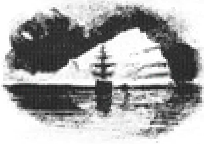


# Icetech 2006

July 16-19, 2006  
Banff, Canada



CANATEC Associates International Ltd.

## Program & Conference Guide

### Organizing Committee:

Frank Bercha, Chair  
Alex Brovkin, Website  
Connie Carruthers, Sponsorship  
Chris Hill, Exhibits & Publicity  
Dave McGonigal, Program  
Roger Pilkington, Papers  
Colin Revill, Finance

Sunday 1800-2100

### Icebreaker Reception

Hors d'oeuvres, and classic entertainment. Main dining area.



Monday 1900-2200

### Alpine Fun Night

Alpine entertainment and fun contests. Main dining area.



Tuesday 1830-2230

### Western BBQ

Local entertainment and traditional Native Hoop Dancing (buses depart at 1830, return at 2230)



# Monday, July 17 2006

**OPENING CEREMONY, Chair - C. Carruthers** 815-900

Welcome: Conference Chair - F. Bercha  
 Welcome: Mayor of Banff, Canada, USA

**PLENARY SESSION, Chair - C. Reville (M-PS-1)** 900-1000

The Mission of the Canadian Coast Guard in the Arctic, F. Robertson (Canada)  
 Harmonization of Polar Rules, V. Santos Pedro (Canada)

**Coffee Break**

1000-1020

**Aker Arctic**
**ICEBREAKER PERFORMANCE 1, Chair - F. Robertson (M-IP-1)** 1020-1120

Propulsion and Maneuvering Model Tests of the USCGC Healy in Ice and Correlation with Full-Scale, S. J. Jones and M. Lau (104 Canada)  
 Experience of Azipod Vessels in Ice, G. Wilkman, M. Arpiainen, M. Nini, T. Mattsson (134 Finland)  
 New Generation of Polar Research Vessel, R. Voelker, et al. (103 USA)

**ISO WG8 - Arctic Structures 1, Chair - D. Blanchet, K. Croasdale, W. Spring (M-ISO-1)**

ISO WG8 Arctic Structures Standard - Overview, D. Blanchet  
 Presentations by technical panel representatives: TP2a-Reliability, F. Bercha; TP8b-EER, J. Poplin; TP7-Floaters, R. McKenna

**SAKHALIN DEVELOPMENTS 1, Chair - A. Keinonen (M-SD-1)** 1120-1220

Oil Exploration and Production Offshore Sakhalin Island, I. Reed (124)  
 Six Years in Sakhalin Offshore Oil - Management of Risk, Operations in Ice, A. Keinonen, R. Browne, W. Jolles and E. Lamm (105 Canada)  
 Ice Monitoring in Support of Risk Management for Sakhalin Energy's Offshore Oil Production, R. Pilkington, et al. (106 Canada)

**ISO WG8-Arctic Structures 2, Chair - D. Blanchet, K. Croasdale (M-ISO-2)**

Panel: all ISO WG8 members attending Icetech - open discussion facilitated by D. Blanchet

**Sponsor Presentation - USARC**

1220-1230

**Lunch (Main dining area)**

1230-1345

**US Arctic Research Commission**
**ICE-STRUCTURE INTERACTIONS 1, Chair - O. Gudmestad (M-IS-1)** 1345-1445

Reliability of Arctic Offshore Installations, F. Bercha, O. Gudmestad, D. Nevel, R. Foschi, F. Sliggers, N. Nikitina (113 Canada)  
 A Study of the Failure Mechanisms of Ice Ridges Interacting with the Confederation Bridge Piers, M. El Seify and T. Brown (118 Canada)  
 Evaluation of Ice Loads Acting on Spray Ice Islands, V. Morgan, J. Bruce, D. Masterson, and D. Hinnah (145 Canada)

**ARCTIC SHIPPING 1, Chair - D. Dickins (M-AS-1)** 1445-1545

Transit and Stationary Coring Operations in the Central Polar Pack, A. Keinonen, M. Shirley, G. Liljeström, and R. Pilkington (125 Canada)  
 Factors Influencing the Development of a Possible Year Round Oil Transport Route from Dikson, K. Riska, K. Breific, S. Inge Eide, O. Gudmestad, and T. Hilden (153 Finland)  
 Review of Summer Ice Conditions Affecting Vessel Access to the Coronation Gulf Region of Nunavut, D. Dickins (154 USA)

