

EXECUTIVE COMMITTEE MEETING MINUTES (FOR APPROVAL)

American Nuclear Society – Thermal Hydraulics Division
Executive Committee Meeting
Marriott Wardman Park, Washington, D.C., USA
4:30 – 6:00 PM, Sunday, November 17, 2019
Location: Virginia A

Attendees (EC Members, see Appendix A): Chul-Hwa Song (KAERI), Wade Marcum (OSU), Elia Merzari (PSU), Bao-Wen Yang (DEQD, Delta Energy Group), John Luxat (McMaster), Annalisa Manera (University of Michigan), Hisashi Ninokata (Politecnico di Milano), Fan-Bill Cheung (PSU), Yong Hoon Jeong (KAIST), Dillon Shaver (Argonne National Laboratory), Xiaodong Sun (University of Michigan), Matt Zimmer (NCSU), Lane Carasik (Virginia Commonwealth University), Yassin Hassan (Texas A&M), Robert Martin (BWXT).

Attendees (Other, see Appendix A): Vittorio Badalassi (ORNL), Si Young Lee (SRNL), Dave Pointer (ORNL), Deep Patel (University of Michigan), Marilyn Delgado (Texas A&M), Brett Leitherer (OSU), Jowan Johnson (OSU), Jun Wang (University of Wisconsin), Jong Kim (KAIST), John Kelly (ANS), Kurshad Muftuoglu (GE-Hitachi)

Proxies (EC Members, see Appendix A): Yang Liu (Virginia Tech) to Xiaodong Sun, Fatih Aydogan (Jacksonville University) to Chul-Hwa Song, Igor Bolotnov (NCSU) to Elia Merzari,

Absent (see Appendix A): Piyush Sabharwall (INL)

Quorum is met.

1. Opening Song

Called to order at 4:30 pm

2. Visitors from Student Conferences

The chair gave the floor to the North Carolina State University (NCSU) students organizing the 2020 ANS student conference. The students presented their vision for the conference and requested the support of the division. In the ANS Annual meeting 2019 it had already been approved that the conference will receive \$500 from the division. The student requested also volunteers to act as judges for the best paper competition. More information is provided in **Appendix B.**

3. Remarks from ANS Executive Committee Kelly

The chair gave the floor to Dr. Kelly, who presented recent developments toward the approval and implementation of the ANS Change Plan 2020. There was significant pushback from the divisions on items related to division finances, which have been tabled for implementation. A

task force is to be formed at the ANS National level and it will provide conclusions on the Objective #4 of the ANS Change Plan 2020 no later than March 31st 2020, THD will likely be asked to provide a volunteer who will join this task force.

Following the presentation of Dr. Kelly there was a lively discussion among the members present. The discussion covered, among other topics, the proposed local section changes and the proposal for combined topicals. Both changes were on agenda for the board meeting on the Thursday of the ANS winter meeting 2019.

4. Approval of Meeting Agenda All

The agenda was circulated among the members (**Appendix C**). The chair suggested to amend the agenda to have items 4 and 5 before item 2 since the ANS 2020 Student Conference organizers were not available at the original time suggested.

MOTION to approve agenda as amended (Elia Merzari).
SECOND by Dillon Shaver.

No discussion.

APPROVED unanimously.

5. Approval of Minutes from 2019 ANS Annual Meeting All

The minutes from the ANS Annual Meeting 2019 were circulated (**Appendix D**).

MOTION to approve minutes (Wade Marcum).
SECOND by Lane Carasik.

APPROVED with 1 abstained.

6. Action Items from 2019 ANS Annual Meeting
- a. Language Added to All Non-Awarded TAA Packages Schubring
 - b. Prepare Proposal for Service Award Merzari
 - c. NC To Form a Subcommittee to Support NURETH 40th Anniversary Pointer
 - d. Update the THD website Shaver/Delgado

Item 6a. In the absence of Dr. Schubring, Prof. Cheung, mentioned the background of the TAA award and the need to provide adequate language in the response to all non-awarded TAA packages. Moreover he emphasized the need to improve the quality of submissions. There is a need to revise official THD procedures to be consistent with recent H&A changes. Dr. Song tied the discussion to item 7f.

Item 6b. A proposal for the restart of the service award was circulated (**Appendix E**).

ACTION (H&A committee): H&A to fine-tune language of the service award proposal before submittal to ANS national H&A committee.

MOTION to move \$21,000 from the general fund to the award fund to fund the service award (Annalisa Manera)

SECOND by Wade Marcum

APPROVED unanimously.

Item 6c. The nominating committee did not have a chance to form the Subcommittee to support the NURETH 40th Anniversary

ACTION (W. David Pointer): The nominating chair will submit the slate electronically to the EC by January 31st.

Item 6d. Discussed in item 11

7. Chair Report Song
 - a. Report from Professional Divisions Workshop Marcum/Song
 - b. Report from President's Meeting with Division Chairs Marcum/Song
 - c. Review Committee for L.E. Hochreiter Graduate Scholarship Recipients Song
 - d. New Division Webmaster Nomination Song
 - e. Establishing a New Division Award (Sehgal's NURETH Award) Song
 - f. Revision of Division Bylaws & Rules and Procedures Song

Dr. Song discussed briefly his impressions regarding the Professional Divisions Workshop and the President's Meeting with Division Chairs.

Item 7c. Dr. Song mentioned that the subcommittee tasked with selecting the winner of the Lawrence E. Hochreiter memorial scholarship has already been established and it consists of division members from Non-Academia area in consideration of any possible "Conflict of Interests" after communicating with the H&A Committee chair electronically.

Item 7d. Dr. Song reminded the EC members that Marilyn Delgado was selected as the new webmaster and (Vote and decision were communicated electronically to EC members previously).

