

# Thermal Hydraulics

## Professional Division

### Officers

Chair: Igor Bolotnov  
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 Vice-Chair: Steve Bajorek  
[Stephen.Bajorek@nrc.gov](mailto:Stephen.Bajorek@nrc.gov)  
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 Immediate Past Chair:  
 Annalisa Manera  
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### Executive Committee

#### *Terms expiring 2025:*

Yassin Hassan  
 Maria Avramova  
 Jun Liao  
 Bob Martin  
 Marilyn Delgado

#### *Terms expiring 2026:*

Fan-Bill Cheung  
 Chul-Hwa Song  
 Izabela Gutowska  
 Donna P. Guillen  
 Ling Zou

#### *Terms expiring 2027:*

Rui Hu  
 Elia Merzari  
 Subash Sharma  
 Sierra Tutwiler  
 Xu Wu



## A Message from the Chair

Dear colleagues,

It is a great privilege and honor for me to serve as our division Chair for the 2024/2025 term. As I am stepping into this role, I plan to work closely with my colleagues to support the division activities, maintain and grow several THD initiatives and promote discussions of new ideas which can help shape the future of thermal hydraulics. I would like to thank the outgoing division chair, Prof. Annalisa Manera, for her efforts and contributions to the division in the past few years. I also feel a very special connection to this role

in my career as my Ph.D. supervisor, Professor Richard T. Lahey, Jr., served in this very role as the first THD Chair, in 1978-1980.

As nuclear energy continues to play a critical role to support the world's electricity demand, thermal hydraulics expertise remains one of the cornerstones in modern reactor development, research and education.

I view one of the important roles of our division to facilitate the advances in our field through close collaboration between various stakeholders, including industry, national laboratories, international partners, students and researchers. The American Nuclear Society and the Thermal-Hydraulics Division is well-positioned to make a positive impact on the nuclear engineering practice.

This newsletter summarizes division activities over the past few months, and I will mention a few notable highlights. Our division membership has been growing recently and currently stands at over 1000 members. We will continue to engage our members in various activities, including webinars throughout the year and the town hall events at the Winter and Annual meetings. I want to encourage the members to participate in the video-conference-based Program Committee meetings traditionally held 1 week before ANS meetings on Sundays. This is the easiest first step to engage with the division and learn about our activities. If you are attending the ANS Winter and / or Annual meeting, the division Town Hall and executive committee meetings are always open to any attendee. Please stop by and connect with us to learn more about the division.

**Standing Committees**Technical Program Chair: Dillon ShaverHonor & Awards Chair: Fan-Bill CheungScholarship Chair: W. David PointerNomination Chair: Annalisa ManeraWebmaster: Trevor Kent HowardMembership Chair: Subash SharmaConference Screening Chair: Fan-Bill CheungYMG Liaison: Robert Kile

<b>A Message from the Chair</b>	<b>1</b>
<b>Conference Selection Committee</b>	<b>2</b>
<b>Technical Program Committee</b>	<b>3</b>
<b>Honors and Awards</b>	<b>4</b>
<b>Scholarship Committee</b>	<b>5</b>
<b>Nominating Committee</b>	<b>6</b>
<b>Webmaster Report</b>	<b>7</b>
<b>Membership report</b>	<b>7</b>
<b>Financial Report</b>	<b>9</b>
<b>NURETH-21 Organizers letter</b>	<b>9</b>

We continue to actively engage industry and international colleagues – these efforts are coordinated by Dr. Jun Liao and Dr. Ferry Roelofs. Under the leadership of Prof. Fan-Bill Cheung and Prof. Wade Marcum, the Honors and Award Committee (H&AC) has diligently selected the candidates for our THD awards, which include Technical Achievement Award for Prof. Xiaodong Sun and the Bal-Raj Sehgal Memorial Award which I was honored to be recognized as the recipient for.

Thanks to the dedicated efforts of Trevor Kent Howard, our division webpage is continuously being modernized and has been transitioned to a new format which will allow for more engagement in the community. The website provides



comprehensive details about our activities and upcoming events. Please, check our webpage (thd.ans.org) for meeting details. Anyone is welcome to attend those events.

