

## 2009 CSCE Annual Conference



St. John's NL  
May 27-30

### *On the Leading Edge*

## Conference Announcement and Call for Papers

- ❖ 2009 Annual General Meeting and Conference
- ❖ CSCE Forum on Professional Practice and Career Development
- ❖ 1<sup>st</sup> International/1<sup>st</sup> Engineering Mechanics and Materials Specialty Conference
- ❖ 1<sup>st</sup> International Hydrotechnical/3<sup>rd</sup> Coastal, Estuarine and Offshore Specialty Conference
- ❖ 2<sup>nd</sup> International/8<sup>th</sup> Construction Specialty Conference



[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

## 2009 CSCE Annual General Meeting and Conference, May 27-30, St. John's, NL

### *On the Leading Edge*

### Conference Announcement and Call for Papers

Photo: Cape Spear, most Easterly point in North America.  
Newfoundland and Labrador - Tourism

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- 1<sup>st</sup> International Hydrotechnical/3<sup>rd</sup> Coastal, Estuarine and Offshore Engineering Specialty Conference
- 2<sup>nd</sup> International/8<sup>th</sup> Construction Specialty Conference



June 1- 2, 2009

Every three years, Canadian, American and British civil engineering organizations come together to hold the CSCE-ASCE-ICE Triennial Conference.

In 2009, the Triennial will be held immediately following the 2009 CSCE Annual Conference at the Fairmont Newfoundland in the City of St. John's, City of Ocean Excellence.

## Coastal Engineering, Future Challenges and Risks.

This very important international conference will explore the role of civil engineering in mitigating natural and human-induced hazards and protecting critical infrastructures against such hazards. Topics of interest will include:

- Climate Change and the Global Flooding Challenge
- Disaster Risk Management
- Sustainable Coastal Development
- Ecological Issues
- Trends in Coastal Engineering Practices
- Coastal Structures

**SAVE \$125!** CSCE 2009 Conference Attendees can receive a discount on Triennial Registration!



[www.csce.ca/2009/triennial](http://www.csce.ca/2009/triennial)

Photo: Cape St. Mary's Bird Sanctuary, Newfoundland and Labrador Tourism

Canadian Society for Civil Engineering

2009  
CSCE  
Annual  
Conference



St. John's NL  
May 27-30

## *On the Leading Edge*

### Conference Announcement and Call for Papers

### Friends of the Conference



[www.engr.mun.ca](http://www.engr.mun.ca)



[www.pegnl.ca](http://www.pegnl.ca)



[www.rwtiller.com](http://www.rwtiller.com)



Photo: Cape Spear, most Easterly point in North America.  
Newfoundland and Labrador Tourism

[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/) 3



## CSCE 2009: On the Leading Edge

### Administration:

2009 CSCE Annual Conference  
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Churchill Square Postal Outlet  
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### Technical Programme:

2009 CSCE Annual Conference  
Dr. Leonard Lye, P. Eng., FCSCE  
Faculty of Engineering and Applied Science  
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### Student Presentations:

2009 CSCE Annual Conference  
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### Registrar:

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## Welcome to The Leading Edge

On behalf of the CSCE 2009 Local Organizing Committee, I am delighted to invite you to attend the 2009 Annual Conference of the Canadian Society for Civil Engineering in St. John's from May 27 to 30, 2009. This exciting event will be held in the magnificent Fairmont Newfoundland, located in downtown St. John's.

The theme of the Conference, "On the Leading Edge", reflects the geographic location of our city and province. Our engineering conference will focus on the findings of the latest research and the emergence of the civil engineering profession on the leading edge.

The Conference will, as part of the Specialty Conference rotation, host three International Specialty Conferences: on Construction, on Hydrotechnical (Coastal, Estuarine and Offshore Engineering), and on Engineering Mechanics and Materials. Also, there will be the first CSCE Forum on Professional Practice and Career Development.