Item 7e. Dr. Song circulated the award proposal honoring the late Dr. Sehgal (**Appendix F**). There was general consensus on establishing the award and in particular given the generous offer of the Sehgal family to support the award. A discussion followed on the need to maintain the prestige of TAA versus the award in honor of Dr. Sehgal and differentiate the two awards:

- It was agreed that the monetary amount related to the TAA should be increased. It was noted by Prof. Cheung that the increase is overdue given the inflation over the past 20 years.
- Moreover, it was pointed out that Dr. Sehgal was noted for his tireless support and encouragement for young researchers. Prof. J. Kim mentioned that family would like for the award to target early career individuals, with specific criteria to be defined by the H&A committee.

MOTION to increase the amount of TAA \$2,000 (Fan-Bill Cheung)
SECOND by Xiaodong Sun

APPROVED unanimously.

MOTION to create the Bal Raj Sehgal memorial award by accepting the donation of the Sehgal family. (Elia Merzari)
SECOND by B.W. Yang

APPROVED unanimously.

ACTION ITEM (H&A committee): H&A committee to work with Prof. Jong Kim and Prof. Sehgal's family to refine the proposal, mainly focusing on awardee selection criteria, before submittal to ANS national H&A.

MOTION to move 8,192\$ from the general fund to the award fund to support the TAA. (Elia Merzari)
SECOND by Lane Carasik

APPROVED unanimously.

Item 7f. Several members commented on the mismatch between the division bylaws, rules and current practices. Some bylaws and rules were changed but the changes were not submitted to the ANS National. Moreover some procedures could benefit from clarification due to vague language. In general, there was consensus on the need to clarify the status of the bylaws and rules of the division.

ACTION (Elia Merzari, Wade Marcum, Xiaodong Sun, Bob Martin, C. H. Song): To collect and clarify status of bylaws changes in recent years and report back to the EC in the next meeting.

8. Treasurer's Report B.-W. Yang

Dr. Yang summarized the status of the finances (**Appendix G**). He confirmed that there are sufficient funds to support both the TAA monetary award increase and the division Service Award.

Dr. Yang also commented on the potential impact of the ANS Change Plan 2020. It was concluded it is important to keep the division funding separate from other divisions (i.e., one of the potential changes proposed is to pool the division funding).

9. Program Committee Report
- a. 2019 ANS Winter Meeting Program in Washington, D.C Bolotnov/Shaver
 - b. 2020 ANS Annual Meeting Program in Phoenix, AZ Bolotnov/Shaver
 - c. 2020 ANS Winter Meeting Program in Chicago, IL Bolotnov/Shaver
 - d. ATH 2020 Update Bolotnov/Shaver
 - e. ATH 2022 Planning Bolotnov/Shaver

- f. NURETH-18 Update Woods/Marcum
- g. NUTHOS-13 Update Luxat
- h. NURETH-19 Update Merzari
- i. ICAPP 2020 Update Sun
- j. Motions from the PC Meeting Bolotnov/Shaver

Refer to Program committee minutes.

10. Membership Committee Report Pointer

Dr. Pointer referred to the newsletter for a detailed report.

11. Division Website Report Delgado

Ms. Delgado discussed the current status of the website: There are several missing items and she encouraged members to provide missing information. She also discussed her plans to improve the website and make it more attractive for students. This may include a student section and/or a forum (potentially interacting with ANS Collaborate). Other changes will include: adding pictures of people and work done. She called for pictures and videos from members, reviving a long-standing discussion among members for the need of a shared space for videos and educational material. Finally she discussed her plans for “in memoriam” sections.

12. Honors and Awards Committee Report Schubring

- a. TAA 2019 Awardee Selection
- b. BPA 2019 Awardee Selection
- c. Others

It was announced that the 2019 TAA winner is Dr. Shripad Revankar (Purdue). And the TAA lecture is to be made on Monday evening right after concluding the regular sessions.

The 2019 BPA (best paper award) went to J. Pacio, M. Daubner, T. Wetzel, H. Uitslag-Doolaard, A. Mathur, and F. Roelofs for their work entitled: *“Inter-wrapper flow: LBE experiments and simulations”*, presented at the 18th International Topical Meeting on Nuclear Reactor Thermal-Hydraulics (NURETH-18).

At NURETH-18, Prof. Xiaodong Sun and Dr. Bao-Wen Yang were inducted as NURETH fellows.

13. Nominating Committee Report Pointer

- a. Slate of Candidates for New Division Officers
- b. Slate of Candidates for New Division EC Members
- c. Slate of Candidates for New H&A Committee Members

Dr. Pointer presented the nominations for the 2020 THD slate.

MOTION: Nominees for Officer: E. Merzari (Vice-chair), B.W. Yang (Secretary), A. Manera (Treasurer).

No need for second

APPROVED unanimously

MOTION Nominees EC: Yang Liu, John Luxat, Caleb Brooks, Hisashi Ninokata, Piyush Sabharwall

No need for second.

APPROVED with 1 abstained.

MOTION Nominees for H&A: Bob Martin and Lane Carasik.

No need for a second.

In the discussion it was pointed out that a significant change in the H&A structure was approved in the past year but not yet implemented. To facilitate the transition it was suggested to reduce the term of the new H&A appointments to one year.

Amendment to limit the appointments to 1 year (Wade Marcum)

SECOND by Xiaodong Sun

Amendment APPROVED with one against, everyone else in favor.

Amended Motion APPROVED unanimously.

14. Old Business All

15. New Business All

a. Actions from Professional Divisions Workshop Marcum/Song

b. Actions from President's Meeting with Division Chairs Marcum/Song

c. Others All

16. Adjournment Song

MOTION to Adjourn (Elia Merzari)

SECOND by Wade Marcum

Approved unanimously.