We greatly appreciate the efforts of Program Committee (Dr. Shaver as a Chair and Dr. Gutowska as a Co-Chair) in their relentless efforts to provide high quality programs for each ANS meeting and the great support of the division members and the Program Committee to review the contributions to those meetings.

We continue to hold strong technical conferences of which ATH 2024 and NURETH-21 are the next in line. The preparation of the NURETH-21 conference, under the leadership of Dr. Chul-Hwa Song, is well under way and the abstracts are due now. The conference is scheduled for 2025 in Busan, Korea. More information can be found on the conference website ([www.nureth-21.org](http://www.nureth-21.org)). Please

also note that the call for NURETH-22 proposals is open and due soon.

I am looking forward to interacting with you during the upcoming 2024 ANS Winter meeting and the embedded ATH topical meeting in Orlando!

Igor Bolotnov  
2024-2025 ANS THD Chair  
[igor\\_bolotnov@ncsu.edu](mailto:igor_bolotnov@ncsu.edu)

## Conference Selection Committee

A Request for Proposal (RFP) for NURETH-22 along with the criteria for proposal evaluation have been distributed to the thermal hydraulics community via ANS/THD in August 2024. Currently, the intention is to hold the NURETH-22 conference in the United States. Interested parties should send their proposals electronically by November 15, 2024 to the Chair of THD Conference Screening Committee (CSC), Prof. Fan-Bill Cheung (fxc4@psu.edu).

The CSC will evaluate and rank the proposals and make their recommendation to the THD Executive Committee for final approval. Selection of the host for NURETH-22 is expected to be done by January 31, 2025, giving the organizers adequate time for conference planning and preparation. Inquiries should be addressed to Prof. Fan-Bill Cheung (fxc4@psu.edu), the CSC Chair or to Prof. Igor Bolotnov (igor\_bolotnov@ncsu.edu), the ANS/THD Chair.

Fan-Bill Cheung  
Chair, ANS/THD Conference Screening Committee  
[fxc4@psu.edu](mailto:fxc4@psu.edu)

## Technical Program Committee

The THD program committee is pleased to welcome everyone to Orlando, FL, for the [2024 ANS Winter Conference and Expo](#). During the 2024 ANS Winter Conference and Expo, the THD hosts its premier meeting – [Advances in Thermal Hydraulics](#) (ATH). The [technical program](#) for ATH will include a total of 83 presentations in 16 technical sessions. Also included are 5 THD panel sessions on the Industrial Panel on the Development of Liquid Metal Reactor, Advancing Molten Salt Technology for the Next Generation of Nuclear Reactors, Thermal Hydraulics Challenges and Opportunities for LWR Initiatives, T/H Phenomena Testing related to High Temperature Gas-Cooled Reactors, Scaling for Small Modular Reactors. ATH will be inaugurated with 2 [keynote sessions](#) that will host 6 keynote speakers. All technical sessions (including panels) are listed in the table on the right. We are still looking for volunteers to serve as session chairs or co-chairs, so if you are planning to attend and wish to volunteer, please contact us!

A total of 84 papers were submitted to ATH with 180 reviews completed by 57 reviewers. We had an average of 2.14 reviews per submission with reviewers contributing on average 3.16 reviews each of those who participated. Notably, two reviewers contributed 10 or more reviews and we would like to take this opportunity to thank the session organizers and reviewers for their efforts.

Papers, summaries, and lightning talk abstracts are solicited for the [2025 ANS Annual Conference](#), to be held in June 15-18, 2024, at the Chicago Marriott Downtown, Chicago, IL. THD expects to have an exciting program with summaries on the following subject areas:

- Advanced Reactor Thermal Hydraulics
- Experimental Thermal Hydraulics
- Computational Thermal Hydraulics
- Computational Multiphase Flow
- Experimental Multiphase Flow
- AI/ML Applications in Thermal Hydraulics

