

## 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, June 11, 2017  
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. Ferroni, 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, Xiaodong 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 costal 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. Muftougolu*

*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 Ferroni (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. Muftuolgu 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*

**Attachment A**  
THD Program Committee Sign-In Sheets

<u>NAME</u>	PC	TND	attendance <u>email</u>	1/2	<u>PC member?</u>
DAVE POINTER			pointerwd@ornl.gov		✓
Yassin Hassan			x-hassan@tamu.edu		✓
SAMA BILBAO Y LEÓN			SBILBAO@VCU.EDU		
Fatih Aydoğan			fatih@uideh.edu		✓
Wade Marcum			wade.marcum@oregonstate.edu		✓
Raluca Scarlat			rosscarlat@wisc.edu		
Jouni Luxat			luxatj@mcmaster.ca		✓
Chul-Hwa SONG			chsong@ketri.re.kr		✓
Seungjin Kim			seungjin@purdue.edu		✓
MARIA JHILANOVIA			mnavramo@ncsu.edu		✓
Dillon Shaver			dshaver@cal.gov		
Lane Carasik			Lcar722@gmail.com		✓
Xiaodong SUN			xdsun@umich.edu		✓
STEVEN ARNDT			stevan.arndt@nrc.gov		✓
PIYUSH SACHDEVAN			piyush.sachdevan@inl.gov		✓

<u>NAME</u>	PC TID	attendance	2/2	<u>EMAIL</u>	<u>PC memb</u>
Igor Bolotnov				igor_bolotnov@ncsu.edu	✓
CESARE FREPOLI				frepolc@fpolisolutions.com	✓
Stephen Heagy				steveheagy@fpolisolutions.com	
Si Young Lee				si.lee@srnl.doe.gov	✓
Jong H. Kim				kimj@kaist.ac.kr	✓
F. Bin Chang				fxcy@psu.edu	✓
Bao Wen Yang				bwj@mail-edu.cn bwj@uniposocietas.com	✓
KURSHAD MUFTUOGLU				kurshadmuftuoglu@gp.com	✓
Hisashi NINOKATA				hisashi.ninokata@polmi.it	✓
Yong Hoon Jeong				jeongyh@kaist.ac.kr	✓
Ling Zou				ling.zou@intl.gov	✓
Robert (Trip) Dacus				rwdacus@gmail.com	
Jun Fanp				jfanp3@ncsu.edu	



**Attachment B**  
Draft Agenda

**PROPOSED AGENDA**

American Nuclear Society – Thermal Hydraulics Division  
Program Committee Meeting  
Hyatt Regency, San Francisco, CA  
2:30 – 4:30 PM, Sunday, June 11, 2017  
Location: Pacific I

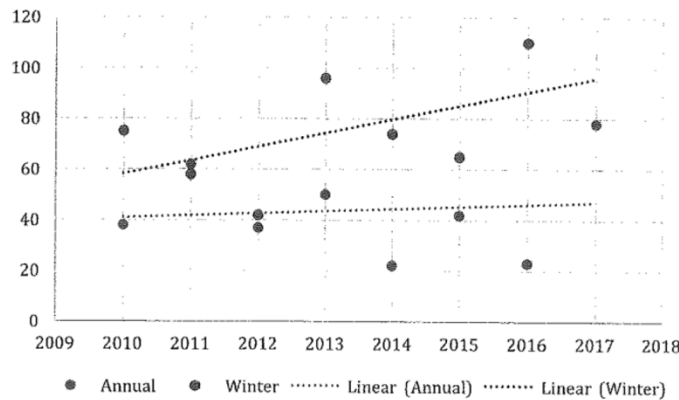
1. **Opening** (Merzari)
2. **Approval of Meeting Agenda** (All)
3. **Approval of Minutes** from 2016 November Meeting (All)
4. **Update on THD Sessions for the ANS 2017 Annual Meeting** (Merzari/ Bolotnov/ Pointer)
  - a. General Meeting: Submittal Statistics, Reviews, and Session Assignments
5. **Update on THD Program for the Upcoming 2017 Winter Meeting** in Washington, DC (Merzari)
  - a. General meeting: Announced Sessions, Deadlines/Submittal Status
6. **Planning for the Future 2018 Annual Meeting** in Philadelphia, PA (Merzari/Bolotnov)
  - a. Proposed Sessions/Organizers
7. **Journal Special issues**
  - a. NURETH-16 (X. Sun)
8. **NURETH-17 Update** (Yang)
9. **ATH'18 Update** (Merzari)
10. **ICAPP'18 Update** (Sun)
11. **NUTHOS-12 Update** (Sun)
12. **NURETH-18 Update** (Merzari/Bolotnov)
13. **Old Business** (All)
  - a. PC membership (Merzari)
  - b. Review of the reviewer pool (Merzari)
  - c. Excellence in Review awards (Merzari)
14. **New Business** (All)