Meeting closed at 7:03 pm.

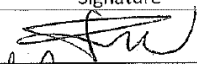
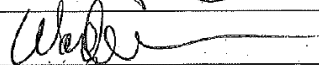

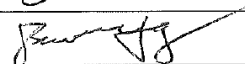
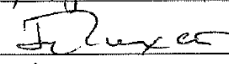
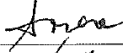
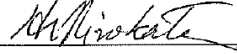
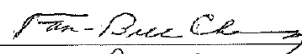
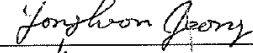
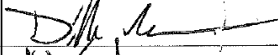
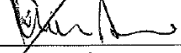

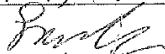


APPENDIX A

Signup Sheet

LIST OF ATTENDEES

American Nuclear Society – Thermal Hydraulics Division
 Executive Committee Meeting
 Marriott Wardman Park
 4:30 – 6:00 PM, Sunday November 17, 2019

Executive Committee Members

Name	Organization	Signature
Chul-Hwa Song	KAERI	
Wade Marcum	OSU	
Elia Merzari	PSU	
Bao-Wen Yang	Xi'an Jiatong Unviersity	
Yang Liu	VirginiaTech	Proxy to Chul-Hwa Song ^{Xiaodong Sun}
John Luxat	McMaster University	
Annalisa Manera	University of Michigan	
Hisashi Ninokata	Politecnico di Milano	
Pyush Sabharwalli	INL	
Fan-Bill Cheung	PSU	
Yong Hoon Jeong	KAIST	
Dillon R. Shaver	Argonne National Laboratory	
Xiaodong Sun	University of Michigan	
Matt Zimmer	NCSU	
Fatih Aydogan	Jacksonville University	Proxy to Chul-Hwa Song
Igor Bolotnov	NCSU	Proxy to Manera
Lane Carasik	VCU <i>Virginia Commonwealth University</i>	
Yassin Hassan	TAMU	
Robert P. Martin	BWXT	

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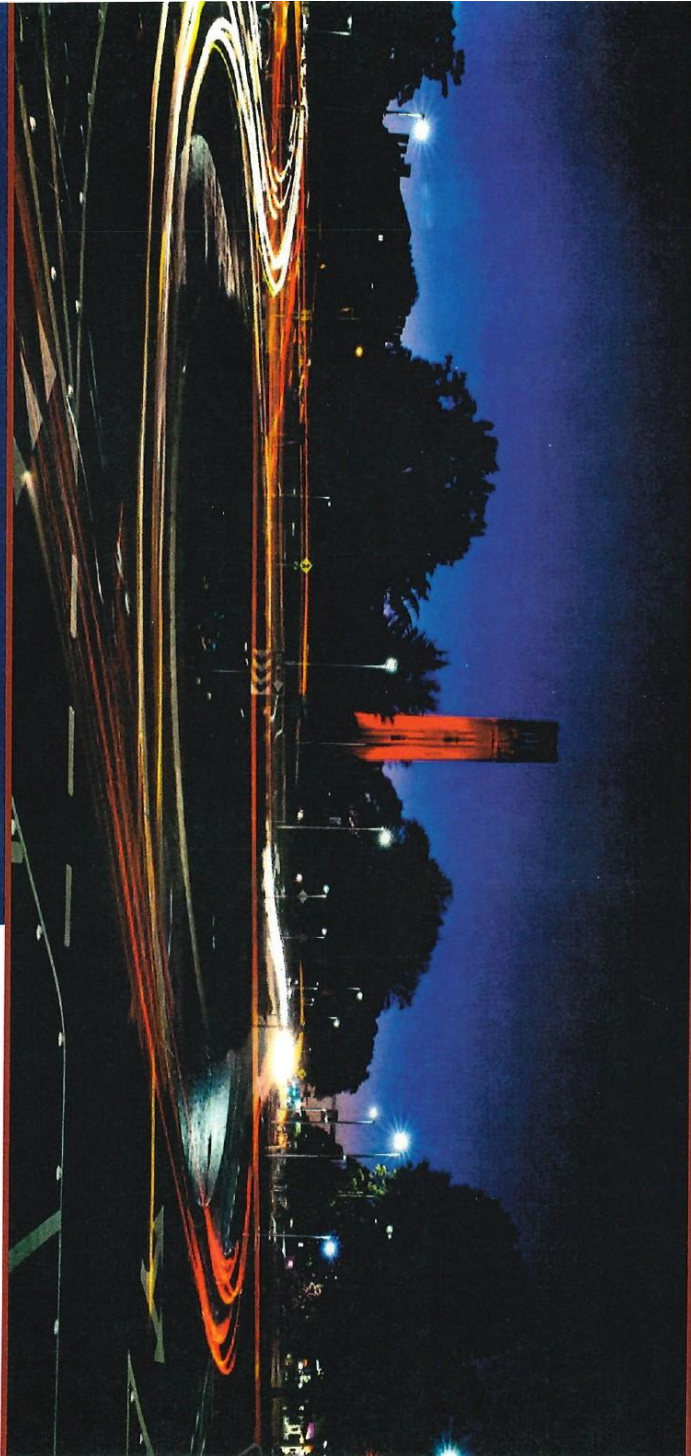
American Nuclear Society – Thermal Hydraulics Division
 Executive Committee Meeting
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 4:30 – 6:00 PM, Sunday November 17, 2019


