

# 한일 원자력 열수력 심포지움 (NTHAS) 개최 이력

2021.8.12 현재

원자력 열수력 연구부회

# About NTHAS

- Korea and Japan are the two leading countries designing and building up-to-date nuclear power plants in the World. In the hopes to contribute to the nuclear system performance with enhanced safety, the thermal-hydraulics divisions of Korean Nuclear Society and Atomic Energy Society of Japan had initiated a biennial symposium program across the sea: Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS).
- Since the first symposium (NTHAS1) in Busan, Korea in 1998, NTHAS has provided a unique opportunity to discuss up-to-date technical information and to interact with colleagues from the neighboring countries.
- The official language of the symposium is English.
- The second to ninth meetings were held in Fukuoka (2000), Gyeongju(2002), Sapporo (2004), Jeju(2006), Okinawa (2008), Chuncheon(2010), Beppu(2012) , Buyeo(2014), Kyoto (2016) and Busan (2018) with great success in technical quality and number of participants.
- In 2020, the 12th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS12) would be held in Yokohama, Japan. But not held in cause of COVID-19.

# NTHAS 추진 조직

대회명	시기	장소	Local Org. Chair	TPC Chair	Steering Chair	General Chair	Honorary Chair	S.C. Members	비고
NTHAS-1	1998.10.21-24	Pusan	김무환	장순흥	-	전문헌	차종희		
NTHAS-2	2000.10.15-18	Fukuoka							
NTHAS-3	2002.10.13-16	Kyeongju	서균렬	박군철	장순흥	이은철	전문헌		
NTHAS-4	2004.11.28-31	Sapporo	김무환	서균렬	박군철	장순흥	이은철		
NTHAS-5	2006.11.26-29	Jeju	송철화	김무환	서균렬	박군철	장순흥		
NTHAS-6	2008.11.24-27	Okinawa	방광현	송철화	김무환	서균렬	박군철		
NTHAS-7	2010.11.14-17	Chuncheon	정재준	방광현	송철화	노희천	정문기	김효정, 김무환	
NTHAS-8	2012.12.09-12	Beppu	김한곤	방영석	백원필	김무환	노희천	송철화, 방광현, 류용호	
NTHAS-9	2014.11.16-19	부여	윤한영	정재준	방광현	송철화	김효정	백원필, 박석빈, 방영석, 서종태	
NTHAS-10	2016.11.27-30	Kyoto	방인철	윤한영	방영석	방광현	김무환	정재준, 백원필, 송철화, 조창석, 서종태, 송진호	
NTHAS-11	2018.11.18-21	부산	조형규	박현선	정재준	방영석	송철화	방광현, 백원필, 조창석, 송진호, 김한곤	
NTHAS-12	2020.11.8-11(당초) (2022 으로 연기함)	미정	이상원	하광순	윤한영	정재준	방광현		코로나-19로 2022년 개최 예정

# 역대 Plenary & Keynote

- NTHAS 8 부터 집계됨

구분	시기	장소	Plenary (Korea)	Plenary (Japan)	Keynote (Korea)	Keynote (Japan)
NTHAS-8	2012.12.9-12	Beppu	유용호(KINS)	Mishima(INSS)	송철화(KAERI), 하상준(KHNP), 홍성완(KAERI)	Sukimoto(Koyto), Mizokami(TEPCO), Narumiya(Kansai), Nakai(JAEA)
NTHAS-9	2014.11.16-19	부여	서종태(KEPCO)	Kataoka(OsakaU)	설광원(KINS), 송진호(KAERI), 이원재(KAERI)	Okano(JAEA), Nakamura(JAEA), Nakada(Toshiba)
NTHAS-10	2016.11.27-30	Kyoto	이종호(KHNP)	Naitoh(IAE)	박현선(POSTECH), 최기용(KAERI)	Nishida(Hitachi), Suzuki(JAEA)
NTHAS-11	2018.11.18-21	부산	박군철(SNU), 최기용(KAERI)	Naitoh(IAE), Yamaguchi(UTokyo)	김형대(KU), 이정익(KAIST), 방인철(UNIST)	Ito(KyotoU), Yoshida(JAEA), Masahiro(CRIEPI)
NTHAS-12	2020 개최를 2022으로 연기함	일본 (개최협의중)				