## Attachment C 2017 ANS Annual Meeting Report

### ANS 2017 Annual Meeting, San Francisco, CA

E. Merzari and I. Bolotnov

A total of 78 summaries were submitted to the proposed sessions sponsored by Thermal Hydraulics Division at the ANS 2017 Annual 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. Despite the huge influx of papers, our division submitted the session slate in time, meeting the deadline. THD once again will host more papers and sessions (12) than any other division at this annual meeting. The submission numbers for the annual meeting marks the peak of the last 8 years.



Reconciled review recommendations for the summaries are as follows:

	0	Accept
	50	Accept with Revision (A/R)
	19	Reject Unless Revised (R/R)
	9	Reject
Total	78	

After another round of rigorous review process for the revised R/R summaries, a total of 66 summaries are included in the twelve THD summary sessions at this conference. There will be no poster session 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
19	2
25	3
21	4
11	5

	2	6
Total	78	264

There were 264 review recommendations that needed to be coordinated from 39 reviewers. Reviewer participation was great for this meeting. We had a good number of reviewers who helped with the peer review process! The reviewers' support is much appreciated. We note a significant and welcome expansion of the reviewer pool. Most recent reviewer participations were as follows:

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
H. Chang	30
I. Bolotnov	24
J. Luxat	24
E. Merzari	23
L. Carasik	14
D. Aumiller	12
E. Baglietto	12
S. Arndt	11
J. Fang	8
F. Aydogan	7
C. S. Brown	7
S. Lomperski	7
B. W. Yang	7
S. Revankar	7
J. Riznic	7

F. Roelofs	7
J. Feng	6
L. Zou	5
R. Hu	5
Y. Liu	4
S. Kim	4
B. Sarikaya	4
C. Gerardi	3
T. Marshall	3
F. B. Cheung	3
P. Sabharwall	2
J. Thomas	2
W. Marcum	2
M. Adorni	2
Y. Yu	2
M. Li	2
M. Chen	2
D. Shaver	2
X. Sun	2
S. Shi	1
B. Bromley	1
M. Zimmer	1
Y. Addad	1
P. Ferroni	1
<hr/>	
Total	264

We also thank the reviewers that helped with the second round of reviews.

THD has a total of twelve (12) sessions, ALL paper sessions at this Annual Meeting. Two sessions are co-sponsored with other divisions: One with RPD and the other with MCD. These 12 sessions are:

**Monday**

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

**Tuesday**

Advances in CTF and Multiphysics Coupling [Tues. 8:00 am]

Current Verification and Validation Efforts of Multiphysics Packages (MCD) [Tues. 9:40 am]

Research and Test Reactors (RPD) [Tues. 8:00 am]

Experimental Thermal-Hydraulics: High Resolution Experiments—I [Tues. 1:00 pm]

**Wednesday**

Experimental Thermal-Hydraulics—II [Wed. 8:00 am]

Thermal-Hydraulics: General—I [Wed. 8:00 am]

Computational Thermal-Hydraulics: Computational Fluid Dynamics—I [Wed. 1:00 pm]

Thermal-Hydraulics: General—II [Wed. 4:30 pm]  
 Large Eddy Simulation and Direct Numerical Simulation [Wed. 4:30 pm]

**Thursday**

Thermal-Hydraulics of Advanced Reactor and Fuel Concepts [Thurs. 8:00 am]  
 Computational Thermal-Hydraulics—II [Thurs. 1:00 pm]