Other attendees

Name	Organization	Email
VITTORIO BADALASSI	ORNL	BADALASSI@ORNL.GOV
Yassin Hassan	Texas A&M	y-hassan@tamu.edu
Si Young Lee	SRNL	si.lee@srnl.doe.gov
John Luxon	McMASTER U	luxonj@mcmaster.ca
F. Bill Cheung	PSU	fxc4@psu.edu
HISASHI NINOKATA	POLIMI	hisashi.ninokata@polimi.it
DAVE POINTER	ORNL	pointerd@ornl.gov
Deep Patel	University of Michigan	deeprp@umich.edu
Marilyn Delgado	TEXAS A&M UNIVERSITY	mdelgad17@tamu.edu
Brett Leitherer	Oregon State University	leitherb@oregonstate.edu
Juwan Johnson	Oregon State University	johnsjw@oregonstate.edu
Jun Wang	University of Wisconsin	fwang564@wisc.edu
Jong Kim	KAIST	teimj@kaist.ac.kr
John Kelly	ANV	jkellyans@gmail.com
KURSHAD MUFTUOGLU	GE Hitachi/GNF	kurshad.muftuoglu@ge.com

APPENDIX B


Material presented by 2020 ANS Student conference organizers




ANS
American Nuclear Society
Student Conference 2020

March 26th-28th, 2020
Raleigh Marriott City Center
Raleigh, NC

ENLIGHTEN | EMBRACE | EMPOWER
Email: ans2020studentconference@ncsu.edu


American Nuclear Society
North Carolina State University

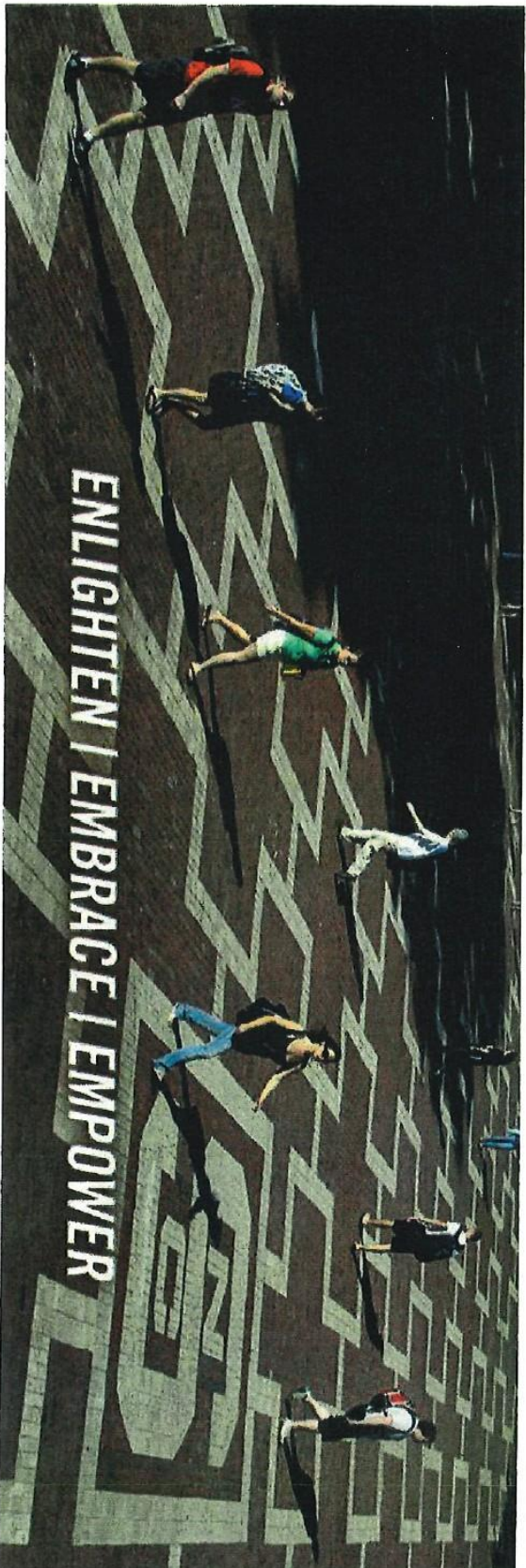


“#1 Online Master of Nuclear Engineering in 2018”

- *Best College Reviews*

“#3 Nuclear Engineering Graduate Program in 2019”

