

Course Overview

The objectives of this **NEW** CNS course are an overview of thermalhydraulics (TH), followed by broadening the area of TH as applied to CANDU reactors. The attendees will be presented with the fundamentals of TH, importance of TH in nuclear-energy utilization and nuclear safety, TH phenomena, TH discipline applied for different nuclear facilities with a focus on CANDU, and areas of application (design, operation, safety evaluation, uncertainty, scaling, R&D, etc.)

The CNS is presenting this course to enhance the professional and technical capabilities of its members (and non-members) working in, or interested in, the nuclear industry. The course is ideally suited for beginning professionals, but also beneficial as a refresher overview course to experienced professionals. Come broaden your nuclear knowledge beyond your specific area of work and your own area of expertise.

Continental breakfast, buffet lunch, and coffee breaks are provided each day. There will also be a banquet on the second evening of the course, with an after-dinner speech highlighting a timely topic in the Canadian Nuclear industry.

The following topics would be covered in the course:

- CANDU Overview: Big Picture
- Thermalhydraulics Fundamentals
- Fuel and Fuel-channel Thermalhydraulics
- PHTS System Operations
- Safety Analysis
- Experiments to support Thermalhydraulics
- Computer Codes or Tools
- V&V of Thermalhydraulic Computer Codes and Simulation Uncertainty Assessment

Registration

Please register on-line via the link on the **Course web page**, which you can reach directly by clicking **Course web page**, which you can reach directly at <https://cns-snc.ca/events/cns-candu-thermalhydraulics/> or via the **CNS web site** (<http://www.cns-snc.ca>).

The registration fees are shown below, and include HST (HST # 87048889RT)

- CNS Member: \$800.00** [Must be a CNS member in good standing]
- Non-CNS Member: \$900.00**
- Full-time student (CNS member) or CNS retiree member: \$400.00**

For registration information, please communicate with: **CNS Office**
c/o AMEC Foster Wheeler
700 University Avenue, 4th Floor
Toronto, ON, Canada, M5G 1X6
Tel: 416-977-7620; Fax: 416-977-8131
e-mail: cns-snc@on.aibn.com

HOTEL ACCOMMODATION

Courtyard by Marriott Downtown Toronto
475 Yonge St., Toronto, ON

A very special room rate per night of \$149 + Tax is available at the Courtyard by Marriott Downtown Toronto, but to receive this special rate you must book by **November 1st 2017**; we suggest you book early to avoid disappointment. Or call 1-800-847-5075 and request the **CNS Course Group Booking**.

CNS Thermalhydraulics Course



Organized by:
The Canadian Nuclear Society
Nuclear Science & Engineering
Division

2017 December 4-5
(Mon-Wed)

Courtyard by Marriott Downtown Toronto
475 Yonge St., Toronto, ON M4Y 1X7

Course contact (not for registration):

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**CNS Thermalhydraulics Course
2017 December 4-5
Courtyard by Marriott Downtown
Toronto
475 Yonge St., Toronto, ON
M4Y 1X7**

Objectives of the course

- To provide an overview of thermalhydraulics
- To broaden the area of TH as applied to CANDU reactors
- To provide an overview of the primary heat transport system
- To network with colleagues in the industry

Monday, December 4

07:30 Continental Breakfast

08:00 Registration

08:30 Welcome & Opening Remarks

08:45 CANDU Overview.
N. Popov (UNENE)

10:15 Break

10:45 Thermalhydraulics Fundamentals.
D. Novog (McMaster Univ.)

12:15 Lunch

13:15 Fuel and Fuel-channel
Thermalhydraulics
Y. Guo (CNSC)

14:45 Break

15:15 PHTS System Operations
G. Bereznai (UOIT)

16:45 End of Day-1 Lectures

18:00 Host Bar

18:30 Banquet, with Guest Speaker

Tuesday, December 5

07:30 Continental Breakfast

08:30 Experiments to support
Thermalhydraulics
L. Leung (CNL)

10:00 Break

10:30 Computer Codes or Tools
A. Delja (CNSC)

12:00 Lunch

13:00 Safety Analysis
Y. Jiang (Bruce Power)

14:30 Break

15:00 Verification and Validation of
Thermalhydraulic Computer Codes
and Simulation Uncertainty
Assessment
J. Kowalski (CNSC)

16:30 Closing Remarks

16:35 End of Day-2 Lectures