

Program Committee Meeting Minutes

American Nuclear Society – Thermal Hydraulics Division
Program Committee Meeting
Mariott Philadelphia Downtown Hotel, Philadelphia, PA., USA
2:30 – 4:00 PM, Sunday, June 17, 2018
Location: Rm # 305/306

Attendees:

Steven Arndt (PC member), Hitesh Bindra, Caleb Brooks, Igor Bolotnov (Assistant Chair), Karl Britsch, Fan-Bill Cheung (PC member), Donna Guillen, Bin Han, Stephen Heagy, Yong Hoon Jeong (PC member), Mark Kimber, Seung-Jin Kim, Daniel Labrier, Si Young Lee, Mengnan Li, John Luxat, Guojun Ma, Wade Marcum (PC member), Robert Martin, Elia Merzari (Chair), Guillame Mignot, Kurshad Muftuoglu, Hisashi Ninokata, W. David Pointer (PC member), Dillon Shaver (PC member), Chul-Hwa Song (PC member), Xiaodong Sun, Bao-Wen Yang, Jun Wang, Brian Woods, Hwasung Yeom, Matt Zimmer, Ling Zou

(Scanned copy of the actual list of attendees, including Non-PC members, is shown in [Appendix A](#))

1. Opening (Merzari)

The meeting was opened by ANS-THD PC Chair, Dr. E. Merzari, at 14:30 on Sunday, June 17, 2018.

2. Approval of Meeting Agenda (All)

The proposed agenda was distributed on-line before the meeting and on-site, as attached, and reviewed by those in attendance. One additional item was proposed by Dr. E. Merzari to add under the item 14.a as New Business.

Motions from the Program Committee:

- i. Introduction of the NPC Policy*

MOTION to Approve the Agenda

MOTION Amended by Dr. E. Merzari

SECONDED by Prof. B.W. Yang

APPROVED with Amendment without objection

3. Approval of Minutes from 2017 ANS Winter Meeting (All)

Draft meeting minutes for the THD Program Committee Meeting at the 2017 ANS Winter Meeting were distributed on-line for review before the meeting, as attached in [Appendix-B](#), and on-site.

MOTION by Dr. E. Merzari to Approve the Agenda

SECONDED by Prof. J. Luxat

APPROVED without objection

4. Update on THD Sessions for the ANS 2018 Annual Meeting (Merzari/Bolotnov)

The 2018 ANS Annual Meeting report was distributed to those in attendance and summarized by Dr. Merzari. Dr. Merzari thanked those in attendance for their strong support in soliciting papers and in conducting a strong review. Detailed data are summarized in the 2018 ANS Annual Meeting report attached in [Appendix-C](#).

a. Submittal Statistics

Dr. E. Merzari reported that a total of 79 summaries were submitted to the 12 summary sessions.

b. Reviews

Dr. Merzari reported that 79 summaries, without including 3 additional summaries which are co-sponsored with RPD as the primary host and to be presented in non-THD session, received a total of 188 review recommendations from 32 reviewers.

c. Session Assignments

As a result, 12 summary sessions, including 1 panel session, were formed as described in [Appendix-C](#). 25 minutes are to be allocated to each presentation, which includes time for Q&A.

In addition, one panel session on CFD Codes for Nuclear Thermal-Hydraulics Application was organized with the 5 invited panelists on Tuesday afternoon. There was also a discussion on replacing session chairs who are not available at the session.

5. Update on THD Program for the upcoming ANS 2018 Winter Meeting in Orlando, FL (Merzari)

Dr. Merzari explained that there will be no THD sessions at the 2018 Winter Meeting. All summaries or full papers should be submitted directly to the ATH'18 which will be embedded in the 2018 ANS Winter Meeting to be held in Orlando, Florida.

6. Planning for the Future 2019 Annual Meeting in Minneapolis, MN (Merzari/Bolotnov)

Dr. Merzari solicited session ideas and volunteers to organize from all in attendance.

Proposed Sessions (12) and Organizers are as follows:

- i. General Thermal-Hydraulics – S. Arndt & B.-W Yang
- ii. Experimental Thermal-Hydraulics – B. Woods & C. Brooks
- iii. Computational Thermal-Hydraulics – I. Bolotnov & K. Muftuoglu
- iv. Advanced in Instrumentation for TH Experiments – D. Pointer & W. Marcum
- v. LES/DNS – M. Zimmer & L. Carasik
- vi. Panel: Scaling Methodologies for SET and IET – C. Frepoli & L. Carasik
- vii. TH in Molten Salt Reactors – X. Sun & H. Ninokata
- viii. Data-driven Modeling – L. Zou & E. Merzari
- ix. Multiphase CFD – D. Guillen & D. Shaver

- x. Experiments on Two-phase Flow and Heat Transfer Fundamentals – S.J. Kim & F.B. Cheung
- xi. Thermal-Hydraulics of Accident Tolerant Fuel – Jun Wang & Hwa Sung Yeom
- xii. Severe Accident Thermal-Hydraulics – J. Luxat & G. Mignot

MOTION by Dr. E. Merzari to approve the agenda

SECONDED by Dr. W.D. Pointer

APPROVED without objection

7. Journal Publication Issues

a. NURETH-17 (Yang)

Prof. B.W. Yang summarized the statistics of the NURETH-17 conference held very successfully in Xi'an, China last year.

He also reported that there are 3 journals selected for publication as Special Issues of NURETH-17, which include Nuclear Science and Engineering (NSE), Nuclear Technology (NT) and Nuclear Engineering and Design (NED). The publication of the Special Issues would take one another year more for completion.

8. ICAPP'18 Update (Sun)

Prof. X. Sun reported that the conference has been held in April 8-11, 2018, Charlotte, NC with less than 200 papers presented. 45 papers in nuclear thermal-hydraulics area were presented, but there were not so many reviewers involved probably due to the limitation of reviewers' time available with a review timing conflict with 2018 ANS Annual Meeting.

9. ATH'18 Update (Merzari)

ATH is a young series of bi-annual conference which is embedded in the ANS Winter Meeting, and it features the very latest innovations in nuclear thermal-hydraulics. The theme of the ATH'18 conference is "Innovation in Thermal-Hydraulics: The Key to the Future of Nuclear". It will be held in Orlando, Florida between November 11 through 15, 2018.

The call for papers has already been sent out. Summaries or full papers are all acceptable. The submission of papers is now in progress. The statistics at this moment shows that most of papers submitted are from abroad and ANS members are encouraged to submit more papers. Currently 4 keynote speakers were invited to give a lecture and they include: Prof. I. Bolotnov (NCSU), Prof. A. Manera (U. Michigan), Katrien Van Tichlen (SCK, Belgium) and Itzok Tiselj (JSI, Slovenia).

Special lecture from the ANS THD Technical Achievements Award (TAA) recipients is to be provided.

10. NUTHOS-12 Update (Sun)

Prof. Sun reported that NUTHOS-12 will be held in Oct. 14-18, 2018 in Qingdao, China, and it will be organized by Chinese Nuclear Society, with many co-organizing organizations such as ANS, KNS and AESJ among others.

He identified key organizers of the conference together with information on the statistics of soliciting the papers: 508 Abstracts from 23 countries were submitted and they are now under review process. There will be 4 plenary lectures, 8 keynote lectures and 7 special panel sessions.

