Percher: Our main funding source for the Division is our Topical Meeting revenue. We made \$13K from the Carlsbad Topical and over \$40K from the US ICNC.
 - o ANS told us we would get ~\$1-2k from embedded Topicals
- ii. Education (A. Scurlock)

- Worked mostly on new member initiatives, what NCSD is and encourage people to join NCSD. Working on session ideas for a panel on credible accident sequences. Any new session ideas let A. Scurlock know.
- iii. Membership (M. Gorham or nominated deputy)
 - Membership Challenge is a big focus for the upcoming 2018 Winter Meeting, and the Membership Committee is soliciting help
 - M. Gorham requests a number of students slots for banquet from H&A committee
 - K. Reynolds: What is the current status on the numbers of NCSD membership? D. Hill thought down it was down slightly, but the numbers are always hard to pin down as it depends on the time of year it is requested.
- iv. Communications (T. Henson or nominated deputy) *{To include NCSD Website}*
 - NCSD Website subcommittee pages updated, all Committee Chairs should check to make sure all information is correct
 - There is now a change form to request changes to the website - please use it.
 - The Committee is considering terminating the NCSD newsletter in favor of updating the website or employing other slicker communication forms (e.g. Social Media).
 - D. Hill will become NCSD Communications Chair at the end of the meeting
- v. Honors & Awards (C. Percher)
 - The deadline for nominations for our two Division awards (Technical Excellence and Service Awards) is August 31, 2018. Anyone can nominate anyone, please go to the website for nomination forms and information. Website: <http://ncsd.ans.org/honors-and-awards/>
 - We worked with the Program Committee Chair to update the best paper ballot for our sessions, as the last ballot was a bit difficult to score.
 - We are busy planning the H&A dinner for the November meeting. If you are a vegetarian in the Division, please talk to C. Percher as she'd like to get your opinion on the restaurant choice
- vi. Goals (M. Marshall) *{To include (i) 2017/18 Summary, & (ii) 2018/19 Plans}*
 - The committee is now two years old
 - We have started a Goal Tracking sheet and we think it will be more valuable as the years progress to see what we've progressed etc. The Chair of the Committee will transition to Brandon O'Donnell at the end of this meeting.
 - The Goals Committee can really help the Committees work toward common goals of the Division.
- vi. ByLaws and Rules (J. McCall / B. Williamson)

- a. Picked seven parts of the proposed NCSD Bylaws and Rules to discuss, had an infographic that is included as an attachment to the minutes
 - b. Succession plans - currently, the NCSD Bylaws and Rules state that the ascending Vice Chair has to submit a succession plan to the NCSD Executive Committee, including appointment or reappointment of Committee Chairs. The Bylaws and Rules Committee would like to move this responsibility to the Committee Chairs.
 - D. Hill - maybe do away with succession planning requirement in the proposed Bylaws as it doesn't reflect current practice
 - M. Zerkle - succession planning is very important for the Program Committee, but maybe less important for other Committees
 - c. Discussed a number of proposals from the Bylaws and Rules Committee. All proposals would need to go through the Executive Committee for approval.
 - Proposal for student member - 1 of the 10 at large members on Executive Committee, possibly via a 1 year term
 - Proposal to officially add the Goals Committee
 - d. B. Williamson made a plea for everyone (especially Committee members) to read the NCSD Bylaws and Rules
- vii. Nominating (J. Miller or nominated deputy)
 - D. Hill taking over for 2018/19 and approaching people to sit on Nominating Committee
 - If you have any ideas, let Deb know
- viii. Scholarship (J. Ezold)
 - Our scholarship is struggling to get applicants. 4 candidates, picked one who become ineligible, then picked second person, but that person declined. We are left with only have two candidates
 - Is \$3,000 enough? Perhaps we need to bump it up.
 - A. Scurlock: Have you used social media and student sections?
J. Ezold - have not specifically done it for the scholarship. YMG scholarship has had great success with Facebook, etc.
 - M-L. Dunzik-Gougar - don't most grad students get fully funded? What is the history of the scholarship? The thought behind only supporting grad students was that in undergrad you're getting the basics, but in grad school you're getting into more topics that might be relevant to our Division.
 - C. Percher - Perhaps it makes sense to extend to undergrads, as there are a lot of NCS programs that are hiring undergrads. Maybe young professionals?
- 6. Other New, Old or Ongoing Business
 - i. 2019 ANS Student Conference Update: Virginia Commonwealth University (Sarah Morgan / Daniel Tincher / Meredith Eaheart)

- i. The 2018 ANS Student Conference was held at University of Florida. There were 450 participants, 70 professionals, the rest were students. There were 50 posters and 153 podium presentations, 2 criticality safety papers presented during conference, Reniel De La Cruz won the NCSD Best Paper Award. Chris Perfetti put on Keno workshop. NCSD membership should encourage our students to publish papers at the student conference. \$1,000 for travel, \$500 for the NCSD Best Paper Award at the 2018 conference.
- ii. 2019 ANS Student Conference- Virginia Commonwealth University in Richmond, April 4-6th. "Nuclear is...." Showing safe day-to-day use of nuclear energy. Need reviewers, welcome ideas for panels and workshops. Received sponsorship packet. Soliciting suggestions. Sponsorship is penciled in for \$1,500 from the NCSD treasurer, although D. Hill suggested that some consideration is given to whether a Best Paper Award is the most effective use of NCSD funds in 2019 (e.g. rather than travel), given the 2 papers at this year's conference.
- ii. Incoming Chair's Plans (K. Reynolds)
 - K. Reynolds has ideas for the Scholarship and Communications Committees. Goal is to keep momentum moving forward
- iii. Any Other Business (All Attendees)

**Nuclear Criticality Safety Division
Executive Committee Meeting
Marriott Philadelphia Downtown Hotel
Philadelphia, PA
June 2018**