Session	# of papers	Time Slot	Location	Chairs
Two Phase Flow and Heat Transfer Fundamentals *	7	Mon. 1:00 pm	Pacific Concourse E	S. Kim, D. Shaver
Advances in CTF and Multiphysics Coupling	3	Tue. 8:00 am	Pacific Concourse E	C. Frepoli, M. Avramova
Current Verification and Validation Efforts of Multiphysics Packages (with MCD)	5	Tue. 9:40 am	Pacific Concourse E	T. Pandya, Y. Hassan
Research and Test Reactors (RPD)	(6)	Tue. 8:00 am	Pacific Concourse G	F. Heidet
Experimental Thermal-Hydraulics: High Resolution Experiments—I	7	Tue. 1:00 pm	Pacific Concourse E	B. Yang, R. Vaghetto
Experimental Thermal-Hydraulics—II	7	Wed. 8:00 am	Pacific Concourse E	F.B. Cheung, M. Delgado
Thermal-Hydraulics: General—I	7	Wed. 8:00 am	Pacific Concourse H	S. Arndt, F. Aydogan
Computational Thermal-Hydraulics: Computational Fluid Dynamics—I	7	Wed. 1:00 pm	Pacific Concourse E	W. D. Pointer, J. Fang
Large Eddy Simulation and Direct Numerical Simulation	5	Wed. 4:30 pm	Pacific Concourse H	L. Carasik, I. Bolotnov
Thermal-Hydraulics: General—II	5	Wed. 4:30 pm	Pacific Concourse E	S. Y. Lee, W. Marcum
Thermal-Hydraulics of Advanced Reactor and Fuel Concepts	8	Thu. 8:00 <sup>am</sup> pm	Pacific Concourse E	X. Sun, P. Sabharwall
Computational Thermal-Hydraulics—II	5	THUR 1 pm <del>Wed. 8:00 am</del>	Pacific Concourse E	J. Luxat, E. Merzari
<b>Total</b>	<b>66</b>			

**Additional Notes:**

- All paper presentations are 25 minutes each.

- Following the Monday afternoon session, the award ceremony for the first THD Excellence in Review award will take place. Please join us to congratulate our outstanding reviewers.
- The papers for the session with RPD were handled by RPD and are not counted in the present report toward any statistics. Considering those papers, the total number of presented papers is 72.

# Attachment D

## 2017 ANS Winter Meeting Report

### ANS 2017 Winter Meeting, Washington, DC

E. Merzari and I. Bolotnov

The 2017 Annual Meeting will be held October 29-November 2, 2017 in Washington, DC at the Marriott Wardman Park. The call for papers for THD was approved last November by the PC. THD is soliciting papers for 11 sessions.

The sessions are:

- Thermal Hydraulics General – Maria Avramova and Lane Carasik
- Computational Thermal Hydraulics– Donna Guillen and Fatih Aydogan
- Experimental TH– Xiaodong Sun and Rodolfo Vaghetto
- Two-Phase Flow Fundamentals – Yang Liu and Dave Pointer
- Invited Session – Showcase of Experimental Capabilities in the US – Sama Bilbao y Leon, Paolo Ferroni and Yassin Hassan
- Thermal Hydraulics for Nuclear Space Applications: Panel – Fatih Aydogan and Lane Carasik
- Young Professionals Thermal Hydraulics Paper Competition – Paolo Ferroni and Rui Hu
- Thermal Hydraulic Collaborations in Industry, Academia and Labs: Panel – Elia Merzari, Sama Bilbao y Leon and Phil Sharpe
- Thermal Hydraulics of Advanced Reactors – Hisashi Ninokata and Rodolfo Vaghetto
- Thermal Hydraulics in Non-power Applications – Donna Guillen and Si Young Lee
- Severe Accident Modeling and Experiments for Advanced Reactor Safety – A. Tentner

The submission website is open at:

<http://epsr.ans.org/meeting/?m=149>

	Submission Period	Review Period
Summaries	April 1, 2017, 12:00am – May 31, 2017, 11:59pm	May 1, 2017, 12:00am – June 7, 2017, 11:59pm

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

**Attachment E**  
NUTHOS-12 Report