



THERMAL HYDRAULICS DIVISION NEWSLETTER

Fall 2015

Message from the Chair



Dear THD Members,

I am pleased and honored to serve as the chair of the American Nuclear Society's Thermal Hydraulics Division. Along with my fellow officers (Prof. Seungjin Kim, Vice-Chair/Chair-Elect; Dr. Kurshad

Muftuoglu, Secretary; Dr. David Pointer, Treasurer), I hope to lead the division through another successful year. Only one-third of the way through my term, it has already been another busy year for the THD.

I write to you approximately six weeks after the conclusion of NURETH-16 (16th International Topical Meeting on Nuclear Reactor Thermal Hydraulics) in Chicago, IL. The NURETH series of meetings has been the world's preeminent nuclear thermal hydraulics conference for over 30 years and 16th edition extended this fine tradition. Over 600 papers were presented in technical sessions. The quality of the papers was excellent, making the task of selecting 7 best paper winners (one per track) and 2 young professional award winners exceptionally difficult. On behalf of the THD, I wish to thank the many THD members who participated in organizing the meeting, writing and reviewing papers, and journeying to Chicago to put on this highly successful conference. The next NURETH will be in Xi'an, China in 2017.

I had the pleasure of addressing the attendees of NURETH-16 at the opening plenary. As I was preparing my remarks, I could not help but think of the enormous changes thermal hydraulics, and nuclear power generally, have gone through in the 8

years since NURETH was last held in the United States (NURETH-12 in Pittsburgh, 2007). Research programs around the world have shifted, with high-fidelity computations enjoying an ever-increasing fraction of thermal hydraulic research attention, while the unfortunate events in 2011 in Fukushima have led to a resurgence of severe accident studies. The nuclear renaissance has slowed in the United States and other Western countries, but has continued (and even accelerated) in China and other nations.

These past years have been a time of change and renewal for the division as well. The terms of seven sets of THD officers have come and gone since Pittsburgh, with countless other members becoming involved in division governance. We've seen a particular influx of young members (including me). Nearly 40% of THD members are students or young professionals and the growth in this fraction shows no signs of slowing down.

As any regular reader of our newsletters knows, however, the thermal hydraulics community has lost a saddening number of our senior leaders over the last 8 years. In this vein, I regret to inform you that Professor Mujid Kazimi of MIT died this summer while attending in an international advisory committee at Harbin Engineering University in China. Professor Kazimi was a fellow of ANS, a member of the National Academy of Engineering, and the 2009 winner of the THD Technical Achievement Award. He was also a world-class educator, training around 100 graduate students and hundreds more undergraduates at MIT, as well as contributing to the training of thousands more through his textbook (co-authored with Professor Neil Todreas). Professor Kazimi will be missed by his colleagues and fellow researchers and educators around the world, as well as by his personal friends and family.

Despite the short time that has elapsed since NURETH, THD will have a strong presence at the 2015 ANS Winter Meeting in Washington, DC this November. There are over 50 papers set to be presented in technical sessions along with two panel sessions (on Thermal Hydraulics Education and on Thermal Hydraulic Challenges and Opportunities in the Licensing of Advanced Reactors). In addition, meetings are scheduled from 2:30 to 6:00 pm Sunday (immediately prior to the President's reception) to discuss the future Program and Governance of the Thermal Hydraulics Division. All members interested in getting more involved in the division, including students and young professionals, and encouraged to attend. Please check the final program for the location of these meetings.

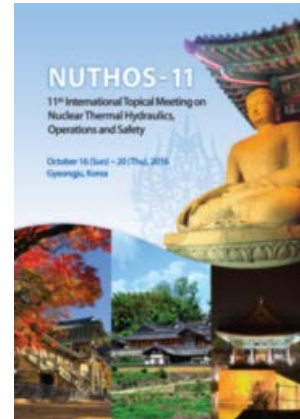
I invite your comments, questions, and suggestions on division activities via e-mail or at professional meetings and look forward to meeting many of you (whether for first or fiftieth time) in Washington, DC in a few weeks.

Regards,

DuWayne Schubring, Ph.D.
2015-6 THD Chair
Assistant Professor, University of Florida
dschubring@ufl.edu

Upcoming THD Conferences

- International Topical Meeting on Advances in Thermal Hydraulics 2016 (**ATH'16**) embedded as a part of 2016 ANS Annual Meeting (New Orleans, LA): June 12-16, 2016.
- 11th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety (**NUTHOS-11**) Gyeongju, Korea October 9-13, 2016.



- 17th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (**NURETH-17**) Xi'an, Shaanxi, China September 3-8, 2017.