ANS

Name	Initial when present
Only those listed below are voting members of your division	
Deborah Hill, Chair	Deborah Hill
Kevin Reynolds, Vice Chair	Kevin Reynolds
Catherine Percher, Secretary	Catherine Percher
Dominic Winstanley, Treasurer	Dominic Winstanley
John Miller, Immediate Past Chair	
Mary Lou Dunzik-Gougar, Board Liaison	Catherine Percher for Mary Lou
Julie Ezold	Julie Ezold
Tracey Henson	
Tom Hines	
Margaret Marshall	Margaret Marshall
Jason McCall	Jason McCall
Brandon O'Donnell	Brandon O'Donnell
David Pilgrim	
Brittany Williamson	Brittany Williamson
Andrew Wysong	
Others, please PRINT in (if there is not enough space, feel free to use the other side)	
Name	E-mail
B. J. Marshall	marshalluj@ornl.gov
Sandi Larson	slarson@lanl.gov
M. L. Zerfke	michael.zerfke@unpp.gov
Theresa Cutler	tcutler@lanl.gov
Donna D'Aquila	Donna.D'Aquila@FBPorts.com
RON KNIEF	raknief@sandia.gov
Doug Bowen	bowendg@ornl.gov

[illegible]

[illegible]



AMERICAN NUCLEAR SOCIETY

Nuclear Criticality Safety Division

ANS NCSD Executive Committee – Treasurer’s Report

Nuclear Criticality Safety Division

Sunday 17 June 2018

3:00pm – 4:30pm

Philadelphia

Summary:

1. The NCSD is financially sound.

- The funds available at the end of 2017 were \$46604.84.
- The funds on hand (end March 2018) are \$41,028.
- The estimated funds on hand at the end of 2018 will be ~\$41k.
- The main expenditure from Jan 2018 to end March 2018 has been:
 - \$2,500 to support student travel to national meetings and the student conference.
 - \$500 for Best NCS paper at the student conference.
 - \$3000 to the NCSD Scholarship Fund.
- Income to end March 2018
 - \$393 membership dues
 - \$50 donation from Ian Hill (Best Paper Award)
- The NCS Pioneer Scholarship Fund is fully funded. The balance at the end of 2017 was \$71,595.

Treasurer’s comments:

The annual NCSD budget currently runs at a net deficit of ~\$4k - \$5k, inclusive of a top-up payment of \$3k to the Scholarship fund. This is sustainable.

- Contributions from NCSD funds to the Scholarship fund are reviewed by NCSD Exec on an annual basis taking into account the balance of the fund, interest made on the fund and the amount of the Scholarship payment.
- The annual deficit is small compared to the total funds available. Over the longer term the budget has run at an overall surplus, accounting for income from the Topical Meetings. This enables levels of student support and the Scholarship fund to be maintained.

Finance Committee

The Finance Committee is responsible for ensuring the financial health of the Division and the most effective use of the Division’s financial resources. The committee is composed of not fewer than five members, including the two immediate past NCSD Treasurers and the current NCSD Chair.

We are currently looking for new members to join the Finance Committee. This would be a good opportunity for younger NCSD members to become involved in NCSD committee activities. Please speak to Fred Winstanley, Deb Hill, Larry Wetzel or John Miller if you are interested.

EXHIBIT ONE – Financial Statement End of Year 2017

EXHIBIT TWO - NCSD Financial Summary

EXHIBIT THREE – NCSD Pioneers Scholarship Summary End of Year 2017



AMERICAN NUCLEAR SOCIETY

Nuclear Criticality Safety Division

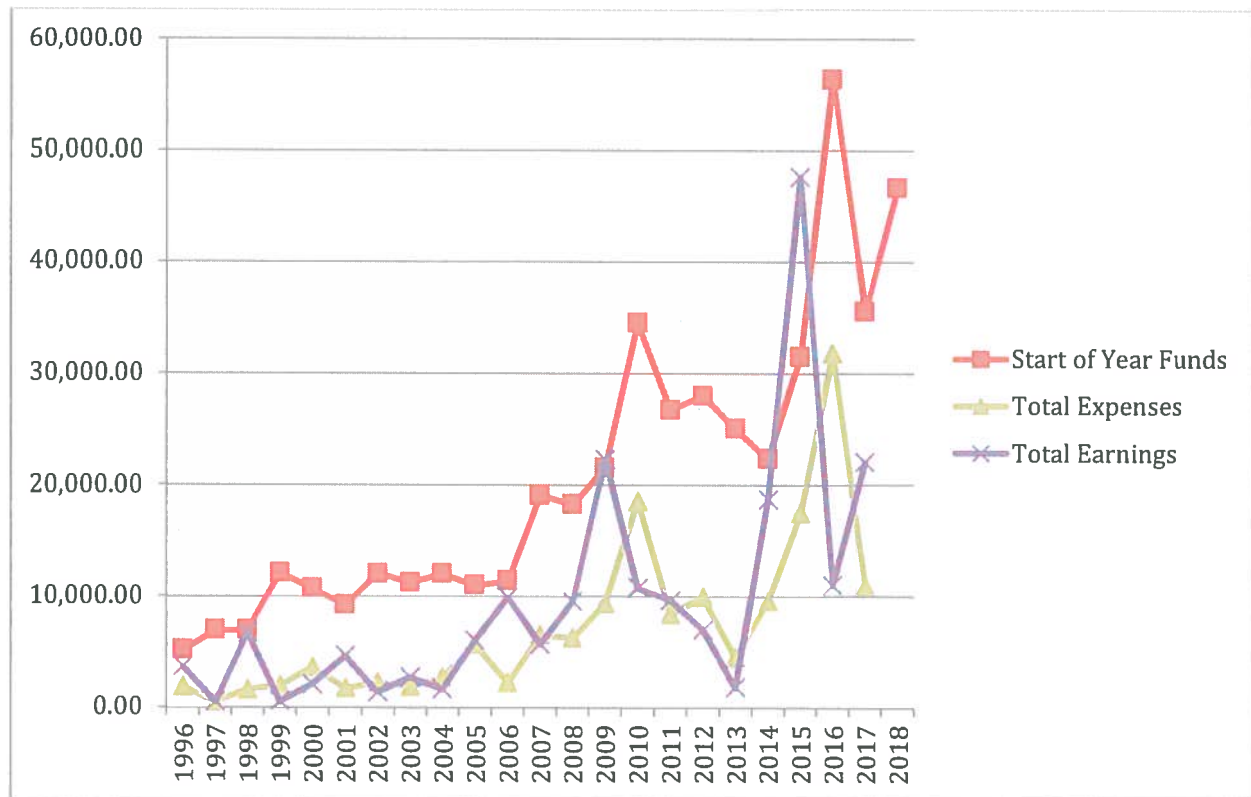
EXHIBIT ONE – Financial Statement End of Year 2017