## Advances in Thermal Hydraulics Technical Sessions

November, 17-21 2024

Session	# of papers	Time Slot (EST)
<a href="#">Molten-Salt Reactor Thermal Hydraulics</a>	6	Monday, 3:15pm
<a href="#">Small Modular Reactor Thermal Hydraulics</a>	6	Monday, 3:15pm
<a href="#">General Thermal Hydraulics</a>	6	Monday, 3:15pm
<a href="#">Industrial Panel on the Development of Liquid Metal Reactor</a>	panel	Tuesday, 8:00am
<a href="#">Advancing Molten Salt Technology for the Next Generation of Nuclear Reactors</a>	panel	Tuesday, 8:00am
<a href="#">AI and ML for Thermal Hydraulics: General</a>	3	Tuesday, 8:00am
<a href="#">AI and ML Based Reduced Order Modeling</a>	5	Tuesday, 10:00am
<a href="#">Computational Fluid Dynamics: I</a>	5	Tuesday, 10:00am
<a href="#">Young Professional Thermal Hydraulics Research Competition: I</a>	4	Tuesday, 10:00am
<a href="#">Keynotes Sessions</a>	keynotes	Tuesday, 1:00pm
<a href="#">Young Professional Thermal Hydraulics Research Competition: II</a>	3	Tuesday, 3:15pm
<a href="#">Thermal Hydraulics Challenges and Opportunities for LWR Initiatives</a>	panel	Tuesday, 3:15pm
<a href="#">Computational Fluid Dynamics: II</a>	6	Tuesday, 3:15pm
<a href="#">T/H Phenomena Testing related to High Temperature Gas-Cooled Reactors</a>	panel	Wednesday, 8:00am
<a href="#">Scaling for Small Modular Reactors</a>	panel	Wednesday, 8:00am
<a href="#">Verification and Validation Methods for Thermal Hydraulics Analyses</a>	5	Wednesday, 8:00am
<a href="#">Two-Phase Flow and Heat Transfer: I</a>	6	Wednesday, 10:00am
<a href="#">Gas-Cooled Reactor Thermal Hydraulics</a>	5	Wednesday, 10:00am
<a href="#">System Thermal Hydraulics</a>	5	Wednesday, 10:00am
<a href="#">Keynotes Sessions</a>	keynotes	Wednesday, 1:00pm
<a href="#">Two-Phase Flow and Heat Transfer: II</a>	6	Wednesday, 3:15pm
<a href="#">Liquid Metal Cooled Fast Reactor Thermal Hydraulics</a>	6	Wednesday, 3:15pm
<a href="#">Multiphysics-Coupled and Microreactor Thermal Hydraulics</a>	6	Wednesday, 3:15pm

- Thermal Hydraulic Challenges in Multiphysics Simulations
- Thermal Hydraulic Challenges and Opportunities in Microreactors
- Thermal Hydraulics Challenges and Opportunities for LWR Initiatives
- Thermal Hydraulic Testing for Advanced Reactors
- Non-Traditional Uses of Nuclear Energy
- Thermal Hydraulic Education: Opportunities with AI
- Thermal Hydraulics: General
- Thermal Hydraulics: Lightning Talks



Full papers, summaries, and abstracts due: February 7, 2025. The full call for papers can be found [here](#).

Proceeding the 2024 ANS Winter Conference and Expo, the THD Program Committee meeting will be held online on Sunday November 10<sup>th</sup> from 11:00am – 1:00pm (EST). Meeting details will be available [here](#).

The other upcoming conference is the 21st International Topical Meeting on Nuclear Reactor Thermal Hydraulics ([NURETH-21](#)). It will be held from August 31<sup>st</sup> to September 5<sup>th</sup> in Busan, Republic of Korea.

We would like to encourage our members to actively participate by attending our meetings, submitting paper summaries, volunteering to organize sessions, and supporting the peer-review of the papers.

Thank You,

Izabela Gutowska  
Oregon State University  
THD Assistant PC Chair

Dillon Shaver  
Argonne National Laboratory  
THD PC Chair

## Honors and Awards

### 2024 THD Technical Achievement Award

The Honors and Awards Committee selected Professor Xiaodong Sun of the University of Michigan as the recipient of the 2024 Thermal Hydraulics Division Technical Achievement Award (TAA). Professor Sun of the Department of Nuclear Engineering and Radiological Sciences at the University of Michigan, received this award *“For his significant technical contributions in advancing the fundamental knowledge of thermal hydraulics through experiments, yielding novel insights and improving modeling to support nuclear power utilization.”*



Prof. Xiaodong Sun

A brief celebration of Prof. Sun's technical achievements will take place in the upcoming ANS Winter Meeting in Orlando, Florida whereas an official recognition of Prof. Sun will be held at the THD Award Ceremony at NURETH-21 in Busan, Korea in 2025. As a tradition, Prof. Sun will deliver a TAA lecture at NURETH-21.