Honors and Awards Committee Report

2015 Thermal Hydraulics Division (THD) Technical Achievement Award

The Technical Achievement Award is the highest award given by the THD. It is presented annually to a member of the THD in recognition of outstanding past or current technical achievement. It is based on a major contribution to the state of the art, an important publication, a major technical achievement, or a sustained record of accomplishment and technical excellence in the art or science of thermal hydraulics.



This year, we are pleased to recognize Professor Mohamed S. El-Genk, Regents' Professor of Nuclear, Mechanical, Chemical and Biological Engineering and Founding Director of the Institute for Space and Nuclear Power Studies at the University of New Mexico as the 2015

Technical Achievement Award winner. Professor El-Genk is recognized for his outstanding contributions to the areas of space nuclear power thermal hydraulics, natural and combined convection heat transfer, boiling and two-phase flow, advanced reactor concept design and, as indicated by the citation that will appear on his award plaque, “in recognition of his exceptional contributions to the understanding of terrestrial and space reactor thermal hydraulics phenomena and for his impact on the thermal hydraulics community as a researcher, educator, and leader.”

As an ANS National Award, Prof. El-Genk will be formally recognized at the President's Special Session, on Monday, November 9, 2015 at the ANS 2015 Winter Meeting.

2015 Best Paper Award

The Best Paper Award is given annually for the best full paper presented at one of the previous year's Division sponsored thermal hydraulics sessions or topical meetings. The award is made on the basis of originality, creativity, impact and scientific integrity. Recommendations for the Best Paper Award come from chairs of technical meeting sessions and from members at-large (through the Program Committee Chair).

This year, the Best Paper Award was selected from among nominees from NUTHOS-10 and NURETH-16. The 2015 THD Best Paper Award winner is—

“Use of White Noise in TRACE/PARCS Analysis of ATWS with Instability” by Tarek Zaki and Peter Yarsky, published in the Proceedings of the 16th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-16), Chicago, Illinois, August 30-September 4, 2015.

THD Award Ceremony and TAA Lecture

Recipients of the THD awards will be honored at the THD Award Ceremony, which will be held immediately following the Tuesday morning panel, “Thermal Hydraulics Education” at this year's ANS

Winter Meeting. During this event, Professor El-Genk will honor us with the TAA Lecture, “A Journey with Thermal-Hydraulics.”

Please join us in congratulating all the THD award recipients and enjoy the TAA lecture, November 10. Congratulations to all our 2015 honorees!

Brian Woods
Oregon State University
2015-2016 Honors and Award Committee Chair
ANS Thermal Hydraulics Division
brian.woods@oregonstate.edu

Program Committee Report

The strong THD presence at the ANS national meetings continues after a very positive 2015 ANS Annual Meeting where a total of 33 summaries were presented at six THD-sponsored sessions. The interest and participation to the technical sessions organized by our division have maintained at a very high level at the upcoming 2015 ANS Winter Meeting. Thanks to the support of the session organizers, contributing authors and panelists, and reviewers, the program committee has put together another strong arrangement of sessions for the meeting.

At the 2015 Winter Meeting in Washington, DC, THD is organizing a total of nine contributed summary sessions and two panel sessions. A total of 65 summaries were submitted, out of which, based on the reviewer recommendations, a total of 55 summaries are expected to be presented at this Winter Meeting. Again, let us take this opportunity to thank the session organizers and reviewers for their wonderful efforts: nearly 200 reviews were completed for this Winter Meeting (on average, over 3 reviews per paper). These sessions, in chronological order, are:

Two-Phase Flow [Mon. p.m.]
Thermal Hydraulics: General – I [Tues. a.m.]
Thermal Hydraulics Education – Panel [Tues. a.m.]

Experimental Thermal Hydraulics – I [Tues. p.m.]
 Young Professional Thermal Hydraulics Research
 Competition [Wed. a.m.]
 Computational Fluid Dynamics (CFD) V&V [Wed.
 a.m.]
 Thermal Hydraulic Challenges and Opportunities in
 the Licensing of Advanced Reactors – Panel [Wed.
 p.m.]
 Computational Thermal Hydraulics – I [Wed. p.m.]
 Computational Thermal Hydraulics – II [Wed. p.m.]
 Experimental Thermal Hydraulics – II [Thurs. a.m.]
 Thermal Hydraulics: General – II [Thurs. p.m.]

The Thermal Hydraulics Division Award Ceremony will immediately follow the Thermal Hydraulics Education Panel session at 11:00 am Tuesday. This year's Technical Achievement Award recipient, Professor Mohamed El-Genk, will present a TAA lecture titled "A Journey with Thermal-Hydraulics: LWRs, VHTRs, SMRs and Space Reactors."