	Actual	Budget	Variance
	12/31/2017	12/31/2017	
Revenues			
Dues Revenue Allocation	\$1,642.00	\$1,712.00	(\$70.00)
Meeting Revenue ^[1]	20,384.50	6,000.00	14,384.50
Total Revenue	22,026.50	7,712.00	14,314.50
Expenditures			
Awards, Plaques	1,115.72	1,100.00	15.72
National Meeting Costs	4,807.90	5,000.00	(192.10)
Student Support	3,236.82	3,000.00	236.82
Scholarship & NEED Funding		3,000.00	(3,000.00)
Other Expenses	1,777.93		1,777.93
Total Expenditures	10,938.37	12,100.00	(1,161.63)
Net Surplus/(Deficit)	11,088.13	(4,388.00)	15,476.13
Fund Balance at 1/1/17	35,516.71	35,516.71	-
Fund Balance at 12/31/17	46,604.84	31,128.71	15,476.13

[1] Meeting revenue includes \$13,384.50 from the 2017 Topical Meeting.



EXHIBIT TWO - NCSD Financial Summary





AMERICAN NUCLEAR SOCIETY

Nuclear Criticality Safety Division

EXHIBIT THREE – NCSD Pioneers Scholarship Summary End of Year 2017

Year	Starting Balance	Ending Balance	Yr End. Temp. Restricted	Yr. End Division Designated	Division Transfer	Yearly Individual Gift	Interest Temp Restricted	Interest Division Designated	Scholarship Award
2006	\$0	\$6,175	\$175	\$6,000	\$6,000	\$175	-	-	\$0
2007	\$6,175	\$6,275	\$275	\$6,000	\$0	\$100	-	-	\$0
2008	\$6,275	\$3,625	\$625	\$3,000	\$0	\$350	-	-	\$3,000
2009	\$3,625	\$3,625	\$625	\$3,000	\$0	\$0	-	-	\$0
2010	\$3,625	\$3,775	\$625	\$3,000	\$3,000	\$150	-	-	\$3,000
2011	\$7,629	\$15,404	\$11,024	\$4,380	\$0	\$10,775	-	-	\$3,000
2012	\$15,404	\$17,401	\$12,868	\$4,533	\$0	\$4,416	\$428	\$153	\$3,000
2013	\$17,401	\$16,511	\$11,978	\$4,533	\$0	\$150	\$2,110	\$0	\$3,000
2014	\$16,511	\$30,356	\$24,640	\$5,716	\$3,000	\$13,350	\$359	\$136	\$3,000
2015	\$30,356	\$42,331	\$22,161	\$20,170	\$15,000	\$75	\$(82)	\$(19)	\$3,000
2016	\$42,331	\$63,408	\$22,792	\$40,616	\$21,000	\$385	\$1,409	\$1,283	\$3,000
2017	\$63,408	\$71,595	\$26,329	\$45,266	\$0	\$300	\$3,913	\$6,974	\$3,000

The \$300 donation in 2017 was from Jerry Hicks (winner of Distinguished Service Award)

Activity since 1 January 2018

- \$3,000 transfer in from NCSD

The spend limit for 2018 is \$1940, based on 2.71% of the total fund value at end of 2017. The percentage limit is determined by ANS based on investment returns from years 2014 – 2016. As a result it may be necessary to top up the 2018 Scholarship payment with \$1,060 directly from NCSD funds.

EC Membership



The Executive Committee (EC) shall consist of no more than 20 members, including officers, 10 at-large members, and ex-officio members. Ex-officio members include the past-chair and the Professional Division Chair.



Goals Committee

(Proposed) The Goals Committee shall consist of not fewer than 4 members. The Goals Committee is responsible for setting strategic goals for the NCSD in order to better serve the division membership, as well as define a set of metrics for assessing progress towards achieving these goals.

NCSD

Rules & Bylaws

Here are 7 highlights from the NCSD Rules & Bylaws. Some of these Rules & Bylaws are in effect today, and some are being proposed for the upcoming revision.

Quorum



To conduct an NCSD business meeting, at least 15 qualified voters or at least 20% of qualified voters must be present. For EC meetings, at least 50% of the voting members must be present.



Student Member

(Proposed) 1 of the 10 at-large member positions on the EC shall be specifically designated to be filled by a Student Member. The term shall be one year.



EC Terms



At large members serve for 3 years. At large members, Secretary, and Treasurer may serve no more than 2 consecutive terms.



Removal from EC

EC may remove members missing more than two consecutive meetings, unless appropriate reasons are provided for missing such meetings.



Succession Plans



(Proposed) Committee Chairs shall submit a succession plan, including appointment or reappointment of committee members. The plan shall be submitted to the EC prior to the Winter Meeting.