The THD Honors and Awards Committee encourages and welcomes nominations for the TAA. The next deadline for nomination submission is August 1, 2025. Nominations should be submitted via the ANS online platform for SmarterSelect evaluation.

### 2025 Bal-Raj Sehgal Memorial Award

The Honors and Awards Committee received excellent nominations for the 2025 Bal-Raj Sehgal Memorial Award. Professor Igor Bolotnov of the Department of Nuclear Engineering at the North Carolina State University was selected for the award *“For his innovative research contributions to reactor thermal hydraulics and safety modeling through the state-of-the-art high resolution computational techniques.”*



Prof. Igor Bolotnov

A brief celebration of Prof. Bolotnov's technical achievements will take place in the upcoming ANS Winter Meeting in Orlando, Florida whereas an official recognition of Prof. Bolotnov will be held at the THD Award Ceremony at NURETH-21 in Busan, Korea in 2025. As a tradition, Prof. Bolotnov will deliver an award lecture at NURETH-21.

The THD Honors and Awards Committee encourages and welcomes nominations for the 2027 Bal-Raj Sehgal Memorial Award. The next deadline for nomination submission is August 1, 2026. Nominations should be submitted via the ANS online platform for SmarterSelect evaluation.

### Other THD-Sponsored Awards

In addition to the TAA and the Bal-Raj Sehgal Memorial Award, the THD Honors and Awards Committee plans to make the 2024 Best Paper Award (BPA) selection from the papers presented at the NUTHOS-14 conference and the ATH at the 2024 ANS Winter Meeting. Furthermore, nomination is sought from the thermal hydraulics community for the THD Meritorious Service Award (MSA) to recognize an individual for sustained and exemplary service to the nuclear thermal-hydraulic profession. Nomination is also sought from the current NURETH Scholars (formerly known as NURETH Fellows) for two new NURETH Scholars.

The nomination deadline for the MSA and for the new NURETH Scholars is March 1, 2025. Nominations should be submitted via the ANS online platform for SmarterSelect evaluation. These award selections will be reported in the THD 2025 Spring Newsletter. The BPA and MSA will be presented at the 2025 ANS Annual Meeting in Chicago, IL

whereas the new NURETH Scholars will be recognized at NURETH-21 in Busan, Korea, 2025.

Finally, we would like to take this opportunity to thank the THD Honors and Award Committee members and all the nominators for their dedicated work!

Fan-Bill Cheung  
Chair, THD Honors and Award Committee  
[fxc4@psu.edu](mailto:fxc4@psu.edu)

Wade Marcum  
Vice Chair, THD Honors and Award Committee  
[wade.marcum@oregonstate.edu](mailto:wade.marcum@oregonstate.edu)

## Scholarship Committee

The American Nuclear Society Thermal Hydraulics Division awards two annual graduate student scholarships: the Lawrence E. Hochreiter Graduate Scholarship and the Vincent J. Esposito Graduate Scholarship.

The **Lawrence E. Hochreiter Scholarship** was established by the ANS THD in 2019 and first awarded for the 2020-2021 academic year. The scholarship honors Dr. Lawrence E. Hochreiter, pioneer in nuclear thermal hydraulics modeling and nuclear safety analysis at Westinghouse Electric Company and the Pennsylvania State University, who was an active member of the Thermal Hydraulics Division. The scholarship is awarded to a graduate student in nuclear science and engineering who is studying topics related to nuclear thermal hydraulics. This \$3,500 scholarship is awarded to one recipient annually.

