CALL FOR PAPERS

Abstracts due September 29, 2019

Khalifa University جامعـــة خليفـــة

ICAPP

2020 International Congress on Advances in Nuclear Power Plants

15–19 March, 2020 | Abu Dhabi – UAE | Khalifa University (KU) – Main Campus

ORGANIZED BY
Khalifa University

EXECUTIVE CHAIRS

Honorary Chairs:
Dr. Arif Al Hammadi
Executive Vice President, KU

Dr. Mohamed Chookah
VP – Fuel, Waste, Research &
Development Emirates Nuclear
Energy Corporation

Dr. Jacopo Buongiorno
Professor, Nuclear Science and
Engineering, MIT

General Chair:
Dr. Philip Beeley
Professor and Chair, Nuclear
Engineering Department
Khalifa University

Technical Program Chair:
Dr. Youssef Shatilla
Professor, Nuclear Engineering
Department, Khalifa University

ADMINISTRATION

Web & Submissions Coordinator:
Lynne Schreiber
admin@icapp2020.org

Information Services:
Sayed Al Hashmi
Acting Director, Office of
Marketing & Communications,
Khalifa University
sayed.alhashmi@ku.ac.ae

www.icapp2020.org

www.icapp2020.org

ABOUT ICAPP

The International Congress on Advances in Nuclear Power Plants (ICAPP) provides a forum for leaders of the nuclear community 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.

ABU DHABI

Meaning 'Land of the Gazelle' in Arabic, Abu Dhabi was founded when a young antelope led a wandering tribe to fresh water, on an island with no more than 300 palm ('barasti') huts, a few coral buildings and the Ruler's fort. This simple island settlement has since been transformed into the modern, cosmopolitan city of Abu Dhabi and the high-rise capital of the United Arab Emirates. Abu Dhabi is one of the safest cities in the world.

In March, the average temperature in Abu Dhabi is 28°C (83°F) in the peak of the afternoon. At night the temperature dips to a cooler 18°C (65°F).

SUBMISSIONS

This congress welcomes the submission of full-length technical papers, which will be peer reviewed and published. Authors should submit a one-page 300 word abstract (text only) with contact information & preferred track number by **Sunday, September 29, 2019 at www.icapp2020.org**

DEADLINES

Submission of abstracts:	**September 29, 2019**
Notification of acceptance:	October 13, 2019
Draft papers:	November 10, 2019
Review notification:	December 8, 2019
Final papers/copyright:	January 5, 2020

1. WATER-COOLED REACTOR PROGRAMS & RELATED SMALL MODULAR REACTOR DEVELOPMENTS

Evolutionary designs, innovative, passive, light and heavy water cooled reactors; development of SMRs; 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. FAST NEUTRON REACTORS

Reactor technology with enhanced fuel cycle features for improved resource utilization, actinide management, and waste minimization capabilities. Potential reactor designs with longer development times for increased sustainability.

4. MOLTEN SALT REACTORS & OTHER ADVANCED REACTORS

Reactor technology with molten salt as circulating nuclear fuel (MSR) or as primary coolant for solid core designs. Design and development issues, components and materials, safety and reliability, economics, demonstration plants and environmental issues. Other Gen IV reactor designs with longer development times and enhanced capabilities compared to Light Water Reactors.

5. OPERATION, PERFORMANCE & RELIABILITY MANAGEMENT

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.

6. PLANT SAFETY ASSESSMENT, REGULATORY & LICENSING ISSUES

Transient and accident performance including LOCA and non-LOCA, severe accident analysis, nuclear plant security, natural disaster initiated severe accidents, 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.

7. REACTOR PHYSICS & 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.

8. THERMAL HYDRAULICS ANALYSIS & 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.

9. FUEL CYCLE & WASTE MANAGEMENT

Fuel cycle sustainability, fuel cycle options, review of national programs on advanced fuel cycle options including P&T, advanced reprocessing processes and technologies (Purex, Coex, Urex, Pyro), nuclear material recycling technologies (MIMAS, Vibropack), modeling of processes, back end fuel cycle options, uranium and plutonium management issues, waste conditioning storage and disposal, thorium cycle, fully integrated fuel cycle and symbiotic nuclear power systems, Accelerator Driven Systems (ADS), and non-proliferation concerns.

10. MATERIALS & 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.

11. NUCLEAR & INTEGRATED ENERGY SYSTEMS

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, industrial process heat and its qualitative contribution.

12. CAPACITY BUILDING FOR NUCLEAR POWER PROGRAMS

International collaborative arrangements to support world nuclear energy development, especially in developing countries and with respect to technical, administrative, funding, capacity building and other issues for from stakeholders' perspectives (international organizations, government, regulatory body, technical support organization, operator, vendor, industry and supply chain, inspection and control, conformity assessment and accreditation bodies, educational and training institutions, others) according to the strategy adopted for the NPP program and according to the set-up model considered for the NPP project ; Smart and innovative arrangements (owner/operator) for NPP programs and for NPP projects' and contracts' implementation.

Submit your abstract – September 29, 2019
www.icapp2020.org