He also informed that three full-day technical tours on Thursday will be arranged to visit nearby nuclear power construction sites.

11. NURETH-18 Update (Marcum/Woods)

Prof. W. Marcum reported that NURETH-18 will be held in Aug. 18-23, 2019 in Portland, USA and there made a report on the NURETH-18 during the NPC meeting this morning. He also informed that website will be posted shortly and that the budget and preliminary approval was made by the NPC during this meeting in the morning.

There will be held a NURETH-18 preparatory meeting on Tuesday evening (07:00-09:00 PM) in Room # 308 and PC members are all invited to attend the meeting.

12. NUTHOS-13 Update (Luxat)

Prof. J. Luxat explained that the NUTHOS will be held in Vancouver, Canada in 2020 with a target of 400 registrants.

Prof. H. Ninokata added an explanation, as background information, on the history of the NUTHOS series of conference, which has been largely relegated to Taiwan, China, Republic of Korea and Japan on a rotation basis. Due to recent changes in perspective for nuclear communities in this region, the organizers felt that the host countries might be expanded to other countries located in Pacific regions, such as Canada and the United States, while keeping main contributions by China, Japan and Korea rotational. In this sense, USA might be a candidate of host country in next NUTHOS conference eight years later after NUTHOS-13.

13. Old Business (All)

a. PC Members Nominations (Merzari)

Dr. E. Merzari explained the roll-out of existing 6 PC members this time and need to nominate new PC members. He proposed a motion to re-nominate these roll-out members in consideration of their excellent contributions shown until now, and they are M. Avramova (NCSU), P. Ferroni (WEC), J. Lane (Zachary), Y.H. Jeong (KAIST), Donna Guillen (INL) and W. Marcum (OSU)

Four more candidates were also suggested to include as new PC members and they are: J.Y. Feng (MIT), C. Brooks (UIUC), Jun Liao (WEC) and Ferry Roelofs (NRG) and the amended motion was suggested.

MOTION by Dr. K. Muftuoglu to Approve the Re-nomination

SECONDED by Dr. W.D. Pointer
MOTION Amended by Lane Carasik to Add New Members
SECONDED by Igor Bolotnov
APPROVED with Amendment without objection

b. New Representative to NPC (Merzari)

Dr. E. Merzari proposed Prof. I. Bolotnov as new THD Representative to NPC.

MOTION by Dr. K. Muftuoglu to Approve
SECONDED by Dr. W.D. Pointer
APPROVED without objection

c. Start the Process for Selecting the NURETH-19 Host Country

Dr. E. Merzari mentioned that it is the right time to start the process of selecting the NURETH-19 host among European countries and let the Conference Selection Committee start its relevant activity by distributing the call-for-proposals to potential host countries.

14. New Business (All)




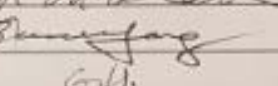
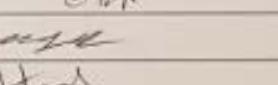
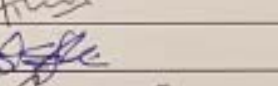
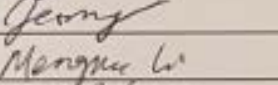
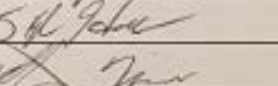

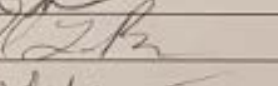
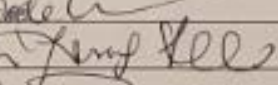
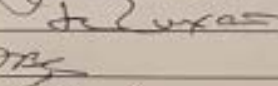
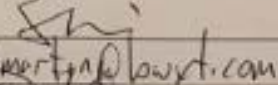

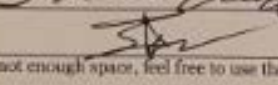
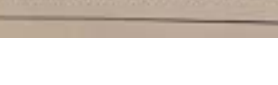



a. NPC Policy (Merzari/Muftuoglu)

Dr. E. Merzari explained upcoming changes in NPC policy concerning topical meetings scheduling and revenue sharing. The change in scheduling is very unlikely to impact NURETH or ATH and are therefore not relevant to THD. However the changes in the way HQ charges for ANS services (e.g., charging the time of the staff on the meetings budget) are likely to have an impact for domestic meetings if the local organizers rely too heavily on ANS.

The Program Committee meeting was adjourned at 4:02 pm.

APPENDIX A

Program Committee Meeting Sign-up Sheets

Name	Initial when present
E. Merzari, PC Chair	
Chul-Hwa SONG	
Brian Woods	
Guillaume Migon	
Hiyashi NINOKATA	
BAOWEN YANG	
Guojun Hu	
Mark Kimber	
Hitesh Bindra	
KUESHAD MUFTUOGULLU	
Yong Hoon Jeong	
Mengnan Li	
Stephen Heagy	
Matt Zimmer	
DAVE PAINTER	
Willon Shaver	
Dan Labrier	
Wade Marwan	
Si Young Lee	
JOHN LUXAT	
Eric Chung	
SEUNGTIN, KIM	
Robert Martin	
Donna Guillen	
STEVEN ARNDT	
Hwasung Yeom	

(if there is not enough space, feel free to use the other side or sheet)

APPENDIX B

2017 ANS Winter Meeting Minutes

Program Committee Meeting Minutes

American Nuclear Society – Thermal Hydraulics Division
Program Committee Meeting
Mariott Wardman Park, Washington, D.C., USA
2:30 – 4:30 PM, Sunday, October 29, 2017
Location: Maryland C

Attendees:

Steven Arndt (PC member), Maria Avramova (PC member), Fatih Aydogan (PC member), Sama Bilbao y Leon (PC member), Igor Bolotnov (Assistant Chair), Lane Carasik (PC member), Fan-Bill Cheung (PC member), Marilyn Delgado (PC member), Paolo Ferroni (PC member), Yassin Hassan (PC member), Lui HU (PC member), Jong Kim (PC member), Seung-Jin Kim (PC member), Yang Liu (PC member), John Luxat (PC member), Annalisa Manera (PC member), Elia Merzari (Chair), Kurshad Muftuoglu (PC member), Hisashi Ninokata (PC member), W. David Pointer (PC member), Piyushi Sabharwall (PC member), Dillon Shaver (PC member), Chul-Hwa Song, Xiaodong Sun (PC member), Rodolpf Vaghetto (PC member), Bao-Wen Yang (PC member), Ling Zou (PC member),

(Scanned copy of the actual list of attendees, including Non-PC members, is shown in Appendix A)

1. Opening (Merzari)

Dr. Merzari opened the meeting at 02:30 PM.

2. Approval of Meeting Agenda (All)

The draft agenda was distributed as attached in Appendix B. Dr. Merzari recommended the addition of two items on NUTHOS-13 and NT Special Issues as new items (14-b and 14-c) in the New Business item. The revised agenda was approved unanimously.

3. Approval of PC Minutes from 2017 Annual Meeting (All)

Dr. Merzari asked for approval of PC meeting minutes from 2017 ANS Annual Meeting. The minutes were approved unanimously (Draft of the PC meeting minutes from 2017 Annual Meeting is attached in Appendix C).