The **Vincent J. Esposito Scholarship** was established by the ANS THD in 2020, with the generous support of the Esposito family, and was first awarded for the 2022-2023 academic year. The scholarship honors the ongoing contributions of Dr. Vincent J. Esposito, who is an Adjunct Professor at the University of Pittsburgh, former Vice President of the Nuclear Fuel Business Unit of Westinghouse Electric Company, and the 2013 American Nuclear Society Glenn T. Seaborg Congressional Fellow. The scholarship is awarded to a first-year graduate student in nuclear science and engineering who is studying topics related to nuclear thermal hydraulics. This \$3,000 scholarship is awarded to one recipient annually.

Eligible students should apply using the ANS Scholarship Program General Application and select the appropriate scholarship(s).

### Important Dates

Nov. 1, 2024 Scholarship Program Announced

Nov. 15, 2024 Scholarship Applications Open

Feb. 1, 2025 Scholarship Application Deadline

Chair: W. David Pointer (ORNL)

## Nominating Committee

The THD Nominating Committee (NC) is responsible for selecting candidates for the division's Executive Committee (EC), standing committees, and division officers. The NC consists of the current Division Chair (Annalisa Manera), Vice Chair (Igor Bolotnov), Program Committee Chair (Dillon Shaver, Ex-officio) and the Immediate Past Division Chair, who serves as the Chair of the Nomination Committee (Bao-Wen Yang).

We welcome anyone who is interested in serving the division in any capacity to contact the division leadership and actively participate in the division activities and volunteer work. We especially encourage the members of the Program Committee (PC) who have shown their dedication and contribution to the PC or other standing committees to apply for the EC positions and other senior roles.

The following is the list of nominations for the 2024 term:

### Division Officers Nominations (2024-2025):

- Vice Chair/Chair-Elect: Steve Bajorek (NRC)
- Secretary: Ferry Roelofs (NRG)
- Treasurer: Dillon Shaver (ANL)

Webmaster [2024-2027]: Trevor Howard (OSU)

### Executive Committee Member Nominations (Term Expires June 2027):

- Subash L Shama (UML)
- Xu Wu (NCSU)
- Elia Merzari (PSU)
- Sierra Tutwiler (VCU)
- Rui Hu (ANL)

### Honors and Awards Committee:

- Chair [2024-2027]: Fan-Bill Cheung (PSU)
- Vice Chair [2024-2025]: Wade Marcum (OSU)

### Members (past chairs):

- Elia Merzari (PSU)
- Bao-Wen Yang (DEQD)
- Manera Annalisa (UMich)

### Members [2024-2027]:

- Hisashi Ninokata (POLIMI)
- Yassin Hassan (TAMU)

### Conference Screening Committee Nominations:

#### Term Expires [2024-2028]:

- Xiaodong Sun (UMICH)
- Van Tichelen Katrien (SCK)

### Scholarship Committee

Chair [2024-2027]: W. David Pointer (ORNL)

#### Term Expires [2024- 2027]:

- Victor Coppo-Leite
- Ling Zhou (ANL)

### Nominating Committee [2024-2025]

Chair [2024-2025]: Annalisa Manera (UMich)

#### Members:

- Igor Bolotnov (NCSU)
- Steve Bajorek(NRC)
- Dillon Shaver (ANL, Ex-Officio)

### Membership Committee

Chair [2024-2027]: Subash L Shama (UML)

Members (Officer): Dillon Shaver (ANL)

#### Members [2024-2027]:

- Yue Jin (Missouri)
- Emre Tatlie (Westinghouse)
- Prashant K. Jain (ORNL)
- Guanyu Su (UCB)
- Wei Ji (RPI)
- Jun Wang (Terra Power)
- Baris Sarikaya (Constellation)

We consistently invite and encourage robust participation in division activities. Those eager to contribute to the division in any role are urged to reach out to the division leadership. We particularly advocate for member involvement in activities spearheaded by the Program Committee, as well as other standing committees, webinars, and task forces.

Bao-Wen Yang

Chair, ANS THD Nomination Committee (2023-2024)

## Webmaster report

I am thrilled to announce that the THD website is now fully up to date! The transition from WordPress to the new CMS (content management system) has been successfully completed, thanks to the great support from ANS. The process took a while, but I'm proud to report there are no more broken links, redirects, or text incompatibilities. So, where does that leave us on the roadmap?