**Coffee Break**

1545-1605

**D. F. Dickins and Associates**
**ICEBREAKER PERFORMANCE 2, Chair - P. Valanto (M-IP-2)** 1605-1705

Vessels for Subsea Intervention in the Arctic, E. Hovland, O. T. Gudmestad (101 Norway)  
 On the Ice Load Distribution on Ship Hulls in Level Ice, P. Valanto (110 Germany)  
 CCG Navigation Technology Developments for Operating in Ice-Infested Waters, F. Robertson (168P Canada)

**SUBSEA SYSTEMS 1, Chair - S. Loset (M-SS-1)** 1705-1805

Subsea Versus Surface Developments in the Arctic, O. Gudmestad and S. Løset (163)  
 Wellhead Protection Concepts for Subsea Marginal Developments - Grand Banks of Newfoundland, C. Fowlow (128 Canada)  
 Marine Ice Profiling: Future Directions, D. Fissel, J. Marko (166 Canada)

**ICE-STRUCTURE INTERACTIONS 2, Chair - C. Hill (M-IS-2)**

A Comparative Study on the Linear Wave Response of a Flat Floating Body, C. Wang (157 Singapore)  
 Real Icebreaking Experience in the Caspian Sea, Arctic and Antarctic, G. Bakker (170P1)

**Hospitality Suite (Molson Room)**

1805-1900

**Bercha Group**

# Tuesday, July 18 2006

## PLENARY SESSION, Chair - V. Santos Pedro (T-PS-2) 900-1000

Arctic Marine Shipping Assessment (AMSA): The Arctic Council's Response to Changing Marine Access, L. Brigham (165 USA)  
International Shipping and the Changing Arctic: Centre for Military and Strategic Studies, R. Huebert (Canada)

### Coffee Break

1000-1020

### Sandwell Engineering

#### NORTHERN SEA ROUTES 1, Chair - D. Laible (T-NSR-1)

1020-1120

The Siberian Arctic Ocean Highway: Redefining the World's Trading Patterns, J. Femenia (129 USA)  
AMSA Marine Activity Data Collection Effort, R. MacDonald (170P Canada)  
A Proposed Icebreaker for Shipping LNG from the Canadian Arctic, R. Dick, M. Bell and A. Prior (130 UK)

#### ICEBREAKERS PERFORMANCE 3, Chair - D. Masterson (T-IP-3)

Hull Form Design for Icebreaking Tankers, H. S. Kim, D. Molyneux, M-K. Ha, and D. Ahn (116 Canada)  
Ship Collision with Iceberg Database, B. Hill (117 Canada)  
Ice Lumped Mass Impacts with Floating Offshore Structures, D. Masterson and P. Spencer (164 Canada)

#### ARCTIC EER & SAFETY 1, Chair - E. Radloff (T-EER-1)

1120-1220

Development of Canadian Arctic and Open Water EER Standards, F. Bercha and E. Radloff (114 Canada)  
Ice Breaking Lifeboat, B. Johannson (162 Canada)  
TEMPSC Trials in the Northumberland Strait, A. Kendrick, G. Igloliorte, A. Liddiard, and M. Steele (147 Canada)

#### ICEBREAKERS PERFORMANCE 4, Chair - J. Femenia (T-IP-4)

Estimating Probabilistic Iceberg Design Loads on Ships Navigating in Ice Covered Waters, R. Freeman, I. Jordaan, P. Clark, and P. Stuckey (141 Canada)  
Fatigue Assessment for Ship Hull Structures Navigating in Ice Regions, R. Bridges, S. Zhang, K. Riska, and H. Polezhayeva (142 UK)  
USCG Polar Class Aft Sterntube Bearing Design Modifications, B. Cowper, A. Kolomojcev, K. Danahy, and J. Happe (135 Canada)

#### Sponsor Presentation - Devon Canada

1220-1230

### Lunch

1230-1345

### Devon Canada

#### ICEBREAKERS PERFORMANCE 5, Chair - C. Young (T-IP-4)

1345-1445

Statistical Analysis of the Optimum Amount of Bollard Pull Required for Towing an Iceberg, C. Young and P. Rudkin (121 Canada)  
Evolution of an Inertial Measurement System Called MOTAN: Summary of Installations on Five Ice-Strengthened Ships, M. Johnston (109 Canada)  
Recent Advances in Structural Design of Ice-Strengthened Vessels, G. Wang, S. Liu, and K. Riska (127 USA)