The 2016 Annual Meeting will be held in New Orleans, LA. For that meeting, our division is planning to sponsor "Embedded Topical Meeting on Advances in Thermal Hydraulics –2016 (ATH'16)" in addition to a "Thermal Hydraulics: General" session for the general meeting. Following the two successful embedded topical ATH meetings in 2012 and 2014, the Division is sponsoring this ATH series for the third time. Professor Fan Bill Cheung and Dr. Michio Murase serve as conference general chairs. Dr. David Aumiller, Prof. Seungjin Kim, and Prof. Simon Walker are technical program chairs with Dr. Elia Merzari and Prof. Xiaojing Liu as the assistant technical program chairs. A copy of Call for Papers for this Annual Meeting can be found at http://www.ans.org/meetings/c_1. The websites are now open for summary (<http://epsr.ans.org/meeting/?m=146>) and ATH'16 paper submission (<http://epsr.ans.org/meeting/?m=236>). The published deadline for the submission is January 15, 2016.

The 16th Internal Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-16) was held in Chicago from August 30–September 4, 2015. A total of 677 papers were included in the conference

final program and nearly 700 colleagues attended the conference. A more detailed summary of the conference is included in this newsletter.

The 11th International Topical Meeting on Nuclear Thermal Hydraulics, Operation and Safety (NUTHOS-11) will be held on October 9-13, 2016 in Gyeongju, Republic of Korea. The conference is sponsored by Korean Nuclear Society (KNS) and co-sponsored by ANS in cooperation with other international nuclear societies. The deadline for abstract submission is December 15, 2015. Please see the conference website <http://www.nuthos-11.org> as well as an article on NUTHOS-11 in this newsletter for more details about the conference.

The 17th Internal Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-17) will be held in Xi'an, China on September 3-8, 2017. More details about the conference are included in an article on NURETH-17 in this newsletter.

In Washington, DC, next month, the THD Program Committee meeting will be held on Sunday November 8, 2015, starting at 2:30 p.m in room Maryland A. Anyone interested in the program committee activities are invited to participate.

Finally, we would like to express our gratitude to all of the colleagues who devote your time to the Division's activities. Thanks to your dedicated efforts, we are able to put together strong programs at many meetings. These meetings remain as the prominent venue for scientific information exchange in the thermal-hydraulics community. As always, we would like to encourage our members to actively participate by attending our meetings, submitting papers/summaries, volunteering to organize sessions, and supporting the peer-review of the papers. We look forward to many more successful years.

Xiaodong Sun, Ohio State University
 2013-16 THD Program Committee Chair
 Elia Merzari, Argonne National Laboratory
 2013-16 THD Program Committee Assistant Chair
PCChair@thd-ans.org

Treasurer's Report

Our division holds two separate accounts: one general and one scholarship/awards account (formerly referred as the endowment account). Spending from the general account is unrestricted up to the total value of the account, as long as the transactions are approved by the division executive committee. Spending from the awards account is restricted to ensure the long term availability of the fund to support the THD awards.

The general fund is supported by membership dues and income from conferences hosted by the division. The scholarship/awards account has primarily been funded by generous donations from the organizers of conferences supported by the division.

According to the HQ accounting, the 2014 year-end scholarship/awards fund balance was \$39,062. Of this amount, \$20,576 is under temporarily restricted funds, and the rest, \$18,485, is under board-designated assistance funds. The spending limit for 2015 is 9.24%, providing \$3,609 for potential allocation.

In 2015, the Atomic Energy Society of Japan (AESJ) generously donated \$4000 to the scholarship/award fund following the successful completion of NUTHOS-10. This donation will bring the total balance to \$43,062. Investment gains will be applied at the end of the year and an updated spending limit will be calculated at that time.

The general account balance is summarized below:

2015 Division Financial Report

Balance forward from 2014	\$16,794
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2015 Income	\$1,152
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Revenue from 2015 member allocation (through 6/30/2014)	<u>\$1,152</u>
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2015 Expenses

THD expenses incurred in 2015 as of October 27th are as follows:

- | | |
|--|---------|
| • Awards and plaques | \$54.50 |
| • Student Support | \$1,000 |
| (includes \$500 for HQ-directed student support and \$500 for the ANS Student Conference.) | |
| • Other expenses (USPS postage): | \$20 |

David Pointer,
pointerwd@ornl.gov
2015-2016 Treasurer
ANS Thermal Hydraulics Division

Nominating Committee Report and Division Contact Information

Current Division Officers and Executive Committee members are listed below.