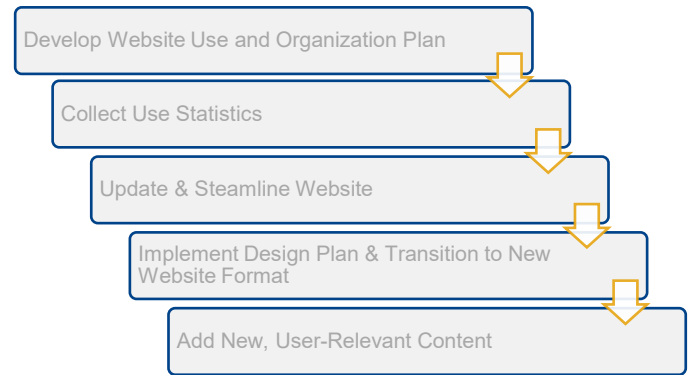
Not only is the website transition complete, but two major changes have occurred on the ANS THD website. First, the content has been reformatted to balance ease of updating with usability, as the menu system has changed. Second, you will now find some brand-new pages!

Per the plan three years ago, the website is now split into three sections: governance (information dealing with the state of the division), members (information of interest to all THD members), and new members (information on getting more involved with the division). The highly ambiguous "meetings" page has been consolidated, with the executive committee and program committee now having their own dedicated pages featuring critical meeting documents. Consequently, the meetings page has been removed.

All the awards (now recognitions to include fellows and scholarships) and committee pages have been revamped, some now featuring images of recent awardees and new descriptive content.

Additionally, new pages have been added. The member content page is now here, where you'll find newsletters and other division-sponsored content, with more to come in the future! Not only that there are new pages for students, a guideline for reviewers, session chairs and organizers, and ways to get more involved in ANS THD now available on the website.

Which brings us to the road map:



*Website Roadmap*

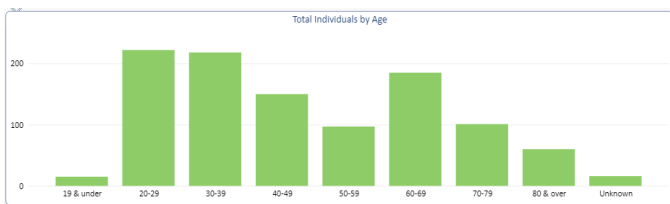
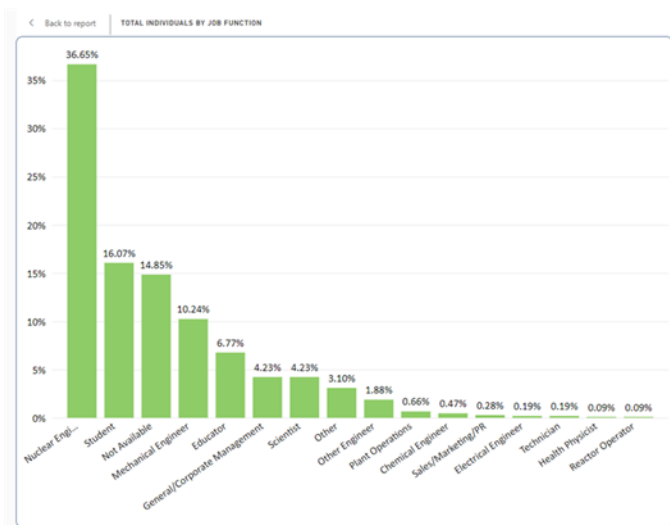
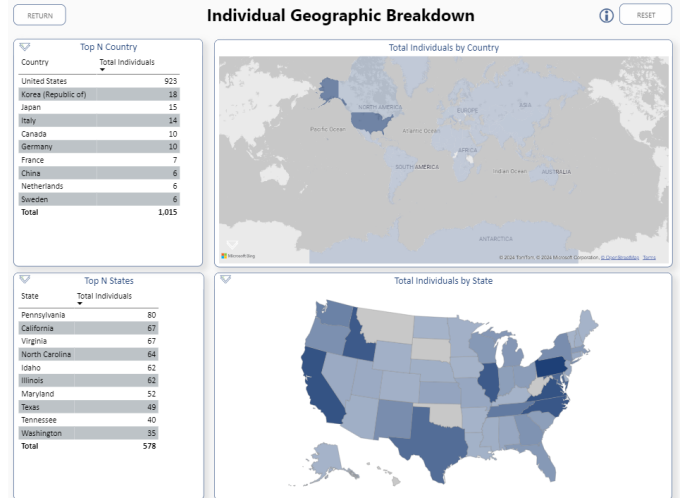
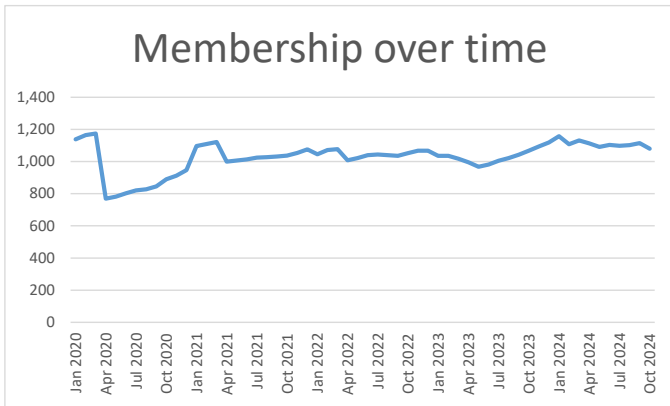
Over the past three years, the reorganization of the website based on the strategic plan has finally been completed. So, what does the next six months look like? The next six months will be spent updating and polishing the new content, taking in feedback from the transition, and adjusting as needed, with exciting new content to come!

