



**37th Annual Conference of the Canadian Nuclear Society and
41st Annual CNS/CNA Student Conference**

***Our Nuclear Future: Renewal and Responsibility
Notre avenir nucléaire: Renouveau et responsabilité***

2017 June 4 - 7

Sheraton on the Falls Hotel, Niagara Falls, Ontario, Canada



Call for Papers

Nuclear science and technology currently provides clean and safe energy, and benefits the health and security of the global community. Building on this strong foundation, nuclear science and technology will become of even greater importance well into the 21st century. Further advancement of the current state of the art would enhance public confidence and acceptance of nuclear science and technology.

The Canadian Nuclear Society (CNS) will host its 37th Annual Conference at the Sheraton on the Falls Hotel in Niagara Falls, Ontario, Canada, 2017 June 4 - 7. This conference provides a forum for exchanging views, ideas and information relating to the application and advancement of nuclear science and technology, and for discussing energy-related issues in general. Technical topics of interest are listed on the following page. The CNS 37th Annual Conference will feature:

- Plenary sessions with invited speakers to address broad industrial, commercial and research-related developments in nuclear science and technology.
- Technical sessions with subject-matter experts from utilities, suppliers, the regulator, academia, federal laboratories and agencies to present the latest advancements in nuclear science and technology.
- Exhibits with industrial leaders showcasing their latest nuclear products and technology.
- Social events (such as reception, lunches, coffee breaks and conference banquet) to facilitate in-depth discussions on common interests.

To facilitate interaction between experts and the future generation of nuclear scientists, engineers, and specialists, the 41st Annual CNS/CNA Student Conference will be held in parallel at the same venue. The Student Conference will feature a poster session, at which university students will showcase their latest research findings and advancements. A Call for Students' Extended Abstracts will be issued separately.

Important Dates:

Abstract submission (**extended**): **2016 December 23**

Draft paper submission: **2017 January 14**

Full paper submission: **2017 April 7**

Submission Guidelines:

- The abstract should be <150 words in length (technical topics of interest are listed on the following page).
- The full paper should present facts that are new and significant or represent a state-of-the-art review, and should include sufficient information for a clear presentation of the topic. The required format of submission is electronic (Word or pdf).
- Templates for abstract and full paper are available from the Conference website <http://www.cns2017conference.org>.
- Submission should be made via: <http://www.softconf.com/h/CNS2017Technical>
- Notes: At least one of the authors must register for the Conference by the "early" registration date (2017 April 16) for the paper to be included in the Conference Proceedings.

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CALL FOR PAPERS – TECHNICAL TOPICS

Deploying New Reactors and Building to Time	Establishing new build program; International collaborations; Risk-informed safety regulation; Policy; Regulation and risk assessment; Probabilistic & deterministic risk analysis; Addressing life extension and licensing renewal; Design and construction; Economics and financing; New - site licensing; New developments and designs; Gen-III+ designs/ Gen IV and SMR concepts/ advanced systems and components; Passive safety
New Technology and Applications in Nuclear Research and Development	Advanced reactor physics, radiation physics and health physics; Thermalhydraulics; Fusion; Hydrogen production; Modern fuel cycles; Used fuel recycling, reusing and reprocessing; Adopting new materials; Efficiency enhancements; Gen IV and SMR concepts; Space and mining applications; New nuclear codes and standards
Operation and Aging Management	Refurbishment and life extension; Economics; Maintenance; Reliability; Quality Assurance / Inspection; Risk assessment; Outage reduction; Fuel and equipment performance; New developments; Reliability enhancement; Power uprating; Obsolescence; Component replacement; Supply chain; OPEX
Facilitating Energy Policy and Global Consensus	Policy development; Energy mix; Sustainability; Climate change; Public acceptance; Education; Communications; International and regional cooperation; Safeguards; Proliferation-resistant fuels
Enhancing Safety and Security	Perspectives after Fukushima; Extreme events; Severe accidents; Accident management; Emergency planning; Plant security; Human performance; Safety culture; Stress testing; Shielding analysis; Criticality Safety Analysis; Risk assessment; Probabilistic analysis; Regulatory perspective; Nuclear security and non-proliferation
Environmental Protection and Waste Management	Designing for environmental protection; Assessment of environmental effects; Decommissioning and environmental remediation; Waste stream management and reduction; Progress in repository development; Interim used fuel storage strategies; Waste treatment, packaging and transportation
Fuel Cycles	Uranium and thorium mining, milling, refining, conversion and enrichment; Uranium and Thorium fuel manufacturing; Fault tolerant fuel design; Open and closed fuel cycle
Addressing Public Concerns about Radiation Impacts	Experience from Fukushima; Social impacts; Educating & partnering with public; Opinion surveys; Radiation protection; Linear-no-threshold issues; Radiation health effects; Lessons learned; Outreach
Facing Competitors and Reducing Cost	Design and construction; Manufacturing and modularity; Economics and financing; Supply chain assurance; Outage management; Market and competitive challenges
Acquiring Medical and Biological Benefits	Medical and biological systems; Treatments and protocols; New isotope manufacture; Novel accelerators and target development; Supply assurance; Handling waste streams; Economics; International trends; Advanced reactor physics; Isotope production and use; Agricultural applications