# Call for Paper –NTHAS 6 & 7

NTHAS 6 Program & Information

## NTHAS6



6th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety

**November 24-27, 2008**  
**Bankoku-Shinryokan, Okinawa, JAPAN**

**Sponsored by**

Atomic Energy Society of Japan (AESJ)  
Korean Nuclear Society (KNS)

**Organized by**

Thermal Hydraulics Division of the AESJ  
Nuclear Safety Division of KNS

## Final Announcement



## NTHAS7

**Nov.14 - 17, 2010**  
**Chuncheon, Korea**

### Program

- 11/14 (Sun.)**
  - Registration
  - Reception
- 11/15 (Mon.)**
  - Opening Ceremony
  - Plenary Session
  - Technical Sessions
  - Banquet
- 11/16 (Tue.)**
  - Technical Sessions
  - Culture Tour
- 11/17 (Wed.)**
  - Technical Sessions
  - Closing Session

### Conference Venue

Ladena Condominium,  
Chuncheon, Korea  
TEL) +82-33-240-8000  
FAX) +82-33-243-9000  
[www.ladenaresort.com](http://www.ladenaresort.com)

### Secretariat

Technical Program Chairs:  
• Prof. Kwang-Hyun Bang  
(Korea Maritime University)  
Tel: +82-51-410-4365  
[khbang@hhu.ac.kr](mailto:khbang@hhu.ac.kr)  
• Dr. H. Akimoto (JAEA)  
Tel: +81-29-282-6774  
[akimoto.hajime@jaea.go.jp](mailto:akimoto.hajime@jaea.go.jp)

## NTHAS7

**7<sup>th</sup> Korea-Japan Symposium on  
Nuclear Thermal Hydraulics and Safety**

November 14 - 17, 2010  
Ladena Condominium, Chuncheon, Korea

Sponsored by  
Korean Nuclear Society (KNS) and Atomic Energy Society of Japan (AESJ)  
Organized by  
Thermal Hydraulics Divisions of the KNS and AESJ  
Conference Website: <http://www.nthas7.org>

### About the Symposium

Korea and Japan are the two leading countries designing and building up-to-date nuclear power plants in World. In the hopes to contribute the nuclear system performance with enhanced safety, the thermal-hydraulics divisions of the KNS and the AESJ initiated a biennial symposium program across the sea: Korea-Japan Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS). Since the first symposium (NTHAS1) in Busan, Korea in 1998, NTHAS has provided a unique opportunity to discuss up-to-date technical information and to interact with colleagues from the neighboring countries. The second to sixth meetings were held in Fukuoka (2000), Gyeongju (2002), Sapporo (2004), Jeju (2006), and Okinawa (2008) with great success in technical quality and number of participants. This year, the Seventh Korea-Japan Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS7) will be held in Chuncheon, Korea. The official language of the symposium is English.

### Technical Session Topics

- Thermal Hydraulics Fundamentals
- Two-Phase Flow Experiments and Analysis
- Computational Fluid Dynamics and Heat Transfer
- Water Reactor Thermal Hydraulics and Safety
- CHF and Post-CHF Heat Transfer
- Liquid Metal Reactor Thermal Hydraulics and Safety
- Instrumentation and Measurement Techniques
- Gas Cooled Reactor Thermal Hydraulics and Safety
- Safety Analysis and Code Development
- Fusion Reactor Thermal Hydraulics and Safety
- Severe Accident Experiments and Analysis
- Thermal-Hydraulic Aspects of Plant Operation
- Fluid-structure Interactions
- Heat Exchanger Design and Turbo-machinery