See you in Orlando!

Trevor Kent Howard  
ANS THD Webmaster

## Membership report

THD membership currently sits at 1080 in Oct. 2024. Membership has been on 'steady state' trend so far in 2024 and currently sits at the highest number in several years. In this new letter we have also included the analysis of the membership data by professional roles (job function). As we can see 37% of the member identify themselves as Nuclear engineer and 16% as students. We have also included the age distribution graph of Members which is categorized into different age groups, reflecting generational representation within the division. As we can see most of our members are young (in the age group of 20-40). It is good to see this trend as young engineers and students represent the future of the division and their involvement with THD will be crucial to success moving forward. We also analyzed the geographical distribution of the membership. Since the last newsletter, the split between members from the American and international members has remained about the same with the United States being the largest. ANS has clearly reached an international audience and our international members are encouraged to invite new members to meetings.



Overall, these graph analysis trends reflect both the strengths and challenges. Stability in membership and diversity across job functions are positive indicators for THD, while demographic and geographic data may highlight areas where outreach or retention efforts could be further improved to ensure the division's future growth.

To all members, if you are interested in becoming more involved with the Thermal Hydraulics Division, please reach out or attend an executive committee meeting at the next conference. These meetings are open to all and your feedback on any discussions would be much appreciated.

Subash L Sharma,  
Membership Committee Chair



## Financial Report

The budget for 2025 has been proposed and approved by the THD EC. Table 1 summarizes the budget and shows how it has changed. The proposed budget for 2025 does foresee a loss, but we remain in a strong financial position mostly due to proceeds from NURETH. Of note, the “Scholarship/NEED Funding” line item has been replaced with the more accurate “ANS Scholarship/DIA grant” line item as ANS no longer uses the NEED term.

Table 1: Current THD Budget

	2023	2024	2024	2025
	Actual	Proposed	Actual as of 6/30/24	Proposed
<b>Balance Forward</b>	\$60,502	\$94,907	\$94,907	\$94,657
<b>Budget Funds</b>				
Member Dues Allocation	\$1,478	\$1,500	\$721	\$1,442
Division Income	\$36,126	\$3,000		\$2,380
Other				
<b>Total Income</b>	\$37,604	\$4,500	\$721	\$3,822
<b>Budget Expenses</b>				
Newsletters, Website				
Awards & Plaques	\$1,199	\$1,250	\$780	\$1,250
National Meeting Costs				
Topical Meeting Costs				
Division Officer Expenses				
Student Support		\$3,000	\$3,000	\$3,000
Future Activity				
ANS Scholarships/DIA grants	\$500	\$500		\$1,000
YMG Support				
Other Expenses	\$1,500			
<b>Total Expenses</b>	\$3,199	\$4,750	\$3,780	\$5,250
<b>Net</b>	\$34,405	(\$250)	(\$3,059)	(\$1,428)
<b>Total Year End Funds</b>	\$94,907	\$94,657	\$91,848	\$93,229

Table 2 shows all four award funds. Explanations on the status of these award funds have already been provided in the spring newsletter (note that some small typos have been corrected). Of note is that the investment income has more than covered the disbursements from 2023.