2019 ANS Student Conference

Virginia Commonwealth University

Richmond, Virginia

April 4th-6th

nuclear is
EATING TOAST



nuclear is
ECONOMY



nuclear is
MEDICINE



nuclear is



nuclear is
DEFENSE



nuclear is
SPACE



nuclear is
INNOVATION



nuclear is
CYBER SECURITY



nuclear is
POLICE



Co-Chair
Meredith Eaheart
eaheartmb@vcu.edu



Co-Chair
Sarah Morgan
morgansw@vcu.edu

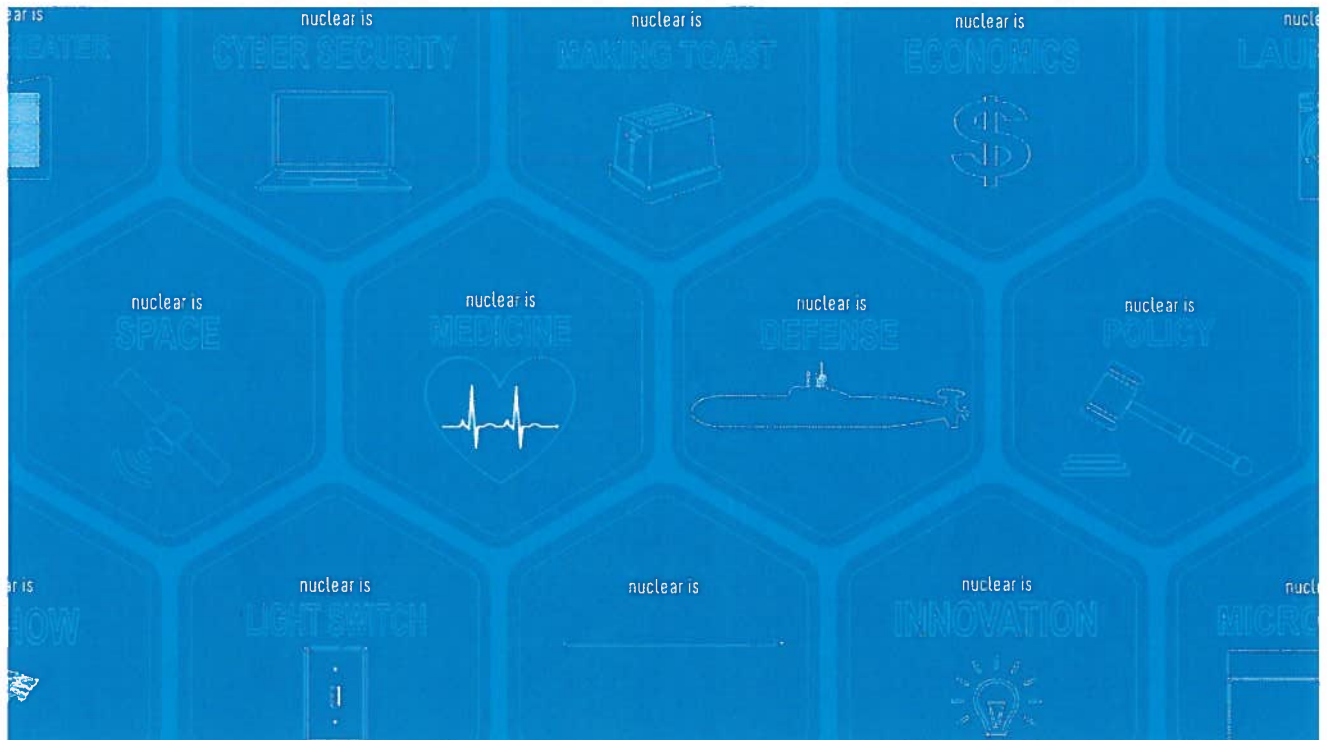


Co-Chair
Daniell Tincher
tincherdj@vcu.edu



ANS Student Conference 2019

Virginia Commonwealth University



Sponsorship & Exhibition Prospectus



**VCU Section of the
American Nuclear Society**

April 4-6, 2019 Virginia Commonwealth University Richmond, Virginia



MESSAGE FROM THE CO-CHAIRS

Greeting Potential Sponsors & Exhibitors!

We look forward to welcoming the nuclear science and technology community to Virginia Commonwealth University and Richmond, Virginia in the spring of 2019!

The word “nuclear” likely invokes a few specific mental images to the general public. Indeed, prior to receiving a full undergraduate education, even aspiring nuclear engineers may only be aware of a nuclear power generation opportunities. However, the applications and opportunities within nuclear science and technology go much further than power generation. For example, the medical field has benefited greatly from advances in nuclear science and technology with nuclear-enabled tools for imaging, diagnosis, and treatment. Irradiating food offers protection from harmful microorganisms without compromising the quality of the food. Nuclear science and technology provides tools to law enforcement and national security personnel to help identify threats and protect our communities. Of course, nuclear power generation is a major contributor to the green energy mix, and the successes and advances in this area must not be overlooked.

For the 2019 ANS Student Conference, we have chosen to focus on the broad nature of nuclear science and technology with the theme “nuclear is _____.” Under this theme, the conference will explore the many opportunities afforded to students. The theme will also encompass the many supportive activities, technologies, and experts in varied disciplines within nuclear science and technology. Obvious examples of the application of the theme include: “nuclear is thermal hydraulics,” or “nuclear is neutronics,” or “nuclear is nonproliferation.” Other, less obvious applications of the theme include: “nuclear is cybersecurity,” or “nuclear is advocacy,” or “nuclear is economics.”

In addition, this theme allows us to explore the subtle and ubiquitous impacts of nuclear science and technology. For example: “nuclear is making toast.” One out of every five pieces of bread used in making toast in the U.S. is toasted using electricity generated from nuclear power plants. Another example would be “nuclear is fresh herbs and spices.” Almost every jar of dried herbs or spices sold in the U.S. has been irradiated to preserve its flavor and maintain longer shelf-lives. Demonstrating the successful and safe day-to-day use of nuclear science and technology represents an important nuclear advocacy tool that we will highlight throughout the conference.

Finally, the exciting new technologies that hold much promise for the nuclear industry will be represented by “nuclear is entrepreneurship,” and “nuclear is innovation.” Innovations in reactor designs, medical applications, and security tools will require those with the imagination and the business skills capable of launching new products and/or companies that fulfill the promise of an improved world. In contrast with the ubiquitous and mundane, successes in the innovation and entrepreneurship represent the exciting and inspiring aspects of nuclear science and technology that will energize those students in attendance.

nuclear is _____.



