



ICAPP2017 in 福井・京都

A New Paradigm in Nuclear Power Safety

April 24-28, 2017
FUKUI and KYOTO, JAPAN

Executive Chairs

General Chair

Hideki TOYOMATSU

Director & Executive Vice President,
Chief Nuclear Officer,
The Kansai Electric Power Co., Inc.

Technical Program Chair

Takeshi MITSUGI

Director, Nuclear Backend Technology Center,
Nuclear Fuel Cycle Engineering Laboratories,
Japan Atomic Energy Agency

Abstract Submission

By Friday, **October 21**, 2016, authors should submit a 500 word abstract to:

http://icapp2017.org/call_for_papers.html

All full papers are limited to 10 pages. Registration for the congress will start from October 2016. One registration must be made for each paper (basically by the 1st author), by the Final Papers / Copyright deadline.

Paper Deadlines

Abstract Submission..... October 21, 2016

Abstract Acceptance

Notification ..October 31, 2016

Draft PapersNovember 30, 2016

Review Notification..... January 20, 2017

Final Papers/Copyright... February 17, 2017

Student and Young Generation Award

Students, researchers, engineers and professionals under the age of 35 are encouraged to actively participate in the *ICAPP 2017 Student and Young Generation Award* by submitting high quality technical papers on various aspects of nuclear technology. Papers which have been accepted to one of the technical tracks will be reviewed and selected authors will be awarded during the banquet. To qualify for this award, candidates must be the first author of a paper, or equivalent leading author who can submit a written certificate by a responsible coauthor when requested. Candidates are also required to participate in this congress and make an oral presentation in technical sessions.

Congress Purpose

The International Congress on Advances in Nuclear Power Plants (ICAPP) provides a forum for leaders of the nuclear industry to exchange information, present results from their work, review the state of the industry, and discuss future directions and needs for the deployment of new nuclear power plant systems around the world.

ICAPP will gather industry leaders in several invited lectures in plenary sessions.

The theme for ICAPP2017 is *A New Paradigm in Nuclear Power Safety*. Since the Fukushima Daiichi Accident in 2011, various efforts in improving nuclear safety have been initiated not only in Japan but also in other countries. Decontamination of affected soil and steps toward decommissioning Fukushima Daiichi are proceeding steadily, but many issues to be resolved still remain. Further advances in reactor decommissioning technologies are expected in light of the rising number of old nuclear power plants being closed. The congress also provides an excellent opportunity to discuss these topics.

This congress welcomes the submission of full-length technical papers, which will be peer reviewed and published. All authors will present their papers in English. About 20 minutes will be allotted for each paper. At least one author (the first author) is required to register for the congress.

ICAPP is an annual event, cosponsored by AESJ, ANS, KNS, SFEN, and a number of major international nuclear societies, and is held in cooperation with the International Atomic Energy Agency. Since its inception in 2002, ICAPP has been held biannually in the USA, and in Europe and Asia during the years in between.



Contact Us

Secretariat of ICAPP2017

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Venues:

April 24 - 25, 2017 *Hotel Fujita Fukui*

April 26 - 28, 2017 *The Westin Miyako Kyoto*



Technical Tracks

1. Water-Cooled Reactor Programs and Issues

Evolutionary designs, innovative, passive, light and heavy water cooled reactors; super critical water reactors; issues related to meeting near term utility needs; emerging plant safety issues, design improvements; business, political and economic challenges; infrastructure limitations and improved construction techniques including modularization.

2. High Temperature Reactors

Design and development issues, components and materials, safety, reliability, economics, demonstration plants and environmental issues, fuel design and reliability, power conversion technology, impact of non electricity applications on reactor design; advanced thermal and fast HTR designs.

3. Advanced Reactors

Reactor technology with enhanced fuel cycle features for improved resource utilization, waste characteristics, and power conversion capabilities. Small Modular Reactor (SMR) development and licensing; potential reactor designs with longer development times such as liquid fuel reactors, Gen IV, INPRO, and GNEP.

4. Operation, Performance and Reliability Management

Reactor technology with enhanced fuel cycle features for Training, O&M costs, life cycle management, risk based maintenance, operational experiences, performance and reliability improvements, outage optimization, human factors, plant staffing, outage reduction features, major component reliability, repair and replacement, in-service inspection, and codes & standards.

5. Plant Safety Assessment, Regulatory and Licensing Issues

Transient and accident performance including LOCA and non-LOCA, severe accident analysis, natural disaster initiated severe accidents including Fukushima Daiichi Accident, nuclear plant security, impact of risk informed changes, accident management and emergency situations, advances in regulatory issues for operating and future plants, life assessment and management of aging, degradation and damage extension lessons from plant operations, containment with radiological and non-radiological inventory, probabilistic safety assessment and reliability engineering, new methodologies for plant safety analysis. Fire protection, emergency preparedness, and used fuel storage and transportation. Reactor licensing, advanced reactor design certification, combined license, and multinational design license application and evaluation. Lessons learned from Fukushima Daiichi Accident.

* Underline : added for ICAPP2017

6. Reactor Physics and Analysis

Nuclear data libraries and related error files, lattice calculation, deterministic and Monte-Carlo approaches, core calculation, multi-physics coupling. Progresses achieved in this domain contribute to the improvement of core performances (for existing reactors and next generation reactors). New fuels, new fuel management, new reactor cores and characterization of spent fuels.

7. Thermal Hydraulics Analysis and Testing

Experimental techniques and measurements, phenomena identification and ranking, computer code scaling applicability and uncertainty, containment thermal hydraulics, separate and integral effect tests, improved code development and qualification, single and two phase flow heat transfer, advanced computational thermal hydraulic methods; single and two phase CFD.

8. Fuel Cycle, Waste Management and Decommissioning

Fuel cycle sustainability, fuel cycle options, review of national programs on advanced fuel cycle options, core fuel management, nuclear material separation and recycling processes and technologies, advanced separation and transmutation technologies and performances, fuel and target designs for advanced fuel cycles, fuel cycle scenario assessments, nuclear nonproliferation, thorium fuel options, fully integrated fuel cycle and symbiotic nuclear power systems, accelerator driven systems, scenarios for P&T deployment, modeling of processes, impacts of advanced fuel cycles on waste management, decommissioning, waste conditioning and disposal. Fukushima Daiichi NPP decommissioning technologies including investigation of working environment, decontamination, radiation shielding, dismantling, robotics, fuel debris removal, criticality control.

9. Materials and Structural Issues

Fuel, core, reactor pressure vessel and internals structures, advanced materials issues, environmental effects and fracture mechanics, concrete and steel containments design and analysis, design and monitoring for seismic, dynamic and extreme accidents, irradiation issues, materials and structural mechanics issues, aging material issues, codes and standards for new generation plants.

10. Nuclear Energy and Global Environment

Environmental impacts and carbon reduction of nuclear and alternative systems, including applications such as the production of hydrogen, sea water desalination, liquid fuels produced with reduced carbon footprints, biofuels, heating and other co-generation applications. Scenario analysis of nuclear role substitution for fossil fuels not only for power but for transportation, and its qualitative contribution. International collaborative arrangement to support world nuclear energy development, especially in developing countries and with respect to fuel supply and waste management and non-proliferation concerns.