# NTHAS 7

## Meeting Organization

Honorary Chairs	Prof. M. K. Chung (Pusan National Univ.)	Prof. A. Serizawa (Kyoto Univ.)
General Chairs	Prof. H. C. No (KAIST)	Prof. K. Mishima (INSS)
Advisory Committee Chairs	Prof. G. C. Park (SNU)	Prof. H. Ninokata (TIT)
Steering Committee Chairs	Dr. C.-H. Song (KAERI)	Dr. M. Ohtsuka (Hitachi)
Technical Program Committee Chairs	Prof. K. H. Bang (KMU)	Dr. H. Akimoto (JAEA)
Local Organizing Committee Chairs	Dr. J. J. Jeong (KAERI)	Prof. T. Okawa (Osaka Univ.)

## Call for papers

The NTHAS7 Program Committee is calling for contributed papers. Interested speakers are invited to submit papers.

### Submission of Summaries

Authors should submit a 400 to 500 word summary through the NTHAS7 web site <http://www.nthas7.org> no later than May 15, 2010. The summary should contain introduction, description of work, results and conclusion followed by references cited in the text. No tables and figures are to be included. Acceptance will be based on review of technical contents of the prospective paper. In order to submit a summary, authors are requested to register in the NTHAS7 web site.

### Submission of Full Papers

Authors receiving notification of summary acceptance should prepare their full-length papers. Detailed instructions for preparing full papers will be sent to the corresponding authors. The full paper must be electronically sent us through the NTHAS7 web site <http://www.nthas7.org> no later than July 31, 2010. Then, the review results will be sent to the corresponding authors by September 1, 2010. The final full-length paper, revised if required by reviewers, must be submitted no later than October 15, 2010.

### Authors' schedule

Submission of summary	May 15, 2010
Notification of summary acceptance	June 15, 2010
Submission of full-paper manuscript	July 31, 2010
Notification of full-paper acceptance and reviewers' comments	September 1, 2010
Submission of final full-paper	October 22, 2010

## Student Seminar at KAIST/KAERI in Daejeon

On November 12 and 13, there will be a two-day students seminar providing a playground for learning, information exchange and human networking. The researchers and engineers in the next generation are welcomed. The students attending the seminar will have a chance to learn the most advanced and up-to-date information about the nuclear thermal-hydraulics, as well as a privilege to expand human network through group activities and tours. The detailed information is given below.

- Lectures
  - Key note lectures (Topics and lecturers to be determined)
- Students activities and presentations
  - Presentation from the student's country representatives
  - Discussion about future research topics and human networking
  - Presentation about the group discussions
- Cultural/Technical tour
  - Chance to taste the essence of an ancient dynasty in Korea
  - Visiting research facilities and labs in KAERI and KAIST

## Registration Fees

Participants should complete their registration\* via NTHAS7 web site <http://www.nthas7.org> no later than October 15, 2010. Registration fees should also be sent to our bank account in Korean Won via bank transfer\*\* by October 15, 2010. If a participant indicates "cash-on-site" in his/her registration form because of high bank commission fee and tax, we can accept cash (Korean Won only) at the registration desk. Also we can accept most credit cards including BC, VISA and MASTER card at the registration desk. After October 15, the registration will incur a ₩100,000 surcharge. Registration fees include a set of symposium proceedings (program book and CD), reception, banquet, and luncheon.

	by October 15, 2010	after October 15, 2010
Registration fee for a KNS/AESJ member	₩400,000 / ¥30,000	₩500,000
Registration fee for a student	₩200,000 / ¥15,000	₩250,000
An extra coupon for banquet (on-site only)		₩70,000

- \* The registration form will be available on our web site in September, 2010.
- \*\* Account of KNS for the bank transfer: WOORI BANK YUSEONG BRANCH  
Account No.: 1006-201-342356 SWIFT code: HVBKRXSEXXX  
(The remitter's name should be the participant's name. Separate remittance for each participant !!!)

## Culture Tour

A half-day culture tour is scheduled on November 16<sup>th</sup> (Tuesday) afternoon to provide the participants with an opportunity to visit the famous tour sites nearby Chuncheon. The participants need to pay an extra charge of ₩30,000 for joining the culture tour. Entry fee will be charged as "cash-on-site" to the participants. The participants who want to join the culture tour need to check the registration form. Korean and Japanese guide will be provided for the tour program.

