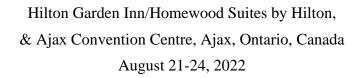Canadian Nuclear Society
Société Nucléaire Canadienne

15th International Conference on CANDU Fuel

*"Advanced Fuel Manufacturing and SMR Initiatives
for a Clean Energy Future"*

Hilton Garden Inn/Homewood Suites by Hilton,

& Ajax Convention Centre, Ajax, Ontario, Canada

August 21-24, 2022

CALL FOR PAPERS

Following the success of the 14th conference held in Mississauga, Ontario in 2019, the **15th International Conference on CANDU Fuel** to be held in **Ajax, Ontario on August 21-24, 2022,** will once again bring together international nuclear fuel industry experts involved in research, design, fabrication, operations, fuel modelling, safety analysis and regulation. Under the theme of *"Advanced Fuel Manufacturing and SMR Initiatives for a Clean Energy Future",* the technical sessions will cover topics on design, development, modelling, qualification and manufacturing including CANDU and Small Modular Reactors (SMR) fuels. A session focused on experiences and lessons learned from non-CANDU fuel types has been added. The sessions will be composed of:

A. *Advanced Fuel Manufacturing:* Fuel manufacturer experience, advances in manufacturing & inspection technologies, additive manufacturing, blending RU and DU, fuel manufacturing challenges and improvements.

B. *SMR Fuel***:** Design, development, modelling, fabrication/synthesis and supply-chain.

C. Fuel Performance: Fuel behaviour (normal operating conditions and extended burnup), station experience and Hot Cell work & capabilities. Common causes of fuel failure from other reactor designs are also welcome.

D. *Fuel Safety:* Performance improvements*,* Licensing issues, accident studies, fission gas release, fuel behaviour, LOCA initiatives and experimental simulation, fuel acceptance criteria, fuel deformation and dryout.

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E. *Fuel Design & Development:* Modifications to fuel designs and quality assurance in fuel design and development, MOX, inert matrices, DUPIC, slightly enriched uranium (SEU), recovered uranium (RU), Thoria fuel cycle, Gen IV Fuel Types, economical and societal implications of fuel cycles.

F. *Fuel Code Development:* Predictive capability on thermal, mechanical, irradiation and fission-gas release behaviour under normal operating and accident conditions and predicting aerosol behaviour. Advanced code/model development, which may include radiation protection/ shielding.

G. *Fuel Management:* Fuel management schemes, load following, fuel physics analysis and specific operational challenges.

H. *Fuel Bundle Thermal Hydraulics:* Critical Heat Flux assessment, Computational Fluid Dynamics modelling, reactor aging, pressure tube performance and fuel simulation and testing.

I. *Used Fuel Management:* Fuel handling technology, spent fuel storage, and in-storage fuel behaviour.

J. Advanced Fuel Modelling and Code Development: Models that are being developed to further support fuel performance and safety assessment. Multi-physics/multi-scale simulation.

SUBMISSIONS

Abstract and full paper must be prepared and submitted in MS Word to
https://www.xcdsystem.com/cns/abstract/index.cfm?ID=b9v4aBI according to guidelines on the conference website.

Abstract

The abstract is to be no more than 100 words. You can submit your abstract directly through the link provided on the conference website in the SUBMISSIONS Section.

On-line submission of Abstracts is due February 15, 2022.

Full Paper

The required full paper is to be submitted in Microsoft Word and shall use the provided template. Final papers should be submitted directly through the link provided on the conference website under the SUBMISSIONS Section using the pass code that each author will receive upon acceptance of the abstract.

On-line submission of final version of papers is due April 30, 2022.

Should you have any issues submitting, please contact, Dr. Paul K. Chan at Paul.Chan@rmc.ca.

AWARDS

As always, we are also accepting nominations for the CNS Fuel Technology Award to recognize senior or retired individuals who have contributed greatly to the field of **Nuclear Fuel**.

Please send your nomination letters to Dr. Brent Lewis at lewis-b@rmc.ca /

Dr. Paul K. Chan at Paul.Chan@rmc.ca by April 30, 2022.

Please provide your full name and address, the full name of the nominee with a one-page summary stating the significance or impact of the contribution, the reputation or standing of the recipient in the domestic and international fuel community, their mentorship of junior scientists and engineers and the length of career in the nuclear industry.

IMPORTANT DATES

The following are important deadlines for paper submission. Late submissions may not be accepted.

- **February 15, 2022**   **On-line submission of Abstracts**
- **February 28, 2022**   **Notification of the Acceptance of Abstracts**
- **April 30, 2022**   **On-line Submission of final version of paper**
- **April 30, 2022**   **Fuel Technology Awards Nomination**
- **May 30, 2022**   **Notification of acceptance of full papers**
- **June 15, 2022**   **Early Bird Registration Deadline**

CONTACTS

Technical Program Co-Chair:	**Awards Committee Co-Chair:**	**Registrations:**
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