4. Update on THD Sessions for the ANS 2017 Winter meeting (Merzari/Bolotnov)

Detailed data are summarized in the 2017 ANS Winter Meeting report attached in Appendix D.

a. Submittal Statistics

Dr. Merzari reported that a total of 86 summaries were submitted to the 12 summary sessions.

b. Reviews

Dr. Merzari reported that 86 summaries received a total of 222 review recommendations from 28 reviewers. One of these summaries was accepted without further comments; 63 were accepted with revisions; 14 were rejected unless revised; and 8 summaries were rejected.

c. Session Assignments

As a result, 12 summary sessions were formed as described in Appendix D. 25 minutes were to be allocated to each presentation, which includes time for Q&A. In addition, one panel session on Thermal-Hydraulic Collaborations in Industry, Academia and Labs was organized with the 5 invited panelists on Monday afternoon.

5. Updates on THD Program for the Upcoming 2018 ANS Annual Meeting in Philadelphia (Merzari)

a. Announced Sessions for Annual Meeting

Dr. Merzari reminded that a total of 10 sessions were proposed at the 2018 Annual Meeting, which include: (a) Experimental T-H (Yang / Marcum); (b) Computational T-H (Guillen / Zou); (c) General T-H (Arndt / Lee); (d) Two-phase and Heat Transfer Fundamentals (Kim / Cheung); (e) Multi-scale T-H Simulation and Validation (Pointer / Hassan / Merzari); (f) CFD Codes for Nuclear T-H Applications-Panel (Carasik / Shaver), (g) High-Resolution Multi-Phase Simulations (Bolotnov / Avramova); (h) T-H Analysis in Support of SAM (Luxat / Bilbao); (i) Natural Circulation and Reliability of N/C Phenomena and Associated Systems (Frepoli / D'Auria); (j) MSR T-H and Mass Transport (Scarlet / Sun).

It was announced that the website is already open. (The report on the 2018 Annual Meeting is attached in Appendix E).

6. Planning for the Future 2018 ANS Winter Meeting Program in Orlando, FL (Merzari)

a. Proposed Sessions/Organizers

There will be no sessions at the Winter Meeting 2018. All summaries or papers should be submitted to ATH'18.

b. ATH'18 Planning

Dr. Merzari reported that ATH'18 which will be embedded in the ANS Winter Meeting 2018 to be held in Orlando, Florida at the Hilton Orlando Bonnet Creek hotel between November 11 and November 15, 2018. The call for papers has been sent out. ATH is a young series of meetings that features the very latest innovations in nuclear thermal-hydraulics. The theme of the 2018 conference is, "Innovation in Thermal-Hydraulics: The Key to the Future of Nuclear". In addition to a vibrant plenary session, we will feature keynotes that span the breadth of the art and science of nuclear reactor thermal-hydraulics.

7. Journal Special Issues

a. NURETH-17 (Yang)

Prof. B.W. Yang, the TPC Chair of the conference, reported some statistics on the NURETH-17 conference, which includes the followings:

- o 1020 abstracts submitted and 732 final papers were included in the proceedings (259 papers from China, 201 from EU, 112 from U.S., 80 from Korea and 40 from Japan)
- o 789 registered participants from over 35 countries

Prof. B.W. Yang announced that selected papers will be recommended to publish in the journals of NED, NT and NSE.

8. NURETH-17 Updates (Yang)

Prof. B.W. Yang, the TPC Chair of the conference, reported some statistics on the NURETH-17 conference, which includes the followings:

- o 1020 abstracts submitted and 732 final papers were included in the proceedings (259 papers from China, 201 from EU, 112 from U.S., 80 from Korea and 40 from Japan)
- o 789 registered participants from over 35 countries

Prof. Yang reported that NURETH-17 was successfully held in Xi'an in 2017 and noted that the donation from NURETH-17 to the ANS-THD is being considered even though the account balance has not yet been fixed because of unclosed issue on the donations from domestic sponsoring organizations.

9. ATH'18 Update (Merzari)

Dr. Merzari reported that the Call for Papers is sent out and requested attendees to send ideas for special sessions after introducing some ideas on molten salt or lead-cooled reactor session (L. Jun / Paulo Ferroni) and sessions on the CFD grade experiments (Manera, Pointer, Carasik).

10. ICAPP'18 Update (Bolotnov)

Prof. Bolotnov reported that the conference will be held in April 8-11, 2018, Charlotte, NC, and the due date for abstracts submission has been extended to November 27. Full papers, up to 10 pages, will incur no page charges.

11. NUTHOS-12 Update (Sun)

Prof. Sun reported that NUTHS-12 in Oct. 14-18, 2018 in Qingdao, China, and it will be organized by Chinese Nuclear Society, with many co-organizing organizations. He identified key organizers of the conference together with information on the deadlines for abstracts (Nov. 30, 2018) and full papers (May 30, 2018).

He informed also that three full day technical tours on Thursday will be arranged to nearby nuclear construction projects.

12. NURETH-18 Update (Muftuoglu)

Dr. Muftuoglu reported that NURETH-18 will be held in Aug. 18-23, 2019 in Portland, USA and introduced a list of some key organizers of the conference.

13. Old Business

- a. PC membership nominations (Merzari)

Dr. Merzari nominated Dr. S. Benhamadouche as candidate of PC member

*MOTION by Dr. K. Muftuolgu
APPROVED without objection*

14. New Business (All)

- a. Preserving Key Nuclear data Initiative (Cheung)

Prof. F.B. Cheung explained and led the discussion on the request to ANS HQ, THD and NISD by Prof. M. Corradini on co-sponsoring an Initiative Preserving Key Nuclear Safety Data, and stressed that this may already be a relevant ANS position.

- b. NUTHOS-13 Update (Ninokata) : Item newly added to the Draft of the meeting agenda

Prof. Ninokata explained the history of the NUTHOS series of conference, which has been largely relocated to Taiwan, China, South Korea and Japan on a rotation basis. Recently due to changes in perspective for nuclear in the region, the organizers feel the host countries should be expanded to Canada and the United States. A discussion ensued about potential locations for the next NUTHOS.

- c. Special Issues on Review Papers on Nuclear Technology (NT) journal: Item newly added to the Draft of the meeting agenda

Prof. A. Klein, as Editor of NT journal, reported a plan for publishing review papers as a special issue on NT, and requested ANS-THD members to propose the topics and to serve as reviewers.

The Program Committee meeting was adjourned at 4:20PM.

APPENDIX A

Program Committee Meeting Sign-in Sheets

**Thermal Hydraulics Division
Program Committee Meeting
Washington Marriot Wardman Park
Washington, DC
Oct. 29, 2017**



Only those listed below are voting members of the THD Program Committee				
Last Name	First Name	✓if Committee Member	Initial When Present	Email Address
LeCone	Jean-Marie			
Lee	Si Young			
Liu	Yang			
Luan	John	✓	JL	luan@mcmaster.ca
Meyers	Anzelmo			
Morgan	Wade			
Martin	Robert			
Morari	Ella	✓	EM	emorari@dhl.gw
Muftuoglu	Kurshad	✓	KM	kurshad.muftuoglu@ge.com
Murase	Michio			
Ninokata	Hisashi	✓	HN	hisashi.ninokata@pet.roi.it
Podowski	Michael			
Primer	David	✓	DP	primer@ornl.gov
Remye	Jay			
Rinke	Josica			
Sabbarwall	Poyak	✓	PS	sabhp@int.gov
Saha	Pradip			
Schubring	DuWayne			
Song	Chul-Ho	✓	CS	chsong@kaeri.re.kr
Suh	Kiwo			
Sun	Xiaodong	✓	X.S.	xdsun@umich.edu
Todd	Donald			
Vitarow	Karen			
Woods	Brian			
Yang	Bao-Wen	✓	BY	bw1@carp Associates.com

Article B10.2 - A quorum for the transaction of business at all Division (or TC) meetings shall consist of fifteen (15) qualified voters or twenty (20) percent of the qualified voters.