Current THD Officers (July 2015 – June 2016)

Division Chair:

DuWayne Schubring, dlschubring@ufl.edu

Vice Chair/Chair-Elect:

Seungjin Kim, skim@psu.edu

Secretary:

Kurshad Muftuoglu, kurshad.muftuoglu@ge.com

Treasurer:

W. David Pointer, pointerwd@ornl.gov

Executive Committee Members

Fan-Bill Cheung (2017) fxc4@psu.edu

Jong Kim (2017) jongkim@mail.kaist.ac.kr

Seungjin Kim (2016) skim@psu.edu

Kurshad Muftuoglu (2016)

kurshad.muftuoglu@ge.com

DuWayne L. Schubring (2016) dlschubring@ufl.edu

W. David Pointer (2016) pointerwd@ornl.gov

Xu Cheng (2018) xu.cheng@kit.edu

Paolo Ferroni (2017) ferronp@westinghouse.com

Donna P. Guillen (2017) donna.guillen@inl.gov

Chul-Hwa Song (2018) chsong@kaeri.re.kr

Igor A. Bolotnov (2016) igor_bolotnov@ncsu.edu

Lane B. Carasik (2016) lcarasik@tamu.edu

Elia Merzari (2016) emerzari@anl.gov
 Michio Murase (2016) murase@inss.co.jp
 Donald Todd (2016) donald.todd@angstrom.tech
 Wade R. Marcum (2017)
 wade.marcum@oregonstate.edu
 Jeffrey W. Lane (2018) LaneJW@zachrygroup.com
 Philippe M. Bardet (2018) bardet@gwu.edu
 Si Young Lee (ex-officio) si.lee@srnl.doe.gov
 Hans Gougar* hans.Gougar@inl.gov

* *Chair of the ANS Professional Divisions Committee, ex-officio member without vote*

Committee Chairs (July 2015– June 2016)

Program Committee:

Xiaodong Sun, sun.200@osu.edu

Honors and Awards Committee:

Brian Woods, woodsb@engr.orst.edu

Nominating Committee:

Si Young Lee, si.lee@srnl.doe.gov

Membership Committee:

Si Young Lee, si.lee@srnl.doe.gov

The Nominating Committee is responsible for the nomination of THD members to leadership positions on both the Program and Executive Committees. The THD would like to encourage members interested in becoming more involved to contact one of the officers listed above. In particular, the division is usually in need of volunteers for technical meeting session organizers and paper reviewers.

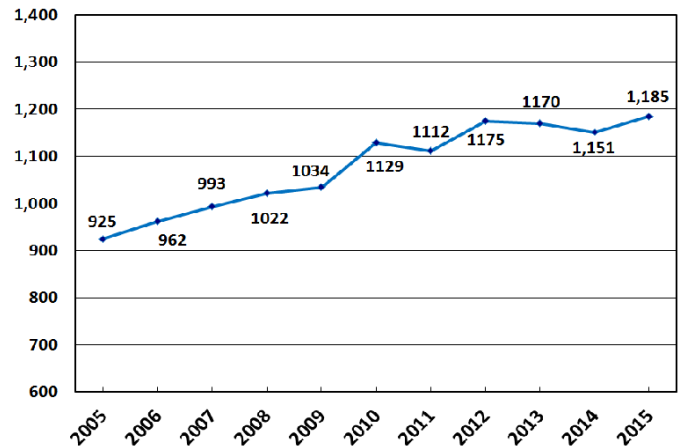
Si Young Lee
 Savannah River National Laboratory
 2015-2016 Nominating Committee Chair
 ANS Thermal Hydraulics Division
 si.lee@srnl.doe.gov

Membership Committee Report

As shown in the THD Annual Membership graph below, the division membership steadily grew over the past ten years considering some fluctuations. We now boast 1185 members, representing about 11% of

the total ANS membership with about 20% THD student members in 2015. From 2005 through 2012, the percentage of ANS members that chose to THD members has steadily increased. The student membership in THD has similar trends to the overall membership. It has increased approximately 27% from 2005 to 2012 before leveling out.

Thermal Hydraulics Annual Membership



In addition to healthy overall and student membership trends, THD members come from all aspects of the nuclear industry, representing students, universities, consulting firms, National Labs, utilities, and architects/construction firms. The THD Membership Committee (MC) cordially invites you to become a member of the Division and participate in the Division's activities. Current activities of the Division include paper review, paper presentation, organizing and chairing technical sessions, sponsoring topical meetings, serving on the various subcommittees, and supporting student conferences. If you are interested in becoming a member of THD, you can contact ANS MC directly. If you are currently a member and interested in any of the above activities, please contact any of the THD Officers.