- *US News and World Report*



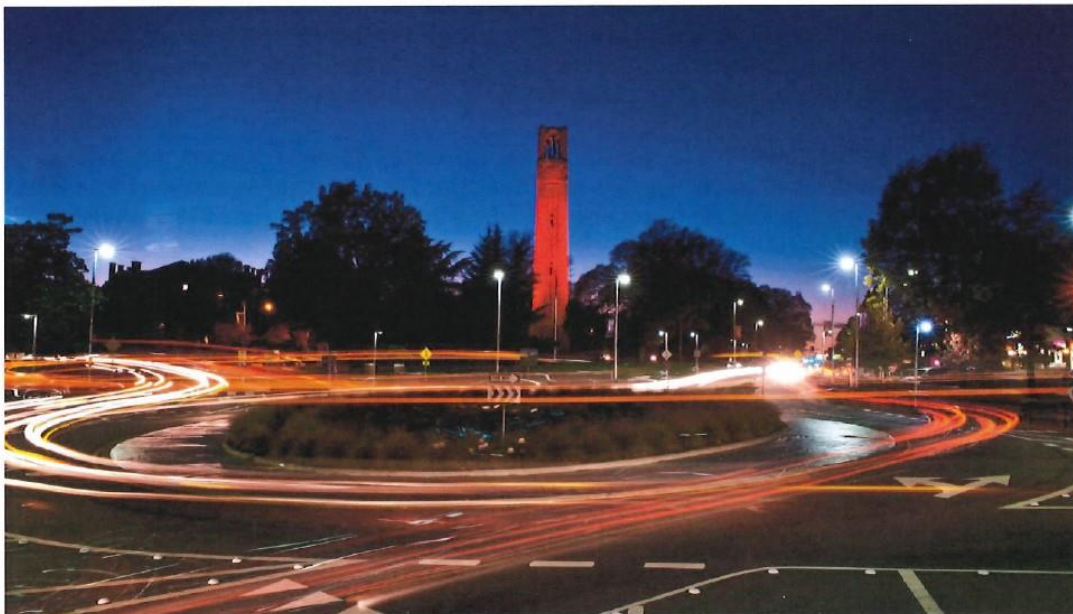


American Nuclear Society Student Conference 2020

March 26th-28th, 2020

Raleigh Marriot City Center

Raleigh, North Carolina



ANS Divisions Prospectus

Greetings from the 2020 Planning Committee

Dear Division Chair,

We in the Department of Nuclear Engineering and American Nuclear Society at North Carolina State University are eagerly looking forward to March 26th - 28th, 2020 when we will host students, professionals, and the future leaders in nuclear science and technology at the 2020 ANS Student Conference in Raleigh, North Carolina.

At North Carolina State University, we aim to...

... **ENLIGHTEN** ourselves about nuclear science and technology as we share and contribute to the field. This student conference brings us together to share insight from student and expert researches on theories, applications, and innovations. Nuclear science and engineering is ubiquitous in society – from energy, health, defense, non-proliferation, to name a few. In such a widespread field, this conference provides the perfect platform for experts and students to come together and learn about the various ongoing cutting-edge research in different areas of nuclear science and engineering. In the year 2020, we aim to take stock of what we know, what we still need to know, what opportunities are present, and what the future holds.

... **EMBRACE** nuclear science and technology. As we learn, we must support our industry by contributing knowledge and impacting the next frontiers. We hold tight innovations to advance science and engineering across every existing and new industry that nuclear will transform.

... **EMPOWER** ourselves and others with knowledge and enthusiasm for the impact made by nuclear technologies of the past, present, and future. We will change the “not in my backyard” mantra to one of “in my backyard” because of the benefits it provides to societies near and far.

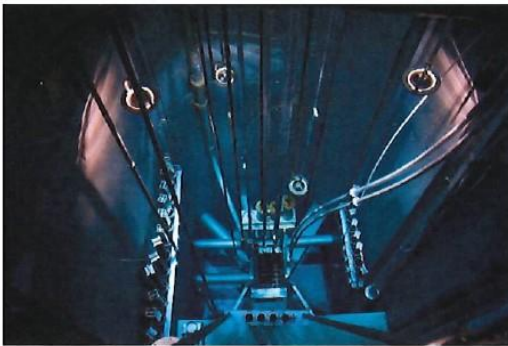
This theme allows us to see our collective role in active learning, living, and sharing of the science engineering and technologies associated with nuclear energy, health physics, and plasmas for the life sciences, nuclear non-proliferation, nuclear materials, nuclear computational science, reactor engineering, and nuclear waste management to name a few broad areas. It also arms us with information to share with students and the larger public about the benefits we receive from nuclear science and engineering. We’re nuclear engineers, we’re innovators, and we’re ambassadors for the continued use of an awesome technology in our backyards!

NC State’s nuclear program will be 70 years old in the year 2020; which, further emphasizes the significance of hosting the ANS Student Conference on-campus to help celebrate this milestone. We enlighten ourselves with our history, embrace our present and empower ourselves as we move ahead.

We ask you to review our sponsorship and exhibitor packages to determine if any options fit your organization's needs to Enlighten, Embrace, and Empower the next generation of nuclear science and technology leaders. We look forward to working with our sponsors and exhibitors to make the 2020 ANS Student Conference the best in the department's history!

Sincerely,

Ishita Trivedi
Graduate Chair



“#1 Online Master of Nuclear Engineering in 2018”
- Best College Reviews

“#3 Nuclear Engineering Graduate Program in 2019”
- US News and World Report

□ **ANS Division Option #1 (\$5,000)**

- Recognized as contributing general support for conference:
- Lunch and Learn sponsor with speaker
- Best Paper Awards in associated track
- Sponsor for associated technical sessions
- Recognition as sponsor across conference media

□ **ANS Division Option #2 (\$2,500)**

- Recognized as contributing sponsor to conference social:
- Best Paper Awards in associated track
- Sponsor for associated technical sessions
- Recognition as sponsor across conference media

□ **ANS Division Option #3 (\$1,000)**

- Recognized as contributing general support for conference:
- Best Paper Awards in associated track
- Recognition as sponsor across conference media

In addition to the package, our organizing team requests the following:

- Paper Reviewers (January and February 2020)
 - Name, email, and area of expertise

- Poster Session Judges (day of conference)
 - Name, email, and area of expertise

- Technical Presentation Judges (day of conference)
 - Name, email, and area of expertise



American Nuclear Society
Student Conference 2020

SPONSOR & EXHIBITOR INTEREST FORM

Invoice Information

Company/Organization: _____

Contact Name: _____

Contact Email: _____ Phone: _____

Street/PO Address: _____

City: _____ State: _____ Zip Code: _____

Please fill out form and return to Finance Chair – Cameron Maras
ans2020studentconference@ncsu.edu

APPENDIX C

Draft Agenda

PROPOSED AGENDA

American Nuclear Society – Thermal Hydraulics Division
Executive Committee Meeting
Marriott Wardman Park, Washington, D.C., USA
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3. Approval of Minutes from 2019 ANS Annual Meeting All
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 - e. Establishing a New Division Award (Sehgal's NURETH Award) Song
 - f. Revision of Division Bylaws & Rules and Procedures Song
8. Treasurer's Report B.-W. Yang
9. Program Committee Report
 - a. 2019 ANS Winter Meeting Program in Washington, D.C Bolotnov/Shaver
 - b. 2020 ANS Annual Meeting Program in Phoenix, AZ Bolotnov/Shaver
 - c. 2020 ANS Winter Meeting Program in Chicago, IL Bolotnov/Shaver
 - d. ATH 2020 Update Bolotnov/Shaver
 - e. ATH 2022 Planning Bolotnov/Shaver
 - f. NURETH-18 Update Woods/Marcum
 - g. NUTHOS-13 Update Luxat
 - h. NURETH-19 Update Merzari
 - i. ICAPP 2020 Update Sun