Table 2: Award funds

Award	Hochreiter	TAA	Service	Esposito	Seghal
Balance 12/31/2022	\$ 71,935	\$ 44,235	\$ 18,166	\$ 67,369	\$ 19,314
Investment	\$ 10,495	\$ 6,454	\$ 2,650	\$ 9,829	\$ 2,818
<b>Total Income</b>	\$ 82,430	\$ 50,689	\$ 20,816	\$ 77,198	\$ 22,132
<b>Expenses</b>					
Awards	\$ (3,000)	\$ (2,000)		\$ (3,000)	\$ (2,000)
Plaques		\$ (209)			
other expenses					
Net change	7,495	4,245	2,650	6,829	818
<b>Total Funds 12/31/2023</b>	\$ 89,925	\$ 54,934	\$ 23,466	\$ 84,027	\$ 22,950

Treasurer: Dillon Shaver

## Letter from the NURETH-21 General Chair

The NURETH-21 conference will be held in the city of Busan, Korea from Aug. 31 (Sun.) to Sept. 5 (Fri.), 2025 with the Korean Nuclear Society (KNS) being the host sponsor of the Conference. Busan, home to 3.5 million residents, is Korea's second largest city and the world's fifth busiest port. Busan is an ideal location for the NURETH-21 participants for their dedicated discussion of the future of nuclear thermal-hydraulics and their relaxation with cultural experiences on the world-famous seashore area.

Following outstanding experiences of very successful operation of two ANS flagship topical meetings in the past, NURETH-10 (Seoul, 2003) and NUTHOS-11 (Gyeongju, 2016) among others, we are looking forward to continuing and further expanding the long and successful tradition of NURETH Conference series with close cooperation with ANS and other nuclear organizations around the world

The theme of the Conference is “**Innovation in Thermal Hydraulics for Nuclear Future**” and the planned program will provide a full spectrum of activities designed to appeal to all participants, from students to early career professionals as well as senior leaders. The program includes technical sessions, plenary and keynote lectures, workshops for both professionals and students, and a research paper competition for young professionals.

The meeting will get started with the student seminar and associated technical tour on Sunday before the welcome reception on the evening of

Sunday Aug. 31, 2025. The meeting will consist of technical and plenary sessions from Monday through Friday and close with two optional technical tours on Friday afternoon. The topics of major technical tracks can be found in the Call-for-Papers (<https://www.ans.org/meetings/view-425/>) The technical sessions will cover typical thermal-hydraulic (TH) topics as well as special topic sessions on advanced technologies-related TH. Panel sessions will also be arranged to cover important topics to be identified based on important and newly emerging TH issues

The technical tour programs include: (1) Tour of the Low and Intermediate Level radioactive Wastes Disposal Center located near Gyeongju city, the capital of the ancient kingdom of Shilla dynasty during a thousand years of reign, having various tourist attractions designated as UNESCO World Heritage Sites, and (2) Tour of the Doosan Co., Ltd. possessing the world's most advanced technology in manufacturing NSSS components for nuclear plants. Also, a diverse cultural program will offer uncommon and exciting opportunities to the participants and their accompanying persons.

The Conference organizers will reach out and actively engage young professionals and students who are key to maintaining strong thermal-hydraulics disciplines that will continue to keep NURETH and other topical meetings robust.

As always, we would like to encourage our ANS-THD members to actively participate by attending the Conference, submitting papers, volunteering to organize sessions, and supporting the peer-review of the papers. The Conference website ([www.nureth-21.org](http://www.nureth-21.org)) will be allowed to provide access to the details of paper templates, and the sponsorship and exhibitor prospectus sooner or later.

Important update: Abstract Submission Deadline has been extended to November 30, 2024.

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