Si Young Lee
 Savannah River National Laboratory
 2015-2016 Membership Committee Chair
 ANS Thermal Hydraulics Division
 si.lee@srnl.doe.gov

Young Professional Report

The Thermal-Hydraulics Divisions is organizing its annual "Young Professional Thermal Hydraulics Research Competition", to be held during the 2015 ANS Winter Meeting. This competition has received a sustained stream of summaries in recent years, demonstrating the continued interest in this activity. This edition of the competition will take place at 8:00 am on Wednesday November 11, 2015 at the Marriott Wardman Park Hotel (Room Washington 2) in Washington, DC. We are currently looking for volunteers to be judges.

NURETH-16 has also organized a young professional competition and over 300 full papers have entered into the contest. Two winners, selected solely on the quality of the paper have been announced at the conference banquet on Wednesday September 2, 2015:

- Carolyn P. Coyle (MIT), "Synthesis of CRUD and its Effects on Pool and Subcooled Flow Boiling," co-authored with Jacopo Buongiorno, Thomas McKrell and Robert Cohen
- Nicolas M rigoux (EdF), "Verification, Validation and Application of NEPTUNE_CFD to Two-Phase Pressurized Thermal Shocks," co-authored with J. Lavieville, S. Mimouni, M. Guingo, C. Baudry and S. Bellet

The winners received a piece of graphite from CP-1 and an engraved plaque.

The Young Members Group (YMG) is a technical group of the American Nuclear Society (ANS). YMG provides young professionals with opportunities to expand their technical knowledge and network with internationally recognized authorities and industry leaders. Part of YMG's mission is to collaborate with other Divisions and Groups in developing technical and non-technical content of particular interest to young professionals for topical and national meetings (for more information on YMG's mission check <http://ymg.ans.org/about-us/our-mission/>).

All regular ANS members 35 years old or younger, or within 5 years of their last degree are YMG members. Moreover all ANS graduate students are members of the group as well. The next YMG executive committee meeting will be held at ANS Winter Meeting 2015 in Washington, DC on Monday November 9 (11:30 AM- 1:00 PM) in room Hoover. Please come and join us!

Moreover, YMG has organized the Young Professional Congress 2015 to be held at the Marriott Wardman Park Hotel in Washington, DC on Saturday November 7, 2015. All members are invited to participate. The congress will feature a keynote lecture by recent TAA winner Dr. Jose Reyes as well as multiple session on a variety of topics ranging from work-life balance to physics code packages. For a full program consult the webpage of the ANS Winter meeting 2015 (http://www.ans.org/meetings/m_145).

Elia Merzari emerzari@anl.gov

Website Report

During this past summer a significant effort was made in collaboration between the Thermal Hydraulics Division and ANS Headquarters to convert the Division's website from its previous format to an updated format which provided improvements in aesthetics and function. Additionally the new website format aligns with a standardized organization seen from all professional division websites within the ANS. The official website of the ANS Thermal Hydraulics Division is located at <http://thd.ans.org>. The THD committee membership and minutes, conference announcements, newsletters, and awards are all updated as they change throughout each year. The website is meant to provide up-to-date information on the division's activities.

Upon completion of the website transition which took in late August 2015 a succession of Webmasters took place. Wade Marcum (Webmaster from 2012 to

2015) transitioned out of the role and Rita Patel stepped in as the acting Webmaster. To update your information or to be included in this directory, please contact the THD Webmaster.

Rita Patel
University of Pittsburg
2015-2016 ANS THD Webmaster
rita.nalin.patel@gmail.com

Highlights from NURETH-16

The Chicago Local Section of the American Nuclear Society (ANS) was the host the 16th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-16) at the Hyatt Regency Chicago, which took place from August 30 to September 4, 2015. The meeting was co-sponsored by the Korean Nuclear Society, the Chinese Nuclear Society, the Atomic Energy Society of Japan, the Chung-Hwa Nuclear Society, the Candian Nuclear Society and the Sociedad Nuclear Mexicana. NURETH-16 was the largest NURETH to date: approximately 700 people from 29 countries attended the meeting. The largest delegations included the United States (284 attendees), Korea (81 attendees) and France (61 attendees).

A plenary lecture on “Synergy Between Thermal Hydraulics and LWR Safety: Past, Present and Future” delivered on Monday August 31 by Prof. Bal-Raj Sehgal opened the technical program of the meeting. Following the plenary lecture, a “forward-looking” panel focused on current trends in thermal-hydraulics research. Moreover, a special session was held in honor of Prof. Mujid Kazimi titled “Celebrating Mujid Kazimi’s Legacy: 40 Years of Innovation in Nuclear Engineering” organized by Prof. Jacopo Boungiorno. The panel comprised Prof. Michael Corradini, Dr. Pradip Saha, Prof. Yassin Hassan and Prof. Hisashi Ninokata.