**Thermal Hydraulics Division
Program Committee Meeting
Washington Marriot Wardman Park
Washington, DC
Oct. 29, 2017**



Only those listed below are voting members of the THD Program Committee			Initial When Present	Email Address
Elio Merzari, Program Chair			E.M.	emerzari@anl.gov
Igor Bolotnov, Assistant Program Chair			I.B.	ibolotn@ncsu.edu
Chul-Hwo Song, Secretary				
Last Name	First Name	✓ if Committee Member	Initial When Present	Email Address
Amdt	STEVEN	✓		sterev.amdt@nrc.gov
Aumiller	David			
Baglietto	Rimiko			
Bojarek	Steven			
Bardet	Philippe			
Bilbao y Leon	Sama			
Carasik	Late	✓	L.C.	carasik@kvaizpavel.c
Cheng	Xu			
Cheung F.B.	Fan-Bill	✓	F.B.C.	fbcc4@pau.edu
Choe	Whee			
Collins	Brian			
D'Auria	Franco			
Feroni	Paulo	✓	PF	FERRONI@WESTINGHOUSE
Fropoli	Coste			
Gaurt	Randall			
Gullen	Dimita			
Hasson	Yasein	✓		
Hibiki	Takashi			
Hu	Rui	✓	R.H.	rha@and.gov
Kim	Jong	✓	J.H.	kimj@kaist.ac.kr
Kim	Seungjin	✓		
Lane	Jeffrey			

Article B10.2 - A quorum for the transaction of business at all Division (or TG) meetings shall consist of fifteen (15) qualified voters or twenty (20) percent of the qualified voters.

Thermal Hydraulics Division
 Program Committee Meeting
 Washington Marriot Wardman Park
 Washington, DC
 Oct. 29, 2017



Others, please PRINT in

Name	✓ if Committee Member	E-mail
Youho Lee		ewo@unm.edu
Ling ZOU	✓	Lingzou@ind.inl.gov
Christopher Poresky		chrisporesky@berkeley.edu
Fatih Aydogan	✓	aydogfati@isu.edu
Jun Liao		LIAOJ@writinghouse.com
Arturo Cabral		acs7894@tamu.edu
RIZWAN UDDIN		rizwan@illinois.edu
Dillon Shaver	✓	dshaver@anl.gov
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Maria Arramona	✓	marramo@ncsu.edu
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Yang Liu	✓	liu130@vt.edu
Guanyi Wang		wgy@purdue.edu
Zhuoran Dang		zdang@purdue.edu
Gang Yang		gyang@umich.edu
STEVEN ARNDT	✓	STEVEN.ARDZ@nrc.gov
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Sarah Morgan		morgansw@vcu.edu
Riyadh Motny		motnyrm@ku.edu
Daniell Tischer		tincherdj@vcu.edu
SAMA BILBAO Y LEON	✓	SBILBAO@VCU.EDU
Annalisa Manera	✓	manera@umich.edu
BAOWEN YANG	✓	bwl@carpassociates.com
Pier Cheng	✓	fxc4@psu.edu
Marilyn Delgado	✓	mdelgad17@tamu.edu
Rodolfo Vaghetto	✓	r.vaghetto@tamu.edu

Article B10.2 - A quorum for the transaction of business at all Division (or TG) meetings shall consist of fifteen (15) qualified voters or twenty (20) percent of the qualified voters.

APPENDIX B

Draft PC Meeting Agenda (Proposed)

PROPOSED AGENDA

American Nuclear Society – Thermal Hydraulics Division
Program Committee Meeting
Marriott Wardman Park, Washington, DC
2:30 – 4:30 PM, Sunday, October 29, 2017
Location: Maryland C

1. **Opening** (Merzari)
2. **Approval of Meeting Agenda** (All)
3. **Approval of Minutes** from 2017 Annual Meeting (All)
4. **Update on THD Sessions for the ANS 2017 Winter Meeting** (Merzari/ Bolotnov/ Pointer)
 - a. General Meeting: Submittal Statistics, Reviews, and Session Assignments
5. **Update on THD Program for the Upcoming 2018 Annual Meeting** in Philadelphia, PA (Merzari)
 - a. General meeting: Announced Sessions, Deadlines/Submittal Status
6. **Planning for the Future 2018 Winter Meeting** in Orlando, FL (Merzari/Bolotnov)
7. **Journal Special issues**
 - a. NURETH-17 (Yang)
8. **NURETH-17 Update** (Yang)
9. **ATH'18 Update** (Merzari)
10. **ICAPP'18 Update** (Sun/Bolotnov)
11. **NUTHOS-12 Update** (Sun)
12. **NURETH-18 Update** (Muftuoglu/Merzari)
13. **Old Business** (All)
 - a. PC membership nominations (Merzari)
14. **New Business** (All)

APPENDIX C

Minutes of PC meeting from 2017 Annual Meeting

THD Program Committee Meeting Minutes

American Nuclear Society – Thermal Hydraulics Division
Program Committee Meeting
Hyatt Regency San Francisco, San Francisco, CA
2:30 – 4:30 PM, Sunday, November 6, 2016
Location: Pacific I

Attendees: Maria Avramova (PC member), Steven Arndt (PC member), Fatih Aydogan (PC member), Sama Bilbao y León (PC member), Igor Bolotnov (PC Vice Chair), Lane Carasik (PC member), Fan Bill Cheung (PC member), Robert (Trip) Dacus, Jun Fang, Cesare Frepoli (PC member), Yassin Hassan (PC member), Stephen Heagy, Yong Hoon Jeong (PC member), Jong Kim (PC member), Seungjin Kim (PC member), Si Young Lee (PC member), John Luxat (PC member), Wade Marcum (PC member), Elia Merzari (PC Chair), Kurshad Muftuoglu (PC member), Hisashi Ninokata (PC member), Dave Pointer (PC member), Piyush Sabharwall (PC member), Raluca Scarlet, Dillon Shaver, Chul-Hwa Song (PC member), Xiaodong Sun (PC member), Bao Wen Yang (PC member), Ling Zou (PC member)

Sign-in sheets are included in Attachment A

1. Opening (Merzari)

The meeting was opened by PC Chair Elia Merzari at 2:30 pm on Sunday, June 11, 2017.

2. Approval of Meeting Agenda (All)

The proposed agenda was distributed and reviewed by those in attendance.

*MOTION and SECOND by Committee Members not recorded
APPROVED without objection*

3. Approval of Minutes (All)

Minutes from the 2016 Winter Meeting of the THD Program Committee were distributed and reviewed by those in attendance. In section 8, the attribution to Drs. Lane and Muftuoglu as corrected to Mr. Carasik and Dr. Muftuoglu.