Prearranged Attractions: Lake Soyang and Soyang Dam, Kimyoojeong House of Literature, Nami Island  
For visitor's information, please refer to <http://tour.chuncheon.go.kr/jap/index.html>  
Kimyoojeong House of Literature: [www.kimyoojeong.org](http://www.kimyoojeong.org) (Korean information only)  
Nami Island: [www.namisum.com](http://www.namisum.com)



## Accommodation

The symposium will be held at LADENA Condominium. Please visit <http://www.ladenaresort.com> for detailed information. For the Korean participants, please make your room reservations by yourself no later than October 30, 2010. For the Japanese participants who want to stay at LADENA condominium, Local Organizing Committee will make your room reservations by proxy. In that case, the condominium reservation form should be written and sent to the Local Organizing Committee via e-mail no later than October 30, 2010. The condominium reservation form can be downloaded in the NTHAS7 web site.

Special discounted room rates for the NTHAS7 participants: ₩80,000  
Room type: Family type (Double bed, Twin bed, Ondol: room with the Korean floor heating system)  
Reservation Call: +82-033-240-8230 (Mr. Han, Sang-II and Mr. Park, Hyun-Su)

# NTHAS 7

## About Chuncheon

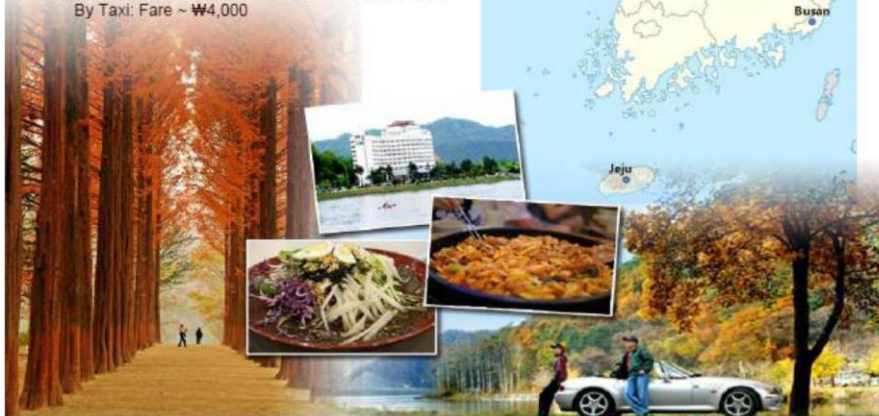
Chuncheon lies in the northeast of the country, located in a basin formed by the Soyang River and Han River. There are some large lakes around the city, most notably Lake Soyang and Lake Uiam. The area is renowned for its small river islands, such as Sangjungdo, Ha-Jungdo, Bungeo Island, and Wido. It is now a popular destination among East Asian tourists as it was featured in the popular Korean drama *Winter Sonata*.

For visitor's information, please refer to <http://tour.chuncheon.go.kr/jap/index.html>



## Access to Chuncheon

- 1) From Incheon Airport ([www.airport.kr/jpn/airport](http://www.airport.kr/jpn/airport))  
By bus (Take a bus at bus stop # 9C)  
To Chuncheon  
(via Gimpo Airport: [www.airport.co.kr/doc/gimpo](http://www.airport.co.kr/doc/gimpo))  
Travelling Time: 150 min
- 2) From Seoul  
By train  
From Cheong-nyang-ni Station  
To Nam-chun-cheon Station  
Travelling Time: 120 min
- 3) From Chuncheon Bus Terminal/Station to LADENA  
By Taxi: Fare ~ ₩4,000



For more information, please e-mail to [info@nthas7.or.kr](mailto:info@nthas7.or.kr)



# Call for Paper –NTHAS 8 & 9

[www.nthas8.org](http://www.nthas8.org)

## NTHAS8

8th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety  
December 9-12, 2012  
B-Con Plaza, Beppu, Japan

### Call for Papers

This is the first announcement and Call for Papers for the 8th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety to be held in Beppu, Japan, December 9-12, 2012 at B-Con Plaza. Online abstract submission will open in February 2012.