Building on the foundation of past meetings, including the NURETH-15 in Pisa, Italy, NURETH-16 has invited 12 world-class keynote speakers in the

field of thermal-hydraulics from around the world to share their research and discuss important issues related to thermal-hydraulics in nuclear reactors. Moreover, a series of panels focused on current trends in thermal-hydraulics research were also organized, including panels themed on HPC, Data-driven Thermal-hydraulics, Prediction of DNB with CFD as well as Thermal-Hydraulics Education.



Dr. Sehgal receives a special birthday present at the NURETH-16 banquet from Prof. Nam Dinh (technical program co-chair).

Over 950 abstracts and 740 full papers were submitted to NURETH-16, including over 300 papers from young professionals and graduate students. The review process involved 1800 reviews for the full paper stage alone. 677 papers (including 12 keynote papers) were included in the final program. These were organized in 124 paper sessions and 2 poster sessions, with often 10 technical sessions in parallel. Speakers had 20 minutes to present their work followed by 5 minutes of Q&A. The NURETH-16 technical program committee made a serious effort to limit as much as possible no-shows: there were 29 no-shows at the meeting.

In addition to the paper sessions, NURETH-16 featured four well-attended workshops with a particular focus on uncertainty quantification.

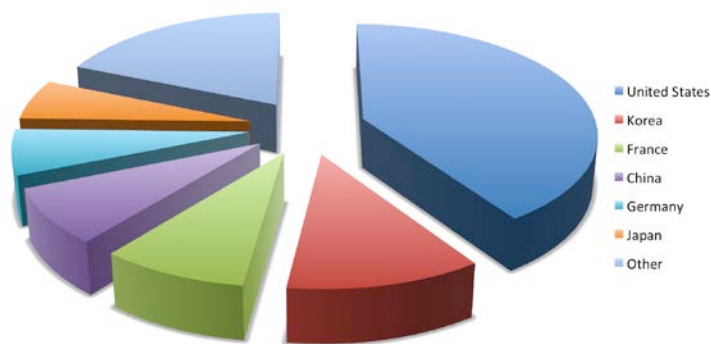
NURETH-16 has also been a venue for organizations to showcase their expertise in nuclear reactor technology. Five companies participated at the NURETH-16 expo including LaVision, CD-Adapco, RBI, Argonne National Laboratory and Xi'an Jiatong University. We note that the expo was always well attended and we hope this positive experience will lead to the continuation and increase of popularity of this venue.

Several special events were organized at NURETH-16. These included a welcome reception at the Hyatt on Sunday August 30, an architectural boat tour on Monday August 31, a Baseball Game on Tuesday September 1, 2015 and the conference banquet at the Art Institute of Chicago on Wednesday September 2, 2015. The Art Institute of Chicago is the second-largest art museum in the United States and houses a collection of over 260,000 works of art. The evening began with a cocktail reception and gallery viewing, followed by dinner in Griffin Court in the museum's modern wing.

The dinner started with an award ceremony honoring the recipients of seven best papers awards, two young professional competition awards and four special mentions for "excellence in review" (for more information on the Honors and Awards program of NURETH-16, consult the official program at http://www.ans.org/meetings/m_196).

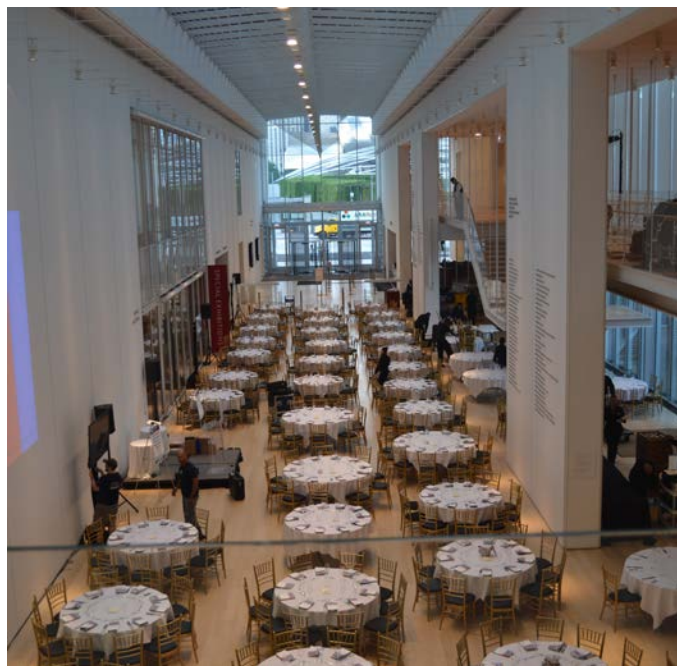
The evening continued with a special presentation by Dr. Marius Stan (Argonne National Laboratory/ TV-show "Breaking Bad") on "Science and Cinema". Perhaps the most memorable moment of the evening was the birthday celebration for Prof. Seghal. Photos of the evening are available for NURETH-16 attendees at <http://nureth16.anl.gov/downloads/>.