#### ENVIRONMENTAL 1, Chair - R. Prentki (T-ENV-1)

Prediction of Oil Spill Occurrence Probabilities in the Alaskan OCS, F. Bercha, R. Prentki, C. Smith, and M. Cerovsek (115 Canada/USA)  
Spring Ice Processes on Rivers of North Eastern Russia, N. Tananaev, A. Zaitsev, and V. Belikov (120 Russia)  
Institute of the North, B. Ellis (167 USA)

#### SAKHALIN DEVELOPMENTS 2, Chair - A. Brovin (T-SD-2)

1445-1545

Environmental Phenomena Observed off the Northeast Coast of Sakhalin Island during Support Operations for Sakhalin Energy's Offshore Oil Production Activities, V. Tambovsky, S. Ryabov, V. Pishchalnik, R. Pilkington, and A. Keinonen (107 Russia)  
A Method of Assessment for Wind Forecasts Developed for the Sakhalin Offshore Ice Service Operations on the Vityaz Oil Production Complex, V. Pishchalnik, A. Brovin, and V. Tambovsky (152 Canada)

#### OFFSHORE DEVELOPMENT ENGINEERING 1, Chair - A. Brovkin (T-ODE-1)

Module Optimization on Early Stage of Engineering for Remote Exploration and Production Sites, A. Brovkin, G. Zelych, and D. Murphy (149 Canada)

An Extreme Value Analysis of Local Pressures, T. Karna, Y. Qu, and Q. Yue (155 Finland)

Ice Observations and Forecasting During the Arctic Coring Project, August - September 2004, R. Pilkington, A. Keinonen, and I. Sheikin (171 Russia)

### Coffee Break

1545-1605

### Sandwell Engineering

### Hospitality Suite (Molson Room)

1605-1800

### Bercha Group

## Wednesday, July 19 2006

PLENARY SESSION, Chair - R. Pilkington (W-PS-3 ) 900-1000

Adventures in Arctic Naval Architecture, P. Noble (158 USA)

Arctic Escape, Evacuation, and Rescue - Past, Present, and Future,  
F. Bercha (111 Canada)

### Coffee Break

1000-1020

### AKAC Inc.

REGULATIONS AND AMSA 1, Chair - I. Kubat  
(W-REG-1)

The Development of an Arctic Standard for Floating Production  
Systems, C. Makrygiannis, R. McKenna, B. Wright, N. Allyn,  
T. Sildnes, W. Jolles, M. Morland, and R. Grant (150 Canada)

Climate Change Impact on Northern Shipping Regulations, I. Kubat,  
R. Gorman, A. Collins and G. Timco (108 Canada)

AMSA Initial Work in the Norwegian and Russian  
Arctic Seas, K. Juurnaa (173P Finland)

1020-1120 ARCTIC EER & SAFETY 2, Chair - D. McGonigal  
(W-EER-2)

Performance Limits of Lifeboats in Ice, A. Simões Ré, L. Mak,  
E. Kennedy, and B. Veitch (132 Canada)

Performance of Survival Craft in Ice Environments, M. Lau and  
A. Simões Ré (133 Canada)

Iceberg Shape Representation and Generation, R. McKenna  
(139 Canada)

ICEBREAKERS PERFORMANCE 6,  
Chair - A. Kendrick

Mathematical Modeling of Ice-Hull Interaction for Ship Maneuvering  
in Ice Simulations, J. Liu, M. Lau and F. Williams (126 Canada)

The Caspian Sea Icebreaking Supply Vessel 'Tulpar', A. Kendrick and  
J. Knott (146 Canada)

Rational Approach to Integrate the Design of Propulsion Power and  
Propeller Strength for Ice Ships, S-K. Lee (131 USA)

1120-1220 ARCTIC EER WORKSHOP, Chair - C. Brummelkam

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Sakhalin EER, J. Koch (Holland)

EER Philosophy, W. Spring (USA)

EER Modeling, F. Bercha (Canada)

The Skyscape EER System, D. O'Brien (Canada)

Sponsor Presentation - IMV Projects

1220-1230

### Lunch (Main dining area)

1230-1345

### IMV Projects

ARCTIC MARINE SHIPPING ASSESSMENT 1,  
Chair - L. Brigham (W-AMSA-1)

General Questions and Survey Results-How will technological  
advances influence the future of marine activity in the Arctic Ocean,  
Facilitators-AMSA TEAM: L. Brigham, R. MacDonald, K. Juurnaa,  
E. Cunningham, V. Santos Pedro

ARCTIC MARINE SHIPPING ASSESSMENT 2,  