### About NTHAS

Japan and Korea are the two leading countries designing and building up-to-date nuclear power plants in the World. In the hopes to contribute the nuclear system performance with enhanced safety, the thermal-hydraulics divisions of Atomic Energy Society of Japan and Korean Nuclear Society initiated a biennial symposium program across the sea: Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS). Since the first symposium (NTHAS1) in Busan, Korea in 1998, NTHAS has provided a unique opportunity to discuss up-to-date technical information and to interact with colleagues from the neighboring countries. The second to seventh meetings were held in Fukuoka (2000), Gyeongju (2002), Sapporo (2004), Jeju (2006), Okinawa (2008), and Chuncheon (2010) with great success in technical quality and number of participants. In 2012, the Eighth Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS8) will be held in Beppu, Japan. The official language of the symposium is English.

### Sponsors

Atomic Energy Society of Japan (AESJ)  
Korean Nuclear Society (KNS)

### Organizers

Thermal-Hydraulics Divisions of AESJ and KNS

### Symposium Venue

Beppu International Conference Center, B-Con Plaza  
<http://www.b-conplaza.jp/>



### Technical Session Topics

- Thermal Hydraulics Fundamentals
- Two-Phase Flow Experiments and Analysis
- CHF and Post-CHF Heat Transfer
- Instrumentation and Measurement Techniques
- Fluid-Structure Interactions
- Computational Fluid Dynamics and Heat Transfer
- Code Development and V&V
- Severe Accident Experiments and Analysis
- Hydrogen Behavior and Combustion
- Water Reactor Thermal Hydraulics and Safety
- Liquid Metal Reactor Thermal Hydraulics and Safety
- Gas Cooled Reactor Thermal Hydraulics and Safety
- Fusion Reactor Thermal Hydraulics and Safety
- Thermal Hydraulic Aspects of Plant Operation
- Heat Exchanger Design and Turbomachinery

### Publication Schedule

Abstract submission deadline..... May 15, 2012  
Notification of abstract acceptance ..... June 30, 2012  
Draft paper submission deadline ..... August 31, 2012  
Notification of paper acceptance ..... September 30, 2012  
Final paper submission deadline ..... October 31, 2012

### Symposium Organization

Honorary Chairs ..... Hisashi Ninokata, TITech  
Hee-Cheon No, KAIST  
General Chairs ..... Masaya Ohtsuka, Hitachi  
Moo-Hwan Kim, POSTECH  
Steering Committee Chairs ..... Isao Kataoka, Osaka Univ.  
Won-Pil Baek, KAERI  
Technical Program Committee Chairs ..... Akira Yamaguchi, Osaka Univ.  
Young-Seok Bang, KINS  
Local Organization Committee Chairs ..... Koji Morita, Kyushu Univ.  
Han-Gon Kim, KHNP

### Symposium Information

[www.nthas8.org](http://www.nthas8.org)

Local Organization Committee  
e-mail: [info@nthas8.org](mailto:info@nthas8.org)

## First Announcement and Call for Papers



## NTHAS9

Nov. 16 - 19, 2014  
Buyeo, Korea

### Program

- 11/16 (Sun.)
- Registration
- Reception

- 11/17 (Mon.)
- Opening Ceremony
- Plenary Session
- Technical Sessions
- Banquet

- 11/18 (Tue.)
- Technical Sessions
- Cultural Tour

- 11/19 (Wed.)
- Technical Sessions
- Closing Session

### Conference Venue

Lotte Resort Buyeo,  
Buyeo-gun, Korea  
TEL) +82-41-939-1000  
FAX) +82-41-939-1004  
[www.lottebuyeoresort.com](http://www.lottebuyeoresort.com)