Photo: St. John's Harbour and 'Narrows'.  
Newfoundland and Labrador Tourism



Photo: Cape Spear, most Easterly point in North America.  
Newfoundland and Labrador Tourism



Photo: Sunrise over Cape Spear, most Easterly point in North America.  
Newfoundland and Labrador Tourism

St. John's is uniquely suited to be the host for the 2009 CSCE Annual Conference. As the capital of Newfoundland and Labrador, and located on the leading eastern edge of continental North America, St. John's and the surrounding area offer numerous opportunities for sightseeing and recreation. Cabot Tower and the Signal Hill National Historic Site are just around the corner from the venue hotel. The historic Outer Battery fishing village is perched at the entrance to St. John's Harbour. Cape Spear, the most easterly point in North America, is within a 20 minute drive from St. John's. Be the first to see the sunrise over continental North America!



Photo: Downtown St. John's.  
Newfoundland and Labrador Tourism



A varied presentation format has been designed to encourage participation from industry, academia and government. Distinguished keynote speakers, a large industrial exhibition, and several practical short courses will be offered at this Conference. As well, there will be technical tours to local sites of interest. Our offsite social evening will feature dining and entertainment with a uniquely Newfoundland flavour. The Companions Program will be of interest, and one to remember!

Space is very limited, so book early!

Gordon Jin, P. Eng., FCSCE  
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Photo: Golf at Pippy Park, St. John's.  
Newfoundland and Labrador Tourism

## Conference Organization:

- ❖ 2009 Annual General Conference of the Canadian Society for Civil Engineering
- ❖ CSCE Forum on Professional Practice and Career Development
- ❖ 1<sup>st</sup> International/1<sup>st</sup> Engineering Mechanics and Materials Specialty Conference (IEMM-01/EMMSC-01)
- ❖ 1<sup>st</sup> International Hydrotechnical/3<sup>rd</sup> Coastal, Estuarine and Offshore Engineering Specialty Conference (IHSC-01/ICEOE-03)
- ❖ 2<sup>nd</sup> International/ 8<sup>th</sup> Construction Specialty Conference (ICS-02/CSC-08)

## Technical Programme:

The technical programme includes plenary and parallel technical sessions over three days. Keynote speakers will present the state-of-the-art reflecting the conference theme, "On the Leading Edge", and key topics of the general and specialty conferences.



Photo: Tourboat and Iceberg, near St. John's.  
Newfoundland and Labrador Tourism



## Nature of Participation:

Individuals wishing to participate are invited to send a short abstract (300 words maximum) in accordance with the topics of the general and specialty conferences. Authors are invited to specify the applicable conference (general or specialty) on their submission. Papers can be either full papers or extended abstracts (for case studies only). Student presentations should be identified as such.

## Submission and Notification Deadlines:

### October 15<sup>th</sup>, 2008

Deadline for short abstracts (300 words maximum) submitted electronically via the conference website. Abstracts are required for all submissions regardless of presentation formats.

[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

### November 30<sup>th</sup>, 2008

Notification of acceptance of abstracts. Authors will be provided with detailed instructions for the submission of the paper(s).

### January 15<sup>th</sup>, 2009

First draft of paper(s) submitted electronically via the conference website. Use of the specified template is **MANDATORY**.

[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)



### February 28<sup>th</sup>, 2009

Authors will be notified of the acceptance of their paper(s) and given instructions for the submission of a camera-ready final version.

### March 15<sup>th</sup>, 2009

Receipt of final papers, to be submitted electronically via conference website. Pre-registration is **MANDATORY** and deposits are NOT refundable. [www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

### Courses:

Several Courses will be offered that will appeal to conference attendees. Please check the conference website for more details.

[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

### Technical Tours:

A number of technical tours are planned in the vicinity of St. John's. These will be offered immediately before the conference.

### Social and Companions Programme:

A special offsite social evening and lobster dinner option has been planned for conference attendees. In addition, a diverse and culturally rich companions programme will be offered and will include visits to local attractions.



Photo: Lobsters!  
Newfoundland  
and Labrador Tourism

### Accommodations:

The Conference will be held at the Fairmont Newfoundland where a limited number of rooms with reduced room rates have been reserved for delegates. Early registration is advised. To take advantage of the reduced room rates, EITHER call Fairmont reservations at 1-800-441-1414 and book under "**CSCE 2009 at the Fairmont Newfoundland**", OR log onto the Fairmont online reservations site at:

<http://resweb.passkey.com/go/csce>

Some rooms have also been reserved at the Quality Inn, near the Conference hotel. Please check the conference website for additional contact information for the hotels.