*MOTION by Prof. Bilbao y León to approve the minutes as amended
SECONDED by Prof. Marcum
APPROVED without objection*

4. Update on THD Sessions for the 2017 ANS Annual Meeting (Merzari/Bolotnov)

The 2017 ANS Annual Meeting report, included as attachment C was reviewed by Dr. Merzari. Prof. Merzari additionally noted that the first ANS THD Excellence in Review Award and Honorable Mention will be presented to Dr. Aumiller and Dr. Feroni, respectively, at the conclusion of the Monday afternoon THD paper session.

In discussion of the presented summary data, Prof. Bilbao y León suggested that the statistics of paper submission and acceptance should be published for all THD meetings, including National Meetings, to improve perceptions of meeting quality. Prof. Hassan further suggested that we should document statistics for which segment of the industry, i.e. Academia, Utilities, Vendors, Laboratories, etc., are publishing papers at each meeting. Prof. Cheung suggested that we should also publish statistics for nationality of authors.

ACTION ITEM – Prof. Bilbao y León will form a subcommittee to develop a proposal for collection and documentation of meeting publication statistics. Drs. Merzari, Pointer and Shaver and Prof. Bolotnov volunteered to support the subcommittee efforts.

5. Update on THD Program for the Upcoming 2017 Winter Meeting in Washington, DC (Merzari)

a. General meeting: Announced Sessions, Deadlines/Submittal Status

The 2017 ANS Winter Meeting report, attachment D, was distributed and summarized by Dr. Merzari. THD is collecting extended summary submissions in 11 sessions. Dr. Merzari stated that the system is open for review of submissions and asked that committee members begin reviewing papers. The summary submission deadline is June 19.

6. Planning for the Future 2018 Annual Meeting in Washington, DC (Merzari/Bolotnov)

Dr. Merzari solicited session ideas and volunteers to organize those sessions from those in attendance. The following sessions were proposed.

a. Proposed Sessions and Organizers

- i. Natural Circulation Reliability – Cesare Frepoli, Francisco D’Auria
- ii. Molten Salt T/H – Raluca Scarlet, Xiadong Sun
- iii. T/H Analysis in Support of Severe Accident Measurement – John Luxat, Sama Bilbao y León
- iv. High Resolution Two-Phase Simulation – Igor Bolotnov, Maria Avramova
- v. Multi-scale thermal hydraulics: simulation and validation – Dave Pointer, Yassin Hassan, Elia Merzari
- vi. CFD Codes for TH – Lane Carasik, Dillon Shaver
- vii. Two-Phase Flow and Heat Transfer Fundamentals – Seungjin Kim, Fan-Bill Cheung
- viii. Computational TH – Donna Guillen, Ling Zou
- ix. Experimental TH – Bao Wen Yang, Wade Marcum
- x. General TH – Steve Arndt, Si Young Lee

*MOTION by Mr. Carasik to approve session slate as proposed
SECONDED by Prof. Luxat*

APPROVED without objection

7. Journal Special Issues

Prof. Sun summarized the status of publication of the special issue journals from the NURETH-16 meeting in Chicago, IL. The NURETH-16 conference received more than 900 abstracts and more than 700 full papers, of which more than 600 were published in the conference proceedings. Of those, 98 papers have been published in four special issues of three journals.

- Nuclear Science and Engineering published 19 papers
- Nuclear Technology published 42 papers in 2 issues
- Nuclear Engineering and Design published 45 papers

All NURETH-16 papers appearing in proceedings have been indexed in SCOPUS

ACTION ITEM – Dr. Merzari will add reporting item for outstanding journal special issues to all future meeting agendas

8. NURETH-17 Update (Yang)

Prof. Yang summarized the status of the upcoming NURETH-17 conference. The meeting will be held September 3-8, 2017.

Prof. Yang reported that the paper review has been completed and 683 papers have been selected out of more than 1000 abstracts received. Prof. Yang noted that 110 papers were submitted by US authors. The organizers are now working to assign papers to sessions. Arrangements are being made with Nuclear Science and Engineering, Nuclear Technology and Nuclear Science and Engineering for special issues.

Final arrangements are being made for special events and tours. Technical tours are quite far from Xian but have been selected to provide options for site visits near major international airports in Beijing, Hong Kong and Shanghai. Gathering spots will be identified and shuttles will provide transport to tour locations.

Prof. Yang reminded the committee that registration is open. Invitation letters can be requested any time by completing the registration submission and registrants can return to the website any time before the registration deadline to complete payment.

The committee discussed whether the review process could be improved, noting that most rejected papers initially came from industry, which is unfortunate since meetings would benefit from increased meeting participation. The committee also discussed whether statistics from meeting paper reviews could be evaluated and reported more effectively because rejections alone do not tell the whole story of paper quality.

9. Advances in Thermal Hydraulics 2018 Topical Meeting, Embedded in 2018 ANS Winter Meeting (Merzari)

Dr. Merzari reported that ATH'18 will be delayed from the 2018 ANS Annual Meeting in Philadelphia, PA to the 2018 ANS Winter Meeting in Orlando, FL to take advantage of the more suitable venue and more attractive location. Dr. Merzari reported that the

ATH'18 meeting will feature both keynotes and technical sessions. The committee is asked to submit ideas for keynotes and sessions to Dr. Merzari via email.

10. ICAPP 2018 Co-Sponsorship Update (Sun)

Prof. Sun updated the committee on planning for the ICAPP 2018 meeting to be held April 8-11, 2018 at the Charlotte Westin in the absence of Prof. Travis Knight who was attending a conflicting meeting. ICAPP 2018 will be a co-sponsored Class 1 topical meeting between OPD and THD. Prof. Bolotnov will serve as a member of the Technical Program Committee representing THD. The Call for Papers has been posted and the technical program chairs will be contacting prospective Track leaders.

11. NUTHOS-12 (X. Sun)

Prof. Sun summarized plans for the upcoming NUTHOS-12 conference to be held in the coastal city of Qingdao, China in October 2018. Committee member are referred to the NUTHOS-12 report, attachment E.

12. NURETH-18 update (Merzari/Bolotnov)

The Conference Selection Committee received two proposals to host NURETH-18 and provided a recommendation that was unanimously approved by the EC. NURETH-18 will be hosted by the ANS Eastern Washington Section in Portland, OR on August 12-22, 2019. Meeting officers were identified in the proposal.

Honorary Chairs – Yassin Hassan and Hisashi Ninokata

General Chairs – Kurshad Muftuoglu, Jose Reyes, Mark Peters

Technical Program Chairs – Brian Woods, Dominique Bestion, Akira Yamaguchi

Assistant Technical Program Chairs – Donald Todd and Wade Marcum

13. Old Business

a. Program Committee Membership (Merzari)

Dr. Merzari reviewed that current program committee membership and noted that Prof. Manera will automatically become a member of the Program Committee as a new member of the Executive Committee. Dr. Merzari recommended that Dr. Murase and Dr. Todd be reappointed to the committee. The committee discussed whether additional members should be added. Mr. Carasik recommended that Dr. Shaver be added to the committee in recognition of his numerous contributions.