Finally the NURETH-16 organizing committee would like to thank the cosponsoring societies for making this international meeting a success and our sponsors without which this meeting would not have been possible! These include: Exellon, Westinghouse, CEA, CD-Apadco, LaVision, Xi'an Jiaotong University and Shangai Jiao Tong University.



Attendees distribution at the meeting by country.





The Griffin Court at the Art Institute of Chicago being prepared for the NURETH-16 banquet dinner.



Attendees enjoy the gallery viewing and reception at the Art Institute of Chicago on Wednesday September 2.

NUTHOS-11 Report

NUTHOS-11, the 11th International Topical Meeting on Nuclear Thermal Hydraulics, Operations and Safety, will take place In October 9-13, 2016 in Gyeongju, the millennial capital city of Sylla Dynasty of Korea (57 BC – 935 AD).

Endowed with Korea's long history and traditional culture, Gyeongju boasts four UNESCO world heritages: Seokguram Grotto, Bulguksa Temple, Gyeongju Historic Area, and Yangdong Village.

The conference promises to be the largest and most successful NUTHOS in both technical contents and side programs of cultural and historical nature.

We welcome you all to NUTHOS-11 and encourage you to bring your family and friends to sample the culture of Korea in the midst of splendor of Gyeongju.

Authors are invited to submit a one-page 500 word abstract (text only) to the NUTHOS-11 website <http://www.nuthos-11.org> no later than Dec. 15, 2015. The review results will be sent to the corresponding authors by the end of January 31, 2016.

Please visit the website (<http://www.nuthos-11.org/>) and ask further information by emailing to info@nuthos-11.org.

Chul-Hwa SONG, Ph.D.
NUTHOS-11 TPC Chair
Director,
Korea Atomic Energy Research Institute (KAERI)
chsong@kaeri.re.kr

NURETH-17 Report

NURETH-17 will take place for the first time ever in China, from September 3rd to September 8th, 2017 in the beautiful historical capital -- Xi'an. Since the awarding of hosting this conference in May 2015, the preparation for this conference has gone in full gear. As of today, various organizing committees have been established or nearly completed. The website for this conference has been up and running since June 15th, 2015 (<http://www.nureth17.com/> or nureth17.xjtu.edu.cn). The venue has been reserved at Xi'an International Conference Center which has over 50 conference rooms. Five hotels have been reserved with total over 900 rooms, pricing from 80 to 150 USD (tax included). The technical program at this point includes 9 topics with 67 sub-topic sections and 8 special topics. The first Call for Paper draft has been released (see attached).

Dr. Bao-Wen Yang
Dean, Professor
School of Nuclear Science and Technology
Xi'an Jiaotong University
bwy@mail.xjtu.edu.cn

Student Involvement Report

Being a Critical Member



of the Nuclear Industry

2016 ANS Student Conference

University of Wisconsin - Madison
March 31st - April 3rd, 2016

Mark your calendars! The 2016 ANS Student Conference will be hosted by the University of Wisconsin - Madison March 31st - April 3rd, 2016. Here is a sneakpeak of the conference program!

- Tours of UW-Madison's Thermal Hydraulics Laboratories

- Panel on Core Thermal Hydraulics V&V
- Tour of Fermi National Laboratory
- Tour of the decommissioned Kewaunee Nuclear Plant
- ... and much more!

Registration, Call for Summaries, and Call for Judges & Reviewers are all expected to be announced following the 2015 ANS Winter Meeting and Technology Expo.

Check out the website ANSStudentConference2016.com, follow us on Facebook (www.facebook.com/ans2016sc), or follow us on Twitter (@ANSStudent2016) to stay up to date with announcements, deadlines, and general information. Email ANSStudentConference2016@gmail.com with any questions.



First Announcement and Call for Papers

NUTHOS-11

11th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety

October 9 – 13, 2016 HICO, Gyeongju, Korea

About the Symposium

International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Operation and safety (NUTHOS) is an important series of international topical meetings in the fields of thermal hydraulics, operation, safety, and related areas. NUTHOS has served for international nuclear society as an open forum where high-quality and up-to-date information is actively discussed and exchanged among world-class experts.