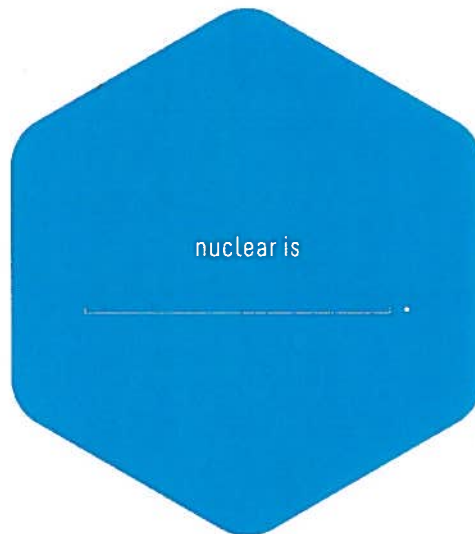
We invite you to review our sponsorship and exhibitor options to see if there is an option that suits your company's or organization's needs to reach students and support their efforts to make a significant impact on the world through advancements in nuclear science and technology. If your company or organization has interest in sponsoring the 2019 ANS Student Conference at Virginia Commonwealth University, please either contact us by phone (770-710-6385) or email the Financial Co-Chair, Daniell Tincher at tincherdj@vcu.edu. We look forward to working with our sponsors and exhibitors to make the 2019 ANS Student Conference a resounding success!

Sincerely,

Meredith Eaheart
Hospitality Co-Chair
eaheartmb@vcu.edu

Sarah Morgan
Technical Co-Chair
morgansw@vcu.edu

Daniell Tincher
Financial Co-Chair
tincherdj@vcu.edu





BENEFITS OF SPONSORSHIP

The ANS Student Conference is the largest single gathering of students in nuclear sciences and technology. The conference provides students with an opportunity for professional development through networking with fellow students, future colleagues, and professionals. The 2019 ANS Student Conference will also give attendees the chance to participate in a wide variety of workshops, ranging from nuclear advocacy to training in the latest computational research methods. Lastly, the ANS Student Conference allows students to gain experience presenting research and effectively communicating their findings.

Previous ANS Student Conferences have experienced great success thanks to the sponsors. In return, our conference aims to maximize exposure for sponsoring companies and organizations to some of the brightest and most talented aspiring nuclear scientists and engineers. Our sponsorship options are tailored towards conference visibility of your company or organization. Sponsors can take pride in the fact that they are fostering a forum for the exchange of ideas and forging connections that will last entire careers.

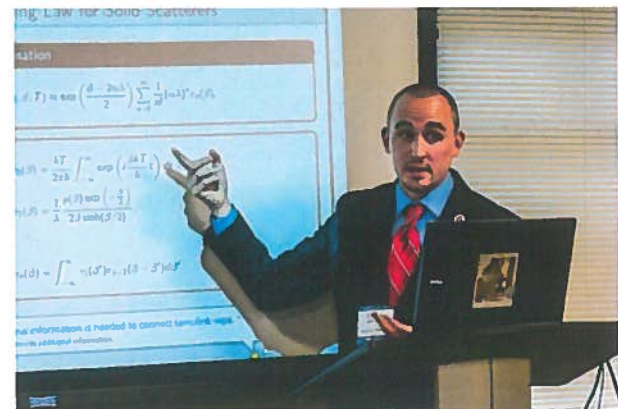
For your company's or organization's investment in the future of nuclear science and technology, we are offering seven sponsorship options with varying levels of visibility benefits. Each option provides sponsoring parties career fair space and a variety of other benefits, including waived registrations, conference program ad space, Lunch and Learn recruiting talks, and for Leader and Champion level sponsors, the opportunity to provide a keynote address at one of three nightly dinners. Exhibitor options are given on page 7.



An exhibitor talks to nuclear engineering student.



A student explains his research during the poster session.



A student giving a podium presentation.



SPONSORSHIP OPPORTUNITIES

Oganesson Level \$30,000

- Provide a keynote speaker at the conference dinner of your choosing
- Name, host, or participate in a workshop, panel, or two technical sessions
- Sponsor the poster session
- Receive a full page ad on the inside front page or the back cover of the conference program
- Showcase logo on the conference T-shirt
- Choose two adjacent career fair booths
- Fees waived for all full-meeting registrations and career fair only registrations
- Have multiple tables at the front of the networking dinner
- Logo on a gift bag item provided by the conference

Tennessee Level \$20,000

- Provide a keynote speaker at one of the three conference dinners
- Name and participate in a workshop, panel, or two technical sessions
- Receive a full page ad in the conference program
- Logo on the conference T-shirt
- Choose two adjacent career fair booths
- Fees waived for four full-meeting registrations
- Have multiple tables near the front of the networking dinner
- Logo on a gift bag item provided by the conference

Livermorium Level \$10,000

- Have the opportunity to host a lunch & learn
- Name and participate in a workshop, panel, or two technical sessions
- Receive a half page ad in the conference program
- Choose a highly visible career fair booth
- Fees waived for three full-meeting registrations
- Have multiple tables at the networking dinner
- Option to provide branded item in gift bag

Moscovium Level \$7,500

- Have the opportunity to host a lunch & learn
- Name and participate in a workshop, panel, or two technical sessions
- Receive a quarter-page ad in the conference program
- Be invited to participate in the career fair
- Fees waived for two full-meeting registrations
- Have two tables at the networking dinner

nuclear is _____.



Flerovium Level \$5,000

- Have the opportunity to name a technical session
- Receive a quarter-page ad in the conference program
- Be invited to participate in the career fair
- Fees waived for two career fair only registrations

Nihonium Level \$2,000

- Be invited to participate in the career fair
- Fees waived for one career fair only registrations
- Receive recognition in the conference program

Copernicium Level Below \$2,000

- Receive recognition in the conference program

Possible Gift Bag Items

- Adhesive ID Holder for Cell Phone
- Lanyard
- Microfiber Cloth
- Notepad
- Pen
- Umbrella
- Water Bottle
- PopSocket
- Mints



EXHIBITION OPPORTUNITIES

Different from sponsors, exhibitors are welcome to promote their organization and recruit at the conference.