MOTION by Dr. Merzari to reappoint Dr. Murase and Dr. Todd to the Program Committee

SECONDED by Dr. Muftuoglu

MOTION by Mr. Carasik to amend MOTION to reappoint Dr. Murase and Dr. Todd and appoint Dr. Shaver to the Program Committee

SECONDED by Dr. Muftuoglu

AMENDED without objection
Amended Motion APPROVED without objection

Program Committee Motion will be taken to Executive Committee for approval.

b. Review of the Reviewer Pool (Merzari)

Dr. Merzari noted that the THD reviewer pool includes many inactive individuals who remain from past meetings. Approximately 120 individuals are included on the list but only approximately 40 are actively reviewing papers. Some individuals who are not THD members are included as reviewers and it is not clear if this is appropriate.

Dr. Merzari also noted that the paper review system is not good at checking conflict interest in paper reviews and that technical program chairs must be mindful that reviewers could review their own papers.

ACTION ITEM – Dr. Merzari will continue to review the reviewer pool and remove reviewers who are no longer active

ACTION ITEM – Dr. Merzari will discuss process for reviewer assignment in the paper review system with the National Program Committee

c. Excellence in Review Awards (Merzari)

For 2017, two nominees have been unanimously approved by the Honors and Awards Committee: Dr. David Aumiller (Award) and Dr. Paulo Feroni (Honorable Mention). The honorees will be recognized at the end of the THD technical session on Monday afternoon.

14. New Business

a. BEPU 2018

Dr Muftuoglu and Prof. Ninokata presented a status update on the 2018 Best Estimate Plus Uncertainty meeting planned for May 13-19, 2018 in Lucca, Italy. The meeting is being organized by the ANS Nuclear Installation Safety Division and will build upon the former Best Estimate Topical Meeting, last held as an embedded topical meeting in 2004. The meeting will be focused on broad scope of licensing and reliability topics and will be heavily focused on thermal hydraulics topics, but it is NOT co-sponsored by THD. BEPU 2018 is being organized as a CLASS 1 international meeting under approval of Bob Fine.

The committee questioned why the meeting is not co-sponsored by THD, especially since it is scheduled very close to THD co-sponsored meetings and will compete with THD meetings for papers. Dr. Muftuoglu indicated that the meeting has historically been organized as an NISD meeting and that the sponsoring division may not be receptive to co-sponsorship.

MOTION by Dr. Pointer to authorize Dr. Muftuoglu to seek THD co-sponsorship of BEPU 2018.

SECONDED by Dr. Sabharwall

APPROVED with one abstention (Dr. Muftuoglu) and no objections

ACTION ITEM – Dr. Muftuoglu will seek THD co-sponsorship of BEPU 2018

The meeting was adjourned.

MOTION by Dr. Muftuoglu to adjourn

SECONDED by Dr. Pointer

APPROVED without objection

APPENDIX D

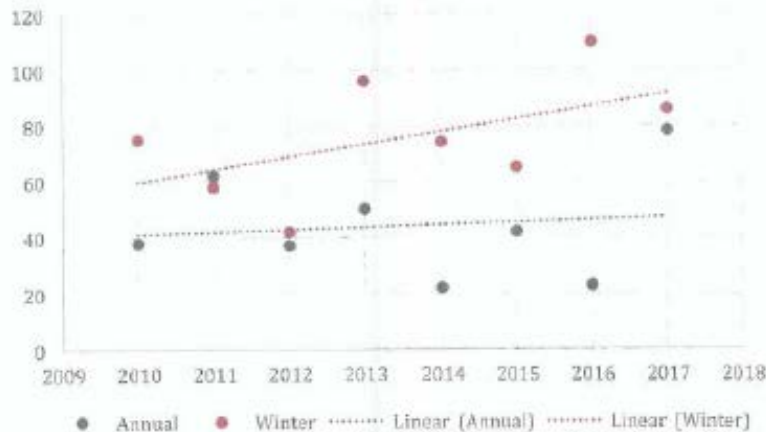
2017 ANS Winter Meeting Report

ANS 2017 Winter Meeting Meeting, Washington, DC

E. Merzari and I. Bolotnov

A total of 86 summaries were submitted to the proposed sessions sponsored by the Thermal Hydraulics Division at the ANS 2017 Winter Meeting. Our THD reviewers again did a phenomenal job to review these summaries despite a relatively narrow time window in which we had to complete the review and the concurrence of the NURETH-17 re-review period. Despite the huge influx of papers, our division submitted the session slate in time, meeting the deadline. THD once again received more papers than any other division at this meeting. We will host a total of 13 sessions.

Below is a graph showing submission trends for the ANS meetings. We note that the 2012 Winter Meeting and 2014 and 2016 Annual Meetings do not include the papers submitted to ATH.



Reconciled review recommendations for the summaries are as follows:

	1	Accept
	63	Accept with Revision (A/R)
	14	Reject Unless Revised (R/R)
	8	Reject
Total	86	

After another round of rigorous review process for the revised R/R summaries, a total of 71 summaries are included in the eleven THD summary sessions at this conference. There will be no poster session sponsored by THD at this meeting.

Overall, the review participation was sufficient. All the papers received adequate review on a timely basis. Many thanks to our dedicated reviewers! The distribution is as follows:

	46	2
	30	3
	10	4
Total	86	222

There were 222 review recommendations that needed to be coordinated from 28 reviewers. Reviewer participation was not great at this meeting. We had a low number of reviewers who helped with the peer review process, the lowest in the last 3 years for a winter meeting and a large number of the reviews was performed by chair and assistant chair (over 78 in total). The reviewers' support is much appreciated, but we need to stimulate more participation.

Most recent reviewer participations were as follows:

D.C.	222 reviews from	28 reviewers
San Francisco	264 reviews from	39 reviewers
Las Vegas	337 reviews from	45 reviewers
New Orleans	87 reviews from	20 reviewers (General meeting)
San Antonio	135 reviews from	28 reviewers
Anaheim	212 reviews from	33 reviewers
Reno	80 reviews from	17 reviewers (General meeting)
D.C.	284 reviews from	29 reviewers
Atlanta	137 reviews from	23 reviewers
San Diego	129 reviews from	22 reviewers
Chicago	116 reviews from	17 reviewers
D.C.	179 reviews from	22 reviewers
Hollywood	148 reviews from	14 reviewers
Las Vegas	181 reviews from	20 reviewers
San Diego	102 reviews from	21 reviewers
D.C.	135 reviews from	22 reviewers
Atlanta	191 reviews from	25 reviewers
Reno	73 reviews from	11 reviewers
Anaheim	89 reviews from	19 reviewers

The following individuals contributed to the reviews (first round) of the summaries:

Reviewer	# of summaries reviewed
I. Bolotnov	42
E. Merzari	36
L. Carasik	17
J. Riznic	17
M. Zimmer	13
R. Vaghetto	12
B. W. Yang	10
W. Marcum	8
S. Lomperski	6
S. Ravenkar	6
R. Hu	6

R. P. Martin	6
P. Ferroni	5
L. Zou	4
P. Sabharwall	4
F. Roelofs	3
J. Feng	3
F. B. Cheung	3
D. Shaver	3
D. P. Gullen	3
Y. Addad	3
Y. Liu	2
M. Li	2
M. Chen	2
H. Ninokata	2
Y. Hassan	2
J. Fang	1
M. Meholic	1
Total	222

We also thank the reviewers that helped with the second round of reviews and in particular Dr. Xiaodong Sun, who was instrumental in providing useful comments to the R/R papers.