- j. Motions from the PC Meeting Bolotnov/Shaver
- 10. Membership Committee Report Pointer
- 11. Division Website Report Delgado
- 12. Honors and Awards Committee Report Schubring
 - a. TAA 2019 Awardee Selection
 - b. BPA 2019 Awardee Selection
 - c. Others
- 13. Nominating Committee Report Pointer
 - a. Slate of Candidates for New Division Officers
 - b. Slate of Candidates for New Division EC Members
 - c. Slate of Candidates for New H&A Committee Members
- 14. Old Business All
- 15. New Business All
 - a. Actions from Professional Divisions Workshop Marcum/Song
 - b. Actions from President's Meeting with Division Chairs Marcum/Song
 - c. Others All
- 16. Adjournment Song

APPENDIX D

Minutes for Annual Meeting 2019 (Minneapolis, MN)

The approved minutes are posted at:

http://thd.ans.org/wp-content/uploads/2020/01/Meeting_Minutes_EC_ANS_Summer_2019.pdf

APPENDIX E

Service Proposal Award

Application for new ANS Award established by the ANS Thermal-hydraulics division (THD)

NAME OF AWARD: THERMAL-HYDRAULIC MERITORIUS SERVICE AWARD

SPONSORED AND FUNDED BY: ANS THERMAL-HYDRAULICS DIVISION (THD)

THERMAL-HYDRAULIC MERITORIUS SERVICE AWARD

Description

This award recognizes an individual for sustained and exemplary service to the nuclear thermal-hydraulic profession. Service can be in the form of:

1. Leadership in the thermal-hydraulic division (THD) of ANS.
2. Leadership in national and international research and engineering programs related to thermal-hydraulics,
3. Individual non-technical contributions that lead to the betterment and growth of the profession as a whole.
4. Educational contributions aimed at the next generation of thermal-hydraulic engineers.
5. Advocacy for thermal-hydraulic research and development.

Emphasis is placed on sustained, well-recognized, service contributions over a number of years but single exceptional one-time contributions may also be considered. The award consists of a plaque and \$1000 cash award presented at the ANS Annual Meeting. Costs of the plaque will be covered by the THD award fund.

Background

The thermal-hydraulic division has offered in the past a service award and technical award (the current TAA). The service award was later abandoned in favor of emphasizing the importance of the TAA. Given the recent growth of THD and the increase of individual contributors we believe restarting the service award is in the best interest of our members. In fact, given the large number of participants in the activities of THD this award seem necessary to balance the current award offering of THD which is skewed toward technical contributions. This award highlights the importance of the continued service contributions of our members, aimed at the growth of the thermal-hydraulic profession and forming the next generation of nuclear scientists and engineer.

Selection Method

This award recognizes an individual for sustained and exemplary service to the nuclear thermal-hydraulic profession.

Emphasis is placed on sustained, well-recognized, service contributions over a number of years but single exceptional one-time contributions may also be considered. Nominees must meet the following criteria:

- The candidate must have been a registered THD member in good standing for at least the previous three (3) years.

- The candidate must demonstrate an individual or sustained contribution in one or more of the following areas:
 - o Leadership in the thermal-hydraulic division (THD) of ANS.
 - o Leadership in national and international research and engineering programs related to thermal-hydraulics,
 - o Individual non-technical contributions that lead to the betterment and growth of the profession as a whole.
 - o Educational contributions aimed at the next generation of thermal-hydraulic engineers.
 - o Advocacy for thermal-hydraulic research and development.

Nominations are made with the ANS nomination form accompanied by (1) a narrative summary of about 1,000 words that outlines the nominee's relevant accomplishments and a description of the significance of these accomplishments, (2) a list of ANS---supporting activities (including but not limited to presentations at ANS national and topical meetings, service on division committees, and dates of THD membership), and (3) a resume or CV. Additional letters of support (no more than five) may be provided with the nomination package. The Award recipient is selected by the Honors and Awards Committee of the THD. It is awarded once per year, if an eligible candidate is nominated and selected.

The deadline for receipt of nominations is March 1.

[2] Additional information to be considered by ANS Honors and Awards Committee, Finance Committee, and Board of Directors.

This award will come with a plaque and a \$1000 cash award. Plaque is to be paid for by the ANS THD Award fund and it is already fully endowed.

No funding for travel reimbursement or meeting attendance is anticipated or included in the proposal. That would have to be handled by special exception, if required, by the ANS THD Executive Committee.

DIVISION POINTS OF CONTACT:

Elia Merzari

2019-2020 Secretary, ebm5351@psu.edu

APPENDIX F

Sehgal Memorial Award Proposal

Application for new ANS Award established by the ANS Thermal-hydraulics Division (THD)

NAME OF AWARD: BAL-RAJ SEHGAL MEMORIAL AWARD

SPONSORED AND FUNDED BY: ANS THERMAL-HYDRAULICS DIVISION (THD)

BAL-RAJ SEHGAL MEMORIAL AWARD

Description

This award recognizes an individual for his/her exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety. Dr. Sehgal was an internationally well recognized leader in thermal-hydraulics and nuclear safety research, a former THD chair and a TAA winner. A fixture at the NURETH conference series, he has delivered many keynotes and plenary lectures. He was particularly fond of NURETH, among other academic meetings, and interacting with the younger generations to transmit his considerable knowledge.