Plutonium Exhibitor Level \$10,000

- Be invited to participate in the career fair
- Fees waived for two full-meeting registrations
- Have a table at the networking dinner
- Receive recognition in the conference program
- Have a table at the networking dinner

Neptunium Exhibitor Level \$5,000

- Be invited to participate in the career fair
- Fees waived for two career fair only registrations
- Have a table at the networking dinner
- Receive recognition in the conference program
- Have a table at the networking dinner

Uranium Exhibitor Level \$2,000

- Be invited to participate in the career fair
- Includes one career fair only registration
- Receive recognition in the conference program



AMERICAN NUCLEAR SOCIETY

Nuclear Criticality Safety Division

**Education Committee Meeting
Sunday 17th June 2018
1:00pm – 2:00pm
Franklin 9/10
Marriott Philadelphia Downtown**

1. Call to Order
2. Old Business
 - a. NCSD survey
 - b. New member initiatives with membership committee
 - a. Intro to NCSD before sessions
 - b. NCSD slides before sessions
 - c. New member section on website
 - d. Workshop to work in tandem with membership challenge (Winter 2018 Meeting)
 - e. NCSD mentor program
 - f. NCSD/YMG webinar
 - c. Future session ideas (for Annual 2019 meeting)
 - a. Hazard assessment workshop
 - d. White papers
 - e. Goals and charter
3. New business
4. Adjourn



American Nuclear Society
Nuclear Criticality Safety Division
Program Committee Meeting Minutes

2018 Annual Meeting
Philadelphia, PA – Marriott Philadelphia Downtown; Franklin 9/10
Sunday 17th June
2:00 – 3:00 pm
Chair: Theresa Cutler

1. Welcome, Sign in Sheet
 - T. Cutler, Program Committee Chair, began the meeting
2. Administrative Aspects
 - a. Confirmation of Current Program Committee Membership- those present in bold
Chair: Theresa Cutler
Vice Chair: Vladimir Sobes
Members – Division Chair (**Deborah Hill**) ; Division Vice-Chair (**Kevin Reynolds**) ; Immediate Past Division Chair (John Miller) ; Katherin Goluoglu ; Peter Angelo ; **John Bess** ; **Jerry Hicks** ; Brad Rearden ; **Margaret Marshall** ; Kristan Wessels ; **Catherine Percher** ; **Natasha Glazener** ; Zachary Weems; Larry Berg; Forrest Shriver; **Kelsey Amundson**; Luiz Leal
 - b. Paper Reviewers- Thank you to all reviewers, as you make the technical meetings a success. If you'd like to be a paper reviewer, please indicate so on the program committee sign-in sheet.
3. Summarize Details for 2018 ANS Annual Meeting (Philadelphia, PA; 17th – 21st June 2018)
 - a. This meeting we are doing something a little different- each session will have an introduction speaker that will give a 5 minute talk about what they do in the NCS field, how they got started, etc. This is a collaboration with the education committee. There is a speaker needed for Tuesday morning. T. Cutler will disposition.
 - b. We will also have some general slides about NCSD and committees running before the sessions.
 - c. For this meeting we have 25 total papers.
4. Finalize Details for 2018 ANS Winter Meeting (Orlando, FL; 11th – 15th November 2018)-
 - a. Went over details and added chairs and co-chairs. Page 3-5 of minutes has details.
5. Develop Sessions for 2019 ANS Annual Meeting (Minneapolis, MN; 9th – 13th June 2019)
 - a. Address high priority ideas from Education Committee Meeting- List on page 6 of minutes.
 - b. Sessions discussed:
 1. Historical Hands-on Experiments used for Criticality Safety- D. Malenfont wants to host a session, possibly as a panel session
 2. Aging Facility/New Infrastructure (Grand Challenges)- K. Reynolds has reached out to DESD to cohost a session, but has not heard anything back.
 3. International Standards Panel/Tutorial/Workshop- K. Goluoglu is setting up for Winter 2019

4. Credible Accident Sequence- Education committee is spearheading; Lon Paulson volunteered to lead
 5. Operational Reviews; How facilities meet ANSI/ANS 8.1 Section 4.1.6- Kristan Wessels suggested via email; Sandi Larson expressed interest in assisting
- c. Discuss currently proposed items- Comprehensive list on Page 6 of minutes.
1. Real World Application of Sensitivity/Uncertainty- possibly with MCD co-sponsor. Now that TSUNAMI and Whisper are being more widely used, we might get lots of papers. J. Alwin and N. Glazener expressed interest
 2. Plutonium Handook- M. Zerkle mentioned that a new 6 volume Plutonium Handbook is being released in November of 2018. C. Percher and T. Cutler volunteered to investigate having a panel session, perhaps cosponsored with MSD.

6. Any Other Business

- a. Attendance Sheets- Be sure to sign in for all sessions so we can get large enough rooms.
- b. Best Paper – We have a new best paper form made in collaboration with Honors and Awards Committee
- c. 1 Year and 5 Year Goals- Goals sheet included on page 7. The Program Committee continues to reach out to other committees.
- d. Program Committee Charter
- e. Embedded Vs. Stand-Alone Topicals- ANS wants to push the divisions to have more embedded topicals instead of stand-alone meetings. ANS wants to require Divisions to embed 1 of every 3 topicals.
 - C. Percher: Topicals are the primary way our Division makes money. We made \$13,000 from Carlsbad and \$40,000 from the US ICNC.
 - K.Kimball- ANS used to have the requirement that we embed 1 of every 2 topicals. Our Division made a decision to ignore that requirement. Our last embedded topical was 2001.

NCSD Session Chairs and Alternate Chairs, and Intro Speakers for 2018 ANS Annual Meeting Philadelphia, PA