THD has a total of thirteen (13) sessions including 2 panels.
These 13 sessions are:

Monday

Thermal-Hydraulic Collaborations in Industry, Academia and Labs—Panel [Mon. 1:00 pm]
General Thermal Hydraulics—I [Mon. 1:00 pm]

Tuesday

General Thermal Hydraulics—II [Tues. 8:00 am]
Two-Phase Flow Fundamentals [Tues. 8:00 am]
Thermal Hydraulics for Nuclear Space Applications—Panel [Tues. 1:00 pm]
Thermal Hydraulics of Advanced Reactors [Tues. 1:00 pm]

Wednesday

Computational Thermal Hydraulics—I: Computational Fluid Dynamics [Wed. 8:00 am]
Experimental Thermal Hydraulics—I: Focus on Advanced Instrumentation [Wed. 8:00 am]
Young Professional Thermal-Hydraulic Research Competition [Wed. 1:00 pm]
Severe Accident Modeling and Experiments for Advanced Reactor Safety [Wed. 4:30 pm]
Experimental Thermal Hydraulics—II [Wed. 4:30 pm]

Thursday

Computational Thermal Hydraulics—II [Thurs. 8:00 am]
Severe Accident Modeling and Experiments for Light Water Reactors [Thurs. 1:00 pm]

Session	# of papers	Time Slot	Location	Chairs
Thermal-Hydraulic Collaborations in Industry, Academia and Labs- Panel	-	Mon. 1:00 pm	Washington 2	Phil Sharpe, Sama Bilbao-y-Leon
General Thermal Hydraulics—I	6	Mon. 1:00 pm	Washington 3	Mathieu Andre, Annalisa Manera
General Thermal Hydraulics—II	8	Tue. 8:00 am	Washington 3	W. David Pointer, Minghui Chen
Two-Phase Flow Fundamentals	8	Tue. 8:00 am	Washington 2	Yang Liu, Dillon Shaver
Thermal Hydraulics for Nuclear Space Applications-Panel	-	Tue. 1:00 pm	Washington 2	Fatih Aydogan, Michael G. Houts
Thermal Hydraulics of Advanced reactors	6	Tue. 1:00 pm	Washington 3	Hisashi Ninokata, John Luxat
Computational Thermal Hydraulics—I: Computational Fluid Dynamics	8	Wed. 8:00 am	Washington 2	Igor A. Bolotnov, Lene B. Carasik
Experimental Thermal Hydraulics—I: Focus on Advanced Instrumentation	7	Wed. 8:00 am	Washington 3	Rodolfo Vaghetto, Xiaodong Sun
Young Professional Thermal-Hydraulic Research Competition	7	Wed. 1:00 pm	Washington 2	Rui Hu, Paolo Ferroni
Severe Accident Modeling and Experiments for Advanced Reactor Safety	5	Wed. 4:30 pm	Washington 2	Adrian Tentner, Heung Saok Kang
Experimental Thermal Hydraulics—II	5	Wed. 4:30 pm	Washington 3	Trevor Howard
Computational Thermal-Hydraulics—II	7	Thu. 8:00 am	Washington 2	Ella Merzari, Matthew D. Zimmer
Severe Accident Modeling and Experiments for Light Water Reactors	5	Thu. 1:00 pm	Washington 2	Hongbin Zhang
Total	71			

Additional Notes:

- All paper presentations are 25 minutes each.

APPENDIX E

2018 ANS Annual Meeting Report

ANS 2018 Annual Meeting, Philadelphia, PA

E. Merzari and I. Bolotnov

The 2018 Annual Meeting will be held June 17-21 2018 in Philadelphia, PA at the Marriott Philadelphia Downtown. The call for papers for THD was approved last June by the PC. THD is soliciting papers for 10 sessions

The sessions are:

- 19a. Experimental Thermal Hydraulics - Bao Wen Yang, Wade Marcum
- 19b. Computational Thermal Hydraulics - Donna Guillen, Ling Zou
- 19c. General Thermal Hydraulics - Steve Arndt, Si Young Lee
- 19d. Two-Phase and Heat Transfer Fundamentals - Seungjin Kim, Fan-Bill Cheung
- 19e. Multiscale Thermal Hydraulics Simulation and Validation - Dave Pointer, Yassin Hassan, Elia Merzari
- 19f. Computational Fluid Dynamics Codes for Nuclear Thermal Hydraulics Applications (P) - Lane Carasik, Dillon Shaver
- 19g. High-Resolution Multi-Phase Simulations - Igor Bolotnov, Maria Avramova
- 19h. Thermal Hydraulic Analysis in Support of Severe Accident Management - John Luxat, Sama Bilbao y León
- 19i. Natural Circulation and Reliability of Natural Circulation Phenomena and Associates Systems - Cesare Frepoli, Francisco D'Auria
- 19j. Molten Salt Thermal Hydraulics and Mass Transport - Raluca Scarlet, Xiadong Sun

The submission website is open at:

<http://epsr.ans.org/meeting/?m=244> ✓

	Submission Period	Review Period
Summaries	October 4, 2017, 12:00am – <u>January 12, 2018, 11:59pm</u>	October 4, 2017, 12:00am – <u>January 19, 2018, 11:59pm</u>

We encourage all PC members to solicit papers to ensure this meeting is a success.

APPENDIX C

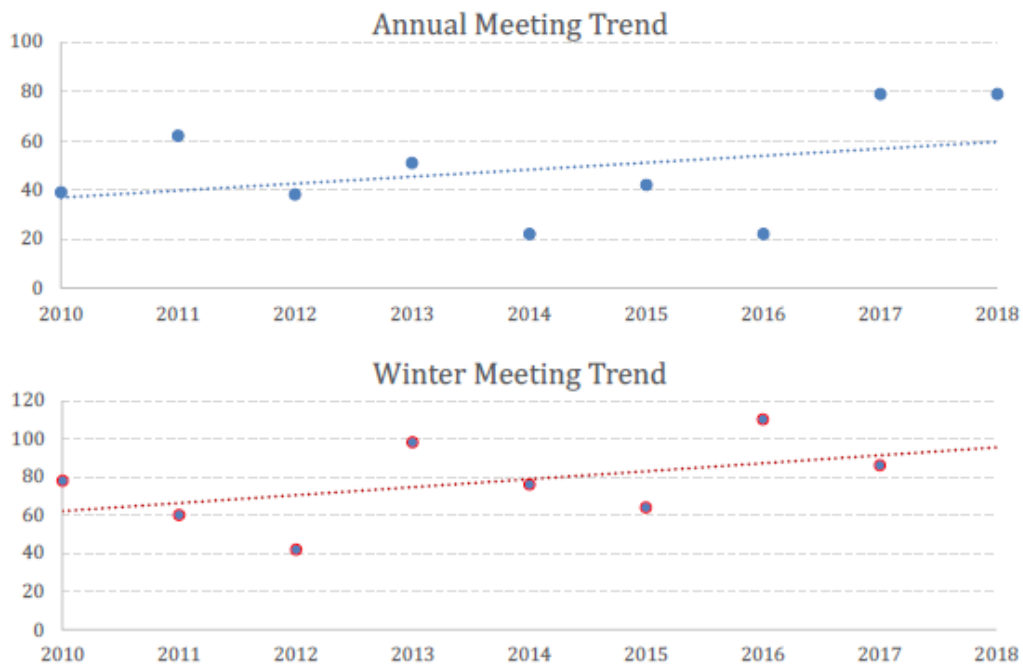
2018 ANS Annual Meeting THD Statistics on Papers

ANS 2018 Annual Meeting, Philadelphia, PA

E. Merzari and I.A. Bolotnov

A total of 79 summaries were submitted to the proposed sessions sponsored by the Thermal Hydraulics Division at the ANS 2018 Annual Meeting. Despite the huge influx of papers, our division submitted the session slate in time, meeting the deadline. THD once again received more papers than any other division at this meeting. We will host a total of 12 sessions. Despite these good numbers, reviewer participation at this meeting has been mediocre.