### Secretariat

Technical Program Chairs:  
• Prof. Jae Jun Jeong  
(Pusan National University)  
Tel: +82-51-510-2455  
[jjjeong@pusan.ac.kr](mailto:jjjeong@pusan.ac.kr)  
• Dr. H. Nakamura (JAEA)  
Tel: +81-29-282-5757  
[nakamura.hideo@jaea.go.jp](mailto:nakamura.hideo@jaea.go.jp)

## NTHAS9

9th Korea-Japan Symposium on  
Nuclear Thermal Hydraulics and Safety

November 16 - 19, 2014  
Lotte Resort, Buyeo, Korea

Sponsored by  
Korean Nuclear Society (KNS) and Atomic Energy Society of Japan (AESJ)  
Organized by  
Thermal Hydraulics Divisions of the KNS and AESJ  
Conference Website: <http://www.nthas9.org>

### About the Symposium

Korea and Japan are the two leading countries designing and building up-to-date nuclear power plants in World. In the hopes to contribute the nuclear system performance with enhanced safety, the thermal-hydraulics divisions of the KNS and the AESJ initiated a biennial symposium program across the sea: Korea-Japan Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS). Since the first symposium (NTHAS1) in Busan, Korea in 1998, NTHAS has provided a unique opportunity to discuss up-to-date technical information and to interact with colleagues from the neighboring countries. The second to eighth meetings were held in Fukuoka (2000), Gyeongju (2002), Sapporo (2004), Jeju (2006), Okinawa (2008), Chuncheon (2010), and Beppu (2012) with great success in technical quality and number of participants. This year, the Ninth Korea-Japan Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS9) will be held in Buyeo, Korea. The official language of the symposium is English.

### Technical Session Topics

- Thermal Hydraulics Fundamentals
- Two-Phase Flow Experiments and Analysis
- Computational Fluid Dynamics and Heat Transfer
- Water Reactor Thermal Hydraulics and Safety
- CHF and Post-CHF Heat Transfer
- Instrumentation and Measurement Techniques
- Liquid Metal Reactor Thermal Hydraulics and Safety
- Gas Cooled Reactor Thermal Hydraulics and Safety
- Fusion Reactor Thermal Hydraulics and Safety
- Safety Analysis and Code Development
- Severe Accident Experiments and Analysis
- Thermal-Hydraulic Aspects of Plant Operation
- Fluid-Structure Interactions
- Heat Exchanger Design and Turbo-machinery



# NTHAS-12 (당초2020년 개최를 2022년으로 연기함)



## Call for Papers

This is the second announcement and Call for Papers for the 12th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety to be held in Yokohama, Japan, November 9-11, 2020 at Yokohama Port Memorial Hall. Online abstract submission now opens at the symposium website.

\*In the light of the Coronavirus (COVID-19) situation, the key deadlines have been extended. NTHAS12 is currently scheduled to take place as initially planned. However, if there are any changes to these plans, we will provide updates on our website.

## About NTHAS

Japan and Korea are the two leading countries designing and building up-to-date nuclear power plants in the World. In the hopes to contribute to the nuclear system performance with enhanced safety, the thermal-hydraulics divisions of Atomic Energy Society of Japan and Korean Nuclear Society initiated a biennial symposium program across the sea: Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS). Since the first symposium (NTHAS1) in Busan, Korea in 1998, NTHAS has provided a unique opportunity to discuss up-to-date technical information and to interact with colleagues from the neighboring countries. The second to ninth meetings were held in Fukuoka (2000), Gyeongju (2002), Sapporo (2004), Jeju (2006), Okinawa (2008), Chuncheon (2010), Bepu (2012), Buyeo (2014), Kyoto (2016) and Busan (2018) with great success in technical quality and number of participants. In 2020, the 12th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS12) will be held in Yokohama, Japan. The official language of the symposium is English.