<u>NCSD Sponsor – “Criticality Accident Alarm System: Issues and Testing” **</u>			
<i>Monday 1:00 P.M. ; Franklin 5</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Catherine Percher (LLNL)	Catherine Percher (LLNL)	Kevin Reynolds (CNS)	Kevin Reynolds (CNS)
<u>NCSD Sponsor -- “Data, Analysis and Operations in Nuclear Criticality Safety I” **</u>			
<i>Tuesday 8:00 A.M. ; Room 5</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Theresa Cutler (LANL)	Arielle Miller (DNFSB)	John Bess (INL)	Vlad Sobes (ORNL)
<u>NCSD Sponsor – “ANS 8.10 Criteria for Nuclear Criticality Safety Controls in operations with Shielding and Confinement. Uses and Purposes”- Panel</u>			
<i>Tuesday 4:30 P.M. ; Franklin 7</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Andrew Prichard (PNNL)	Andrew Prichard (PNNL)	Jerry Hicks (NNSA, Retd)	TBD
<u>NCSD Sponsor -- “Data, Analysis and Operations in Nuclear Criticality Safety—II**</u>			
<i>Wednesday 8:00 A.M. ; Franklin 5</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Theresa Cutler (LANL)	Vlad Sobes (ORNL)	Brittany Williamson (SRNS)	Lon Paulson (GE)
<u>NCSD Sponsor – “Sharing of Good Industry Practices and/or Lessons Learned in Nuclear Criticality Safety”–Panel</u>			
<i>Wednesday 1:00 P.M. ; Franklin 5</i>			
Session Organizer(s)	Chair	Co- Chair	Intro Speaker
Deb Hill (UK NNL)	Deb Hill (UK NNL)	James Bunsen (LANL)	Fred Winstanley (Sellafield Ltd.)
<u>NCSD Sponsor – “Data, Analysis and Operations in Nuclear Criticality Safety III” **</u>			
<i>Wednesday 4:30 P.M. ; Franklin 5</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Theresa Cutler (LANL)	Margaret Marshall (INL)	Tracy Stover (SRNS)	Jerry Hicks (NNSA, Retd)
<u>NCSD Sponsor – “ANS-8 Standards Forum”–Panel</u>			
<i>Thursday 8:00 A.M. ; Franklin 5</i>			
Session Organizer(s)	Chair	Alternate Chair	Intro Speaker
Doug Bowen (ORNL)	Doug Bowen (ORNL)	Larry Wetzels (BWXT)	Nicolas Brown (NFS)

** sessions that will be included in the Best Paper Award Voting

NCSD Session Chairs and Co-Chairs for 2018 ANS Winter Meeting Orlando, FL

The 2018 ANS Winter Meeting will be held from 11th–15th November 2018, and the Call for Papers for the meeting is available on the ANS Website. The associated deadlines are:

- Submission of Summaries – 29th May 2018 {Normally extended by approx. 3-4 weeks}
- Author Notification of Acceptance – 27th July 2018
- Revised Summaries Due – 21st August 2018

Section 12a. Session Title: “ANS-8 Standards Forum”

Session Type: Discussion

Session Organizer: Doug Bowen (ORNL)

Bowendg@ornl.gov

Session Chair: Doug Bowen

Alternate Chair: Larry Wetzel

Summary: Subcommittee ANS-8, Operations with Fissile Material Outside Reactors, meets to discuss various technical and administrative aspects of the approximately 20 national consensus standards under its purview. In addition to status and progress updates by representatives of individual working groups, formal presentations on the technical bases of numerical values such as subcritical limits and experiences with applications of particular standards are solicited. Agenda topics such as new and expanded standards are also encouraged.

Section 12b. Session Title: “NCS Implementation Programs”

Session Type: Panel

Session Organizer: Chris Haught (CNS)

Chris.Haught@cns.doe.gov

Session Chair: Tyler Lovelace (CNS)

Alternate Chair: Chris Haught (CNS)

Summary: This session addresses programs for implementation and maintenance of Nuclear Criticality Safety (NCS) controls, including the use of Criticality Safety Officer (CSO) staff positions. Responsibility for nuclear criticality safety ultimately lies with the personnel that conduct fissile material activities. A healthy NCS program includes integration of multiple organizations to assure a clear understanding of the process evaluation and proper implementation of NCS controls. ANSI/ANS-8.19 outlines criteria for implementation and maintenance of NCS controls. Some sites use formal CSO programs within the operating organization with a primary staff duty of implementing NCS requirements and resolving NCS compliance issues. Other sites have assigned implementation responsibilities as collateral duties. This session is to share information from several sites on their programs for implementation and maintenance of NCS controls.

Section 12c. Session Title: “Impacts to Criticality Safety from Recent Revisions to DOE Standards”

Session Type: Panel

Session Organizers: Kevin Kimball (CNS), John Miller (SNL), Andrew Prichard (PNNL)

Kevin.Kimball@cns.doe.gov

Session Chair: Kevin Kimball (CNS)

Alternate Chair: John Miller (SNL)

Summary: Over the last couple of years, there have been several changes to DOE Orders and Standards that impact Nuclear Criticality Safety (NCS) practices (e.g., 420.1C, 3009, 3007). NCS programs across the complex are starting to implement these changes. This Panel session will have experts from various sites across the complex to discuss the basis and reasoning behind the changes, how these changes were/are being implemented and the lessons learned during implementation. The Panel will also explore any unintended consequences from these changes and if the expected benefits from these changes were realized.

Section 12d. Session Title: “New Code Developments for Nuclear Criticality Safety Applications”

Session Type: Contributed Papers

Session Organizers: Luiz Leal (IRSN), Vladimir Sobes (ORNL)

sobes@ornl.gov

Session Chair: Luiz Leal (IRSN)

Alternate Chair: Vladimir Sobes (ORNL)

Co-Sponsor: RPD, MCD

Summary: The purpose of this session is to address new developments in computational methodologies in support of nuclear criticality safety calculations. For the past several decades, there have been software advances to solve problems in connection with criticality safety. The new improvements leverage computer resources not available in the past. Nuclear data evaluations tools, Monte Carlo and deterministic neutron transport codes have achieved a high degree of maturity allowing for better interpretation of the benchmark results and systematic propagation of nuclear data uncertainty. This session will highlight how the code developments impact and improve nuclear criticality safety calculations.

Section 12e. Session Title: “ENDF/B-VIII.0: Evaluation and Validation”

Session Type: Panel

Session Organizer: Michael Zerkle (NNL)

Michael.Zerkle@unnpp.gov

Session Chair: Michael Zerkle (NNL)

Alternate Chair: Alejandro Sonzogni (BNL)

Co-Sponsor: RPD

Summary: With the planned release of ENDF/B-VIII.0, this session will provide a panel discussing new nuclear data evaluations included in ENDF/B-VIII.0 and the work completed to date on validation of the next major release of the US national nuclear data library. Emphasis will be on fast and resonance evaluation, covariance data, thermal scattering law evaluations, and validation.