### Travel Arrangements:

The Official Canadian Airline of the Conference is Air Canada. To receive special discounts on conference airfare, (including 10% reduction on any fare class "Tango Plus" and above) please enter promotion code **FWDPDGE1** when you make your reservation at [www.aircanada.com](http://www.aircanada.com).



It is suggested that delegates give serious consideration to arriving at least a day early for the Conference. Late Spring in eastern Newfoundland brings days of brilliant sunshine, but it can also include a day or two of "R-D-F", or rain, drizzle and fog. Airline schedules can be impacted, and delays at that time of year are not unheard of. It's better to be safe; to arrive a little early than be caught in the occasional weather-related delay.

## 2009 Annual General Conference of the Canadian Society for Civil Engineering.

CHAIR: **Dr. Leonard Lye, P. Eng., FCSCE,**  
 Chair of Civil Engineering,  
 Memorial University of Newfoundland,  
 St. John's

The Canadian Society for Civil Engineering (CSCE) invites you to submit abstracts for papers related to the Conference theme, "On the Leading Edge". The objective of the Conference is to provide a forum for the presentation and discussion of leading edge developments in all areas of civil engineering, and to provide an opportunity for national and international delegates from industry as well as academia to interact and share their views, learn about leading edge technologies in different areas of civil engineering, and to discuss future directions. Papers are invited in topics related to leading edge developments in the following suggested areas, but are not limited to:

- ❖ civil engineering education and training
- ❖ civil engineering history
- ❖ codes of practice and design aids
- ❖ engineering materials
- ❖ environmental engineering
- ❖ geomatics and remote sensing
- ❖ hydrotechnical engineering
- ❖ computer and information technologies
- ❖ infrastructure management and renewal
- ❖ municipal engineering

- ❖ risk assessment and management
- ❖ sustainable development
- ❖ transportation engineering
- ❖ occupational health and safety

Please submit abstracts (300 words maximum) electronically via the conference website.

**[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)**

For more information, please contact:

Dr. Leonard Lye, P. Eng., FCSCE,  
 Technical Program Chair  
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 telephone: 709 737 8933  
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Photo: Memorial University's Ocean Sciences Centre, near St. John's.  
 Newfoundland and Labrador Tourism

## CSCE Forum on Professional Practice and Career Development.

CHAIR: **Mr. Brian Burrell, P. Eng., FCSCE,**  
Chair,  
CSCE Career Development Committee,  
Fredericton

As part of the 2009 CSCE Annual Conference, there will be a special Forum on the future of professional practice and career development for civil engineers. Topics of interest include:

### Education and Continuing Education

- ❖ Teaching future civil engineers
- ❖ Perspectives on professional development
- ❖ Pedagogical challenges in technical upgrading and advancement of civil engineers
- ❖ Recognizing emerging technologies

### Employment of Civil Engineers in the 21st Century

- ❖ Employment, unemployment, and underemployment
- ❖ Transfer of credentials
- ❖ Outsourcing and foreign competition

- ❖ Recruitment and retention of engineers, their remuneration and unionization
- ❖ Difficulty in establishing new engineering enterprises
- ❖ Supply and demand of engineering graduates
- ❖ Erosion of the scope of civil engineering practice

### Civil Engineers in the Workplace

- ❖ Ethics in a changing world
- ❖ Image and career advancement
- ❖ Challenges of working in multidisciplinary, diverse workplaces
- ❖ Roles of professional licensing and learned societies
- ❖ Liability and insurance issues

### Civil Engineers in the World

- ❖ International development projects - appropriate technology
- ❖ Third world issues in engineering practice, building effective partnerships, dealing with corruption, receiving payment for services
- ❖ Sustainability and environmental issues in civil engineering practice



Please submit abstracts (300 words maximum) for this forum electronically via the conference website.

