



# 36<sup>th</sup> Annual CNS Conference

## 40<sup>th</sup> CNS/CNA Student Conference

Nuclear in the 21<sup>st</sup> Century: Global Directions and Canada's Role

Toronto, ON June 19 - 22, 2016  
Toronto Marriott Downtown Eaton Centre Hotel



## Call for Papers

Nuclear science and technology currently provides clean, 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 21<sup>st</sup> 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 36<sup>th</sup> Annual Conference at the Toronto Marriott Downtown Eaton Centre Hotel in Toronto, Ontario, Canada, 2016 June 19-22. 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 36<sup>th</sup> 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 40<sup>th</sup> Annual CNS/CNA Student Conference will be held in parallel at the same venue. The Student Conference will feature a poster session with university students to showcase their latest research findings and advancement relevant to nuclear science and technology. A Call for Students' Extended Abstracts will be issued separately.

### Important Dates:

- (Extended) Abstract submission: 2015 December 31
- (Extended) Draft paper submission: 2016 January 31
- Full paper submission: 2016 April 15

### 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 [www.cns2016conference.org](http://www.cns2016conference.org).
- Submission should be made via: [www.softconf.com/h/CNS2016Technical](http://www.softconf.com/h/CNS2016Technical)
- Notes: At least one of the authors must register for the Conference by the "early" registration date (2016 April 15) for the paper to be included in the Conference Proceeding.

### General Enquiry:

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**CALL FOR PAPERS – TECHNICAL TOPICS**

<b>Deploying New Reactors and Building to Time</b>	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
<b>New Technology and Applications in Nuclear Research and Development</b>	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
<b>Operation and Aging Management</b>	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
<b>Facilitating Energy Policy and Global Consensus</b>	Policy development; Energy mix; Sustainability; Climate change; Public acceptance; Education; Communications; International and regional cooperation; Safeguards; Proliferation-resistant fuels
<b>Enhancing Safety and Security</b>	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
<b>Environmental Protection and Waste Management</b>	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
<b>Fuel Cycles</b>	Uranium and thorium mining, milling, refining, conversion and enrichment; Uranium and Thorium fuel manufacturing; Fault tolerant fuel design; Open and closed fuel cycle
<b>Addressing Public Concerns about Radiation Impacts</b>	Experience from Fukushima; Social impacts; Educating & partnering with public; Opinion surveys; Radiation protection; Linear-no-threshold issues; Radiation health effects; Lessons learned; Outreach
<b>Facing Competitors and Reducing Cost</b>	Design and construction; Manufacturing and modularity; Economics and financing; Supply chain assurance; Outage management; Market and competitive challenges
<b>Acquiring Medical and Biological Benefits</b>	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