Section 12f. Session Title: “Critical and Subcritical Experiments”

Session Type: Contributed Papers

Session Organizers: Jesson Hutchinson (LANL)

jesson@lanl.gov

Session Chair: William Myers (LANL)

Alternate Chair: Rian Bahran (LANL)

Co-Sponsor: NNPD, YMG

Summary: Critical and subcritical experiments are performed every year to support a variety of national security missions, including nuclear nonproliferation, counter-proliferation, criticality safety research and development, nuclear emergency response, and a variety of hands-on training. Papers on critical and subcritical experiments (design, measurement, analysis, methods) will showcase current work in this area.

Section 12h. Session Title: “Recent Nuclear Criticality Safety Program Technical Accomplishments”

Session Type: Contributed Papers

Session Organizer: Lori Scott (SAIC)

lorisc0tt@aol.com

Session Chair: Angela Chambers (NNSA)

Alternate Chair: Doug Bowen (ORNL)

Summary: The Nuclear Criticality Safety Program (NCSP) has been doing interesting technical work supporting the DOE criticality safety enterprise, as well as benefiting the nuclear community as a whole. There are few opportunities to learn about these efforts since they cannot all be presented at an ANS meeting. However, an NCSP Technical Seminar was held. The goal of this seminar was to have each NCSP Task Manager present their technical results from FY 2018. Specifically, the presentations provided a summary of: the work that was done; why the work was done; and who benefited from the work or could potentially benefit across the DOE as well as the nuclear complex. This led to an opportunity for the NCSP to showcase outstanding NCSP technical accomplishments and as a result, the best technical results that will have the most benefit to the nuclear community as a whole have been compiled and those presenters will provide these technical results at the 2018 ANS Winter Meeting.

Section 12j. Session Title: “Hand Calculation Methodology and Use”

Session Type: Panel

Session Organizer: Jerry Hicks (NNSA, Retd), James Bunsen (LANL)

jerryhicks@aol.com

Session Chair: James Bunsen (LANL)

Alternate Chair: Jerry Hicks (NNSA, Retd)

Summary: A workshop on hand calculations for those interested in criticality safety will be given at the ANS 2018 Winter Meeting in conclusion to the Nuclear Criticality Safety Division’s annual Membership Challenge. Solutions to the challenge and suggested methods on best completing the challenge will be discussed. Hand calculations have been used in the criticality safety profession for years to analyze processes with fissionable material to ensure subcriticality. There are multiple methods of hand calculations to use and two main categories dependent upon the situation: single unit methods and array methods. Single unit methods include diffusion theory, core density conversions, and buckling. The primary array methods used are surface density, density analog, limiting surface density and solid angle method.

** The Membership Challenge Activity Debrief and Solution Discussion was combined into this session.*

Section 12i. Session Title: “Data, Analysis and Operations in Nuclear Criticality Safety”

Session Type: Contributed Papers

Session Organizer: Theresa Cutler (LANL)

Tcutler@lanl.gov

Session Chair(s): Brittany Williamson (SRS)

Alternate Chair(s): Natasha Glazener (LANL)

Summary: The purpose of this session is to provide a forum for timely presentation of general issues in the area of nuclear criticality safety that are not covered in other special session topics.

Session Ideas for 2019 ANS Annual Meeting Minneapolis, MN

ROUTINE ANNUAL SESSIONS

1. Data, Analysis and Operations in Nuclear Criticality Safety
2. ANS 8 Standards Forum
3. Sharing of Good Industry Practices and/or Lessons Learned in Nuclear Criticality Safety

SUGGESTIONS FROM NCSD PROGRAM / EDUCATION COMMITTEE

4. Historical Hands-On Experiments used for Criticality Safety [Richard Malenfont]
5. Aging Facility/ New Infrastructure [Kevin Reynolds]
Coordinate with DESD to meet Grand Challenge Request
6. International Standards Panel/ Tutorial/ Workshop [Katherin Goluoglu]
7. Credible Accident Sequence [Katherin Goluoglu/ Lon Paulson]
8. Operational Reviews; How facilities meet ANSI/ANS-8.1 Section 4.1.6 [Kristin Wessels]

OTHER SUGGESTIONS FROM PREVIOUS MEETINGS

9. NCS Aspects of In-Line Solution Components [KG]
10. Advanced Session on Impact of Chemistry on Nuclear Criticality Safety Evaluations ? [DAH]
11. “Technical Communication” Session ? [JH] *{Potential Co-Sponsor – YMG ?}*
12. “Day in the Life of” [ZW] *{Potential Co-Sponsor – YMG ?}*
13. OECD NEA Session about their Programs ? [JB]
14. Legacy Style Talks / Learning from Pioneers – Knowledge Transfer – Passing onto to next generation of NCS Engineers *[Previous / PA]*
15. Medical Isotope Production *[PA]*
16. Uncertainty *[JH]*
17. Nuclear Accidents *[AP]*
18. Criticality Safety Programs on International Stage *[KG, DAH]*
19. Integrating Safety, Security and Safeguards *[KG]*
20. Burn-Up Credit in Current Operations *[KG]*
21. Real World Application of Sensitivity / Uncertainty *[KG]*
22. Latest Needs from a Users Forum *[KG]*
23. Implementing Active Controls in Digital World *[KG]*
24. Joint Sessions with Human Factors / Young Members Group *[DAH]*

NCSD Paper Reviewers for 2018 Annual Meeting

Andrew W. Prichard
Arielle Miller
Catherine M. Percher
Dale B. Lancaster
David Heinrichs
Deborah Ann Hill
Derek Putley
Douglas G. Bowen
Forrest B. Brown
Fred Winstanley
James A Morman
James S. Baker
Jerry E. Hicks
John D. Bess
Katherin L. Goluoglu
Kristan M. Wessels
Larry Berg

Larry L. Wetzel
Luiz Carlos Leal
Margaret Marshall
Peter L. Angelo
Richard G. Taylor
Sandra L. Larson
Tamara Baldwin
Theresa E. Cutler
Tony Nelson
Tracy E. Stover
Vladimir Sobes

Thank you for all of your amazing support!!!

NCSD couldn't be successful without all of you.