[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

For more information, please contact:  
Mr. Brian Burrell, P. Eng., FCSCE  
Chair, CSCE Forum on Professional Practice  
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Photo: Newfoundland and Labrador Tourism

## 1<sup>st</sup> International /1<sup>st</sup> Engineering Mechanics and Materials Specialty Conference.

(IEMM-01/EMMSC-01)

CO-CHAIRS: **Dr. Amgad Hussein, P. Eng.,**  
Memorial University of Newfoundland  
St. John's  
and  
**Dr. Michael Thomas, P. Eng., MCSCE,**  
University of New Brunswick  
Fredericton

In conjunction with the 2009 CSCE Annual Conference, CSCE is pleased to hold the 1<sup>st</sup> International/I<sup>st</sup> Specialty Conference on Engineering Mechanics and Materials. The Specialty Conference will bring together academics, researchers and practitioners to present, review, and discuss leading edge developments in this increasingly important area of mechanics and materials. Papers are invited on any aspect of engineering mechanics and materials including, but are not limited to:

- ❖ Ice mechanics
- ❖ Fracture mechanics
- ❖ Smart materials and structures
- ❖ Nanotechnology
- ❖ Composite materials and their behaviour
- ❖ High performance concrete
- ❖ Fracture and damage mechanics

- ❖ Micromechanics of materials
- ❖ Computing in Applied Mechanics
- ❖ Geomechanics
- ❖ Uncertainty and probabilistics

All papers in this Specialty Conference will be peer reviewed. Please submit abstracts (300 words maximum) electronically via the conference website. **[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)**

For more information, please contact:

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 Engineering Mechanics/  
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Photo: Iceberg aground at Fort Amherst, entrance to St. John's Harbour.  
 Newfoundland and Labrador Tourism

## 1<sup>st</sup> International Hydrotechnical/ 3<sup>rd</sup> Coastal, Estuarine, and Offshore Engineering Specialty Conference. (IHSC-01/ICEOE-03)

CHAIR: **Mr. Cyril Elliott, P. Eng., FCSCE**,  
 President, Elliott and Elliott Ltd,  
 St. John's

The 1<sup>st</sup> International Hydrotechnical/3<sup>rd</sup> Coastal, Estuarine, and Offshore Engineering Specialty Conference is organized under the auspices of the Hydrotechnical Division of CSCE and will be held in conjunction with the 2009 CSCE Annual Conference. This Specialty Conference will bring together academics, researchers and practitioners from around the world in the fields of hydrotechnical, coastal, estuarine, and offshore engineering. In keeping with the general theme, they will present, review and debate recent achievements and innovative solutions, and address and define the challenges of the present and the future in those specialized fields. Suggested topics include, but are not limited to:

- ❖ Design of offshore structures and facilities
- ❖ Climate change and future sea levels - implications for coastal populations and coastal infrastructure
- ❖ Dynamics of wave action on fixed structures
- ❖ Wave action and coastal erosion
- ❖ Energy extraction from tides - current state, future potential

- ❖ Impact of ocean depths on hydrocarbon extraction techniques
- ❖ Impacts of hydrocarbon extraction on the marine environment and measures for impact mitigation
- ❖ Coastal currents - measurement, coastal erosion, and shoreline protection
- ❖ Icebergs - recording, tracking, and impacts of climate change on size, distribution, yearly frequency, life span
- ❖ Impact of climate change on water resources, coastal and offshore engineering
- ❖ Past, present and future water levels on the Great Lakes; the consequences of level changes on lake shorelines and structures
- ❖ Global warming and the Arctic Ocean, coasts, seabeds, structures, and resource extraction
- ❖ Extreme hydrodynamic loads

All papers in this Specialty Conference will be peer reviewed. Please submit abstracts (300 words maximum) for this forum electronically via the conference website. [www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)

For more information, please contact:

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Coastal, Estuarine and  
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## 2<sup>nd</sup> International/8<sup>th</sup> Construction Specialty Conference.