The award honors his legacy. It is awarded every 2 years and presented at the closest NURETH conference to come. The award consists of a plaque and a \$2,000 monetary award. The recipient is expected to deliver a keynote lecture at the NURETH conference at the which the award is presented in coordination with the conference organizers.

Background

Born in Peshawar in former British India, Dr. Sehgal moved to New Delhi during Partition and spent his early years there before emigrating to the United States to pursue a doctorate in nuclear engineering at UC Berkeley. What followed was an exceptional career trajectory which led Dr. Sehgal to become a leading global expert in nuclear reactor safety culminating with his professorship at the Royal Institute of Technology in Stockholm where he established the Division for Nuclear Power Safety. Dr. Sehgal was an outstanding scientist and researcher, a great teacher and mentor, a prolific author (360 articles) and a tireless servant to the community. During the course of his career, he was inducted into numerous societies and academies, notably as elected member of the Swedish Royal Academy of Engineering Sciences, the U.S. National Academy of Engineering, and the Lithuanian Academy of Sciences and fellow of the American Nuclear Society and the American Society of Mechanical Engineers. For his wide-ranging and impactful contribution to research and science of nuclear safety, he was recognized with numerous awards, including the Seaborg Medal, the Technical Achievement Award and the Thomson Award for Reactor Safety from the American Nuclear Society. This award, established in collaboration with his family, honors his legacy.

Selection Method

This award recognizes an individual for exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety.

Nominees (non-ANS members also eligible) must meet the following selection criteria ^(see note) :

- The candidate must demonstrate an individual or sustained contribution to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety.
- The candidate must propose a topic for her/his lecture at NURETH and it must be related to his/her expertise.
- The candidate must have attended at least three (3) NURETH conferences and presented at least five (5) articles.

NOTE: Detailed of the awardee selection criteria is to be set up by a Special Committee to be established temporarily inside THD and will become effective by the approval of the THD executive committee.

Nominations are made with the ANS nomination form accompanied by (1) a narrative summary of about 1,000 words that outlines the nominee's relevant accomplishments and a description of the significance of these accomplishments, (2) a list of ANS--supporting activities (including attendance and papers presented at NURETH, additional information can include but not limited to: presentations at ANS national and topical meetings, service on division committees, and dates of THD membership), and (3) a resume or CV. Additional letters of support (no more than five) may be provided with the nomination package. The Award recipient is selected by the Honors and Awards Committee of the THD. It is awarded once per every two years, if an eligible candidate is nominated and selected.

The deadline for receipt of nominations is March 1 (the year of the NURETH when it is awarded).

[2] Additional information to be considered by ANS Honors and Awards Committee, Finance Committee, and Board of Directors.

This award will come with a plaque and a \$2000 cash award. Plaque and cash award are to be paid for by the ANS THD Award fund and it is already fully endowed. The Sehgal family has agreed to donate \$23,000 to fully fund the biannual award.

No funding for travel reimbursement or meeting attendance is anticipated or included in the proposal. That would have to be handled by special exception separately, if required, by the ANS THD Executive Committee.

DIVISION POINTS OF CONTACT:

C. H. Song

ANS 2019-2020 THD Chair – chsong@kaeri.re.kr

Celebrating the Life and Legacy of Prof. Raj Sehgal - Panel

In Memory of a Little Giant with Passion and Warmest Heart

Aug. 20, 2019
NURETH-18, Portland, USA

Chul-Hwa SONG, KAERI
ANS 2019-2020 THD Chair

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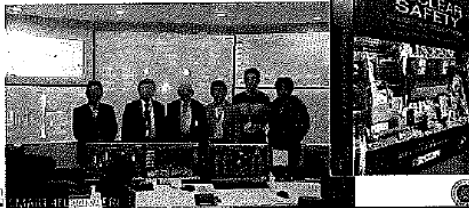
- **Personal Reminiscence**
– Some Photos
- **Plan to Establish a Special NURETH Award**
– In Recognition of Prof. B.R. Sehgal's Legacy

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Visit to KAERI (April 2013)

For presentation at the Pohang University Korea,
April 15, 2013

Lessons Learned and Not Learned from Reactor
Accidents, TMI-2; Chernobyl and Fukushima



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NURETH-17 (Sept. 2017, Xi'an)



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Special NURETH Award

- **Proposal from Prof. Sehgal's Family (July '19)**
 - Biannual Award at NURETH Conferences (Value of 2,000 USD)
 - Award Criteria: To be Discussed
- **Prelim. Discussion among ANS THD & HQ (Aug. '19)**
 - Amount of Award Fund; Official ANS Division Award
 - Procedures within ANS HQ & THD
- **Official Discussion within ANS THD Executive Committee**
 - Planned to Start @ ANS 2019 Winter Meeting (DC, Nov. 2019)
- **ANS THD's Plan (Tentative)**
 - Nov. '19~: Discussion for Approval of Proceeding within THD
 - Jan. '20~ : Ad-hoc Comm. Starts to Prepare for Proposal to HQ
 - June '20 : Approve the Proposal (to HQ) by THD EC
 - Nov. '20~: HQ's Approval Followed by Starting THD H&AC Activity
 - Aug. '21 : First Award Presented at NURETH-19, Brussel

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We Miss Raj !!!

We'll Not Forget
His Passion for
Nuclear Reactor Safety,
and
Warmest Heart !!



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APPENDIX G

Treasurer Report

Treasurer Report – 2019 Winter Meeting

The 2019 budget so far has been going pretty much as our previous Treasurer (Prof. Elia Merzari) planned. The numbers have not changed much.