Below are two graphs showing submission trends for the ANS meetings. We note that the 2012 Winter Meeting and 2014 and 2016 Annual Meetings do not include the papers submitted to ATH.



Reconciled review recommendations for the summaries are as follows:

	4	Accept
	57	Accept with Revision (A/R)
	12	Reject Unless Revised (R/R)
	6	Reject
Total	79	

We note that rejection rates (R/R+R) are steady in recent years at roughly 20%. After another round of rigorous review process for the revised R/R summaries, a total of 69 summaries are

included in the eleven THD summary sessions at this conference. There will be no poster session sponsored by THD at this meeting.

Overall, the review participation was sufficient. All the papers received adequate review on a timely basis. Many thanks to our dedicated reviewers! The distribution is as follows:

	Summaries	# of reviews
	57	2
	16	3
	4	4
	2	5
Total	79	188

There were 188 review recommendations that needed to be coordinated from 32 reviewers. The average number of reviews per paper was ~2.35, quite low for the standards of THD. Again, reviewer participation was not great at this meeting, confirming a troubling trend. We had a low number of reviewers who helped with the peer review process, among the lowest in the last 3 years, although better than the recent winter meeting. The reviewers' support is much appreciated, but we need to stimulate more participation.

Most recent reviewer participations were as follows:

Philadelphia	188 reviews from	32 reviewers
D.C.	222 reviews from	28 reviewers
San Francisco	264 reviews from	39 reviewers
Las Vegas	337 reviews from	45 reviewers
New Orleans	87 reviews from	20 reviewers (General meeting)
San Antonio	135 reviews from	28 reviewers
Anaheim	212 reviews from	33 reviewers
Reno	80 reviews from	17 reviewers (General meeting)
D.C.	284 reviews from	29 reviewers
Atlanta	137 reviews from	23 reviewers
San Diego	129 reviews from	22 reviewers
Chicago	116 reviews from	17 reviewers
D.C.	179 reviews from	22 reviewers
Hollywood	148 reviews from	14 reviewers
Las Vegas	181 reviews from	20 reviewers
San Diego	102 reviews from	21 reviewers
D.C.	135 reviews from	22 reviewers
Atlanta	191 reviews from	25 reviewers
Reno	73 reviews from	11 reviewers
Anaheim	89 reviews from	19 reviewers

The following individuals contributed to the reviews (first round) of the summaries:

<u>Reviewer</u>	<u># of summaries reviewed</u>
E. Merzari	24
B. W. Yang	23
I. Bolotnov	14
J. Feng	12
J. Cambareri	10
L. Carasik	10
R. Hu	10
J. Riznic	10
S. Lomperski	6
R. Vaghetto	6
L. Zou	6
A. Khanna	5
T. Marshall	5
R. P. Martin	5
C. Poresky	5
D. Shaver	5
F. Aydogan	3
S. Benhamadouche	3
M. Chen	3
F. B. Cheung	3
D. Lisowski	3
Y. Addad	2
S. Amdt	2
C. Brooks	2
P. Ferroni	2
M. Li	2
F. Roelofs	2
D. Guillen	1
S. Lorenzi	1
S. Mimouni	1
P. Sabharwall	1
X. Sun	1
Total	188

We also thank the reviewers that helped with the second round of reviews and in particular Dr. Xiaodong Sun, who was instrumental in providing useful comments to the R/R papers.

THD has a total of twelve (12) sessions including 1 panel. Two additional sessions are cosponsored with RPD, with RPD as the primary host. The papers for these sessions are not accounted for in the statistics and the tables:

The Nuclear Energy Advance Modeling and Simulation (NEAMS) Workbench—I [Wed 1:00 pm]
 The Nuclear Energy Advance Modeling and Simulation (NEAMS) Workbench—II [Wed 4:30 pm]

If these sessions are accounted for the THD total papers are 82. The THD-only 12 sessions are:

Monday

Two-Phase and Heat Transfer Fundamentals [Mon. 1:00 pm]

Tuesday

Molten Salt Thermal Hydraulics and Mass Transport [Tues. 8:00 am]
 Multiscale Thermal Hydraulics [Tues. 3:00 pm]
 Natural Circulation and Reliability of Natural Circulation Phenomena and Associates Systems [Tues. 3:00 pm]
 Computational Fluid Dynamics Codes for Nuclear Thermal Hydraulics Applications–Panel [Tues. 4:30 pm]

Wednesday

Experimental Thermal Hydraulics—I [Wed. 8:00 am]
 Computational Thermal Hydraulics—I [Wed. 8:00 am]
 Computational Fluid Dynamics [Wed. 1:00 pm]
 Thermal Hydraulic Analysis in Support of Severe Accident Management [Wed. 4:30 pm]
 General Thermal Hydraulics [Wed. 4:30 pm]

Thursday

Experimental Thermal Hydraulics—II [Thurs. 8:00 am]
 Computational Thermal Hydraulics—II [Thurs. 8:00 am]

Session	# of papers	Time Slot	Location	Chairs
Two-Phase and Heat Transfer Fundamentals	7	Mon. 1:00 pm	Franklin 6	Seungjin Kim, Fan Bill Cheung
Molten Salt Thermal Hydraulics and Mass Transport	9	Tue. 8:00 am	Franklin 6	Raluca Scarlat, Xiaodong Sun
Multiscale Thermal Hydraulics	3	Tue. 3:00 pm	Franklin 6	W. David Pointer
Natural Circulation and Reliability of Natural Circulation Phenomena and Associates	3	Tue. 3:00 pm	Franklin 7	Hisashi Ninokata
Computational Fluid Dynamics Codes for Nuclear Thermal Hydraulics Applications–Panel	-	Tue. 4:30 pm	Franklin 6	Lane Carasik, Dillon Shaver
Experimental Thermal Hydraulics—I	7	Wed. 8:00 am	Franklin 6	Wade Marcum, Marilyn Delgado
Computational Thermal Hydraulics—I	9	Wed. 8:00 am	Franklin 7	Ling Zou, Si Young Lee

Computational Fluid Dynamics	7	Wed. 1:00 pm	Franklin 6	Igor Bolotnov, Jonathan Lai
Thermal Hydraulic Analysis in Support of Severe Accident Management	5	Wed. 4:30 pm	Franklin 6	John Luxat
General Thermal Hydraulics	5	Wed. 4:30 pm	Franklin 7	Donna P. Guillen
Experimental Thermal Hydraulics—II	7	Thu 8:00 am	Franklin 6	Bao-Wen Yang
Computational Thermal-Hydraulics—II	7	Thu. 8:00 am	Franklin 7	Elia Merzari, Kurshad Muftuoglu
Total	69			

Additional Notes:

- All paper presentations are 25 minutes each.