## Sponsors

Atomic Energy Society of Japan (AESJ)  
Korean Nuclear Society (KNS)

## Organizers

Thermal-Hydraulics Divisions of AESJ and KNS

[www.nthas12.org](http://www.nthas12.org)

## Invitation to Submit

The NTHAS12 Technical Program Committee is calling for contributed papers on nuclear thermal hydraulics and safety in the following general subject areas:

- Thermal Hydraulics Fundamentals
- Two-Phase Flow Experiments and Analysis
- CHF and Post-CHF Heat Transfer
- Instrumentation and Measurement Techniques
- Fluid-Structure interactions
- Computational Fluid Dynamics and Heat Transfer
- Code Development and V&V
- Severe Accident Experiments and Analysis
- Hydrogen Behavior and Combustion
- Water Reactor Thermal Hydraulics and Safety
- Liquid Metal Reactor Thermal Hydraulics and Safety
- Gas Cooled Reactor Thermal Hydraulics and Safety
- Fusion Reactor Thermal Hydraulics and Safety
- Thermal Hydraulic Aspects of Plant Operation
- Heat Exchanger Design and Turbomachinery
- Probabilistic Safety Assessment (PSA)

## Abstract Submission

Abstract submission is now open. Authors should submit their abstracts of 400 to 500 words by **May 15, 2020** through the symposium website. The Technical Program Committee will referee the submitted abstracts and select the papers to be presented at the symposium. Authors will be notified of selection by May 30, 2020. Draft papers will be required by July 17, 2020, for review.

## Key Deadlines

Abstract submission ..... May 15, 2020  
Notification of abstract acceptance ..... May 30, 2020  
Draft paper submission for review ..... July 17, 2020  
Notification of paper acceptance ..... August 21, 2020  
Final paper submission ..... September 18, 2020

## 12th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety

November 9-11, 2020, Yokohama Port Opening Memorial Hall, Yokohama, Japan

## Registration

Online registration will open at the symposium website.  
Fees for registration are as follows:

	Early bird (by September 30, 2020)	Regular fee
AESJ/KNS members	JPY 60,000	JPY 70,000
Non-members	JPY 70,000	JPY 80,000
Students	JPY 20,000	JPY 30,000

The fees include the proceedings and coffee breaks during the symposium as well as welcome reception. The symposium banquet is separated, and put in from the web site.

## Student Seminar

In advance of NTHAS12, a two-day student seminar providing a playground for learning, information exchange and human networking will be held in Tokyo University of Marine Science and Technology (TUMSAT) on November 6-7, 2020. The researchers and engineers in the next generation are welcomed. The students attending the seminar will have a chance to learn the most advanced and up-to-date information about the nuclear thermal-hydraulics, as well as a privilege to expand human network through seminar activities. The detailed information will appear at the symposium website.

## Symposium Information

[www.nthas12.org](http://www.nthas12.org)

### Technical Program Committee

Prof. Yasushi Saito, Kyoto Univ.  
e-mail: tpc@nthas12.org

### Local Organization Committee

Prof. Tomio Okawa, UEC  
e-mail: info@nthas12.org

### Student Seminar

Prof. Tatsuya Hazuku, TUMSAT  
e-mail: studentseminar@nthas12.org

## Organization

Honorary Chairs ..... Prof. Isao Kataoka, Fukui Univ. Tech.  
Dr. Young Seok Bang, KINS  
General Chairs ..... Prof. Yutaka Abe, Univ. Tsukuba  
Prof. Jae Jun Jeong, PNU  
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Prof. Yasushi Saito, Kyoto Univ.  
Dr. Kwang Soon Ha, KAERI  
Local Organization Committee Chairs .....  
Prof. Tomio Okawa, UEC  
Dr. Sang Won Lee, KHNP

## Symposium Venue

Yokohama Port Opening Memorial Hall



<https://www.city.yokohama.lg.jp/naka/madoguchishisetsu/riyoshisetsu/kaikokenkaikan/oshirase.html>

Yokohama Port Opening Memorial Hall is located near JR Kanai station. Yokohama city is well known as an international tourist destination for the most abundant historical place in Japan.



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- **본 자료를 취합해 주신 배성원 회원님께 감사드립니다.**