NUTHOS proves to be an important series of international topical meetings in the area of thermal hydraulics, operation and safety of nuclear power plant. NUTHOS has provided the global nuclear community with an open forum where premium state-of-the art information is exchanged among the specialists and executives. Now the eleventh of the series, NUTHOS-11, calls for the up-to-the minute knowledge and leading-edge research results from both hemispheres.

It is our greatest pleasure to welcome you all to this important international conference.

Preliminary Topics

- Fundamentals of Thermal Hydraulics
- Single- and Two-Phase Flow and Heat Transfer
- Mathematical and Computational Methods
- CFD Applications to Nuclear Reactor System Design and Safety Analysis
- Subchannel Analysis
- Thermal Hydraulics and Safety of Advanced Reactors
- Plant Transients and Accidents Analysis and Testing
- Thermal Hydraulics Combined with Multi-physics Effects Including Chemical Reactions
- Severe Accidents and Degraded Core Thermal Hydraulics
- Accident Managements
- Steam Generator Thermal-Hydraulics
- Steam Generator Operation and Maintenance
- Thermal Hydraulic Loads and Flow-Induced Vibration
- Containment Analysis and Experiment
- Thermal Hydraulic Aspects of Innovative Components/Systems Design and their safety Implications
- Advances in Measurements and Instrumentations
- Plant Diagnostics and Monitoring
- Thermal Hydraulics of Waste Management, Design and Behavior of Spent Fuel Repository
- Plant Licensing Renewal and Life Extension
- Plant Simulators, Analyzers, Operator Training
- Design Codes and Standard
- PRA Applications to Design, Operation and Maintenance
- Risk-Informed and Performance-Based Regulation
- Special Topic Sessions

Website and further information

<http://www.nuthos-11.org/> (mailto: info@nuthos-11.org)

NUTHOS-11

11th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety

October 9 – 13, 2016 HICO, Gyeongju, Korea

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To be added

Important Dates

December 15,	2015	Submission of abstract
January 31,	2016	Notification of abstract acceptance
April 20,	2016	Submission of full-paper
June 15,	2016	Full-paper acceptance notification
July 15,	2016	Submission of final full-paper
August 31,	2016	Last day of pre-registration
October 9,	2016	Date of meeting

Submission of Abstract

Authors are invited to submit a one-page 500 word abstract (text only) to the NUTHOS-11

Website (<http://www.nuthos-11.org>) no later than **Dec. 15, 2015.**

The review results will be sent to the corresponding authors by the end of **January 31, 2016.**



NURETH-17



Call for Papers

September 3–8, 2017
Qujiang Int'l Conference
Center, Xi'an, China

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Important Dates

Abstract Submission Deadline: November 15, 2016

Abstract Acceptance: January 3, 2017

Full-Length Paper Submission: March 3, 2017

Review Notification: April 30, 2017

Final Paper: June 5, 2017

The proceeding will be distributed in the form of a flash drive. The page limit for NURETH-17 papers is 14 pages and the file size should be less than 10MB. Selected papers will be invited to submit for publication in a special edition of an international journal (*Nuclear Engineering and Design, Nuclear Technology, Nuclear Science and Engineering*).

About the Meeting

The Chinese Nuclear Society (CNS) and Xi'an Jiaotong University (XJTU) are pleased to host the 17th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-17) at the Qujiang International Conference Center, Xi'an, Shaanxi, China, on September 3–8, 2017. Xi'an, one of the most accessible destinations in China, is the oldest Chinese capital city for 13 dynasties. World renowned cultural heritages of the city include the Terracotta Warriors and Horses, the Mausoleum of Emperor Qin Shi Huang, the City Wall of Ming Dynasty, the Forest

of Stone Steles from the Han Dynasty, the Tang Dynasty Cultural Theme Park, the Shannxi History Museum, the Big Wild Goose Pagoda, and the Qujiang New District – just to name a few. Participants will have the opportunity to enjoy China's splendid ancient civilization in this beautiful city while attending the meeting. The weather in Xi'an is usually very nice in September.

China has the largest numbers of nuclear power plants under development in the modern world, including the on going efforts in the HTGR project and CAP1700, the highest-power PWR ever attempted by mankind. Following the success of the past NURETH meetings, NURETH-17 aims to provide a forum for international experts and researchers in the field of nuclear reactor thermal hydraulics to share their research and discuss future developments. It will also be a venue for organizations to showcase their expertise in nuclear reactor technology and exhibit their products and services to the nuclear reactor thermal-hydraulics community.

Blocks of rooms in selected world-class hotels within walking distance from the Conference Center will be reserved for NURETH-17 participants. Ground transportation from airport to these hotels will be provided to participants free of charge.

Inquiry: nureth17@mail.xjtu.edu.cn



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