1. The award account (\$35,881 as of January), after deducting \$1,000 for TAA award and \$72.5 for the plaque, the expected budget balance will be **\$34,809** (not account for the investment gain/loss).
2. The Lawrence Hochreiter scholarship account (\$63,000 as of January), No changes (except for the investment gain/loss).
3. General account (\$48,720 as of March), additional income \$660 (additional membership, as of Sept 30), additional spending \$1,852 including:
Plaques for EXCELLENCE IN REVIEW AWARD - \$72.50, Outgoing Chair - \$65, SERVICE RECOGNITION AWARD – \$72.50, YOUNG PROFESSIONAL THERMAL-HYDRAULICS RESEARCH COMPETITION AWARD - \$73.80, BEST PAPER Award 1 plaque \$67.50 + 5 Certificates at \$15 each, Scholarship/NEED + YMG Support+ BPA award= \$500+\$500+\$500.

Current balance: \$47,528 (see the following table),

not include the expected income \$26,515 from NURETH-18.

Budget for Thermal Hydraulics Division (Nov 17, 2019)					
	2018	2019	2019	2019	2020
	Actual	Budget	June 2019 (Merzari)	Actual through 11/6/19	Approved budget (Merzari)
Balance Forward from Previous Year	\$50,018	\$51,450	\$51,450	\$51,450	\$87,682
Budget Funds					
Member Dues Allocation (\$3/ full dues member, \$1/ reduced dues member)	\$2,298	\$2,300	\$335	\$995	\$2,300
Division Income	\$43,355	\$39,173			
Total Income	\$45,653	\$41,473	\$335	\$995	\$2,300
Budget Expenses					
Newsletters, Website					
Awards & Plaques	\$1,710	\$1,250	\$74	\$928	\$1,250
National Meeting Costs					
Topical Meeting Costs					
Division Officer Expenses					
Student Support	\$3,000	\$3,500	\$3,000	\$3,000	\$2,500
Future Activity					
Scholarship/NEED Funding	\$48,500	\$500		\$500	\$500
YMG Support				\$500	
Other Expenses	\$2				
Total Expenses	\$53,212	\$5,250	\$3,074	\$4,928	\$4,250
Net	(\$7,559)	\$36,223	(\$2,739)	(\$3,931)	(\$1,950)
Total Year End Funds	\$51,450	\$87,682	\$48,720	\$47,528	\$85,732
1. Budget not include the expect income from NURETH-18 \$26,515					
2. Membership income as of Sept 30, 2019 report					

Bao-Wen Yang
THD Treasurer, 2019-2020

Budget preparation for Server Award:

The current balance in the Award Account is \$34,809. It will require \$8,192 additional fund from the General Operational Account to bring the balance of the Award Account to the targeted \$43,000 in supporting the proposed Service Award. This will reduce the current balance of the General Operational Account to \$39,336. With the expected income of \$26,515 from NURETH-18 (thanks to NURETH-18 organizing committee), the reduction of \$8,192, and the expected spending of Young Professional Thermal-hydraulic Research competition, the new balance of the General Operational Account will be about \$64,851 after the fund transfer for the Service Award. Conservatively, this should be sufficient for over 20 years of spending based on the current spending rate. (See following table).

Budget preparation for the Service Award			
	General Fund	Award fund	Scholarship fund
	48,720	35,881	63,000
Budget from EM , June 2019	Mar-19	Jan, 2019	Jan, 2019
			(48,000-general fund +15,000 -Award fund))
Additional Income	660 (membership)		
Additional Spending	-1,852	-1,073	
	Plaques : BPA 72.5+65+72.5+73.8+67.5 +15*5-74	(\$1000 TAA + 72.5 Plaque)	
	Scholarship/NEED + YMG Support+BPA=500+500+500		
Current Balance	47,528	34,809	
Budget adjustment needed	-8,192	8,192	
Expected future budget for TAA and Service Award	39,336	43,000	
Expected income	26,515 (NURETH-18)		
Expected additional expenses	1,000		
	Young Professional Thermal-hydraulic Research competition		
Expected balance (fund adjusted for TAA & Service Award)	64,851	43,000	
1. Budget estimated without taking into account of investment gain/loss			

Bao-Wen Yang
THD Treasurer, 2019-2020

Potential financial impact (ANS Change Plan Objective #4)					
REVENUE & EXPENSES		CURRENT		CHANGE PLAN	
Category		Divisions	Operating	Divisions	Operating
N U R E - T 1 H 6	12.5% THD Topic Meeting Revenue Allocation (NURETH16)	\$15,000	\$0	\$0	\$15,000
	10% Sponsorship Commission of sponsorship total	n/a	n/a	\$5,000	
	Student Support (Conference/Travel)		\$0	\$3,000	
N U R E - T 1 H 7	12.5% THD Topic Meeting Revenue Allocation (NURETH17)	\$31,180	\$0	\$31,180	
	10% Sponsorship Commission of sponsorship total	n/a	n/a		
	Student Support (Conference/Travel)		\$0		
N U R E - T 1 H 8	12.5% THD Topic Meeting Revenue Allocation (NURETH18)	\$26,515	\$0	\$0	\$26,515
	10% Sponsorship Commission of sponsorship total	n/a	n/a	\$4,919	
	Student Support (Conference/Travel)		\$0	\$3,000	
TOTAL		\$72,695	\$0	\$47,099	\$41,515
Estimated Reduction on THD Revenue				\$25,596	

1. NURETH-16 data based on Prof. Xiaolong Sun Nov 11, 2019 email
2. NURETH-17 Assume revenue sharing has no impact on class IV meeting
3. NURETH-18 data based on Prof. Wade Marcum email Nov. 15, 2018
4. Studnet Supports-based on recent annual average
5. This table is prepared based on past 3 NURETH Conferences. It is drafted for reference only, all data are estimated based on available information and need to be verified.