(ICS-02/CSC-08)

CO-CHAIRS: **Dr. John Christian, P. Eng., FCSCE,**  
and  
**Dr. Jeff Rankin P. Eng., MCSCE,**  
University of New Brunswick,  
Fredericton

The 2<sup>nd</sup> International/8<sup>th</sup> Construction Specialty Conference is a great opportunity for specialists from around the world to share experiences with their peers. Papers are invited on the Conference theme "On the Leading Edge", as well as on any aspect of construction engineering including, but are not limited to:

- ❖ Case studies
- ❖ Computer applications
- ❖ Globalization
- ❖ Construction engineering and management
- ❖ Infrastructure management and renewal,
- ❖ Information technology
- ❖ Project planning and control
- ❖ Risk assessment and management
- ❖ Modelling
- ❖ Project delivery
- ❖ Value engineering
- ❖ Multi-disciplinary coordination



All papers in this Specialty Conference will be peer reviewed. Please submit abstracts (300 words maximum) electronically via the conference website. **[www.csce.ca/2009/annual/](http://www.csce.ca/2009/annual/)**

For more information, please contact:

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Photo: 'The Irish Loop' scenic drive, just south of St. John's.  
Newfoundland and Labrador Tourism

## City of Ocean Excellence

WE'RE A LAND OF EXCELLENCE AFLOAT ON  
A SEA OF POSSIBILITIES

Poised at the brink of the North Atlantic Ocean, St. John's is the heart of Newfoundland and Labrador's 17,000 kilometre coastline. The long maritime history of this distinguished port city stems from a way of life that has always been irrevocably tied to the sea. From this connection, we've drawn on our strength and skills



to harness the ocean to its maximum potential - and that potential grows every day. From the fishery and offshore energy industry, to ocean technology and marine biotechnology, local companies have transformed St. John's from a mere port city to a City of Ocean Excellence.



Photos, City of St. John's

**[www.stjohns.ca/business/oceanexcellence/index.jsp](http://www.stjohns.ca/business/oceanexcellence/index.jsp)**

# Welcome to St. John's!

# Bienvenue à St. John's!



Come discover one of the oldest cities in North America. A city unlike any other. Cradled in a harbour carved from granite. Surrounded by hills running down to the ocean. Quaint side streets of a thousand colours. Friendly faces wait to greet you. Where old and new, city and nature, live as neighbours. Come take a journey to the City of Legends.



Jelly Bean Row, Duckworth Street, St. John's  
Maisons multi-coulores, rue Duckworth, St. John's



The Fairmont Newfoundland, the Conference Hotel  
L'hotel Fairmont Newfoundland, hotel du congrès

Venez découvrir une des plus anciennes villes en Amérique du nord. Une ville unique. Blottie autour d'un port sculpté dans le granite. Entourée de collines qui rencontrent l'océan. Jonchée de rues sympathiques avec des maisons aux couleurs de l'arc-en-ciel. Des visages accueillants vous attendent. Où l'ancien et le nouveau, ville et nature, vivent en harmonie. Venez visiter la ville des légendes.

St. John's is a gateway to some of the most beautiful ocean vistas in the world. From all corners of the earth, people come to enjoy our oceanside hiking trails and rugged coast. They come to partake in whale watching, sea kayaking and fishing. The icebergs that float past our shores are a must-see for every traveler. These silent giants seem as ice castles, floating down from the Arctic. The ocean is the lifeblood of St. John's, and we are proud to share it with the world.

[www.stjohns.ca/visitors/index.jsp](http://www.stjohns.ca/visitors/index.jsp)

*"...INTIMATE, BREATHTAKING and UNFORGETTABLE...there are no words to accurately describe the beauty of ST. JOHN'S and its surroundings."*

St. John's est une porte d'entrée sur quelques uns des plus beaux spectacles que l'océan peut offrir. De tous les coins de la terre, les visiteurs affluent pour profiter de nos sentiers pédestres au bord de l'océan et notre littoral rugueux et pittoresque. Ils viennent pour voir les baleines, faire du kayak de mer et pour la pêche. Les icebergs qui séjournent dans notre région sont un incontournable pour tout voyageur. Ces géants silencieux ressemblent à des châteaux de glace, qui nous arrivent directement de l'arctique. L'océan est l'élément vital de St. John's, et nous sommes fiers de la partager avec le monde entier.

[www.stjohns.ca/visitors/index.jsp](http://www.stjohns.ca/visitors/index.jsp)

*"...INTIME, A COUPER LE SOUFFLE et INOUBLIABLE... il n'y a pas de mots pour décrire avec précision la beauté de St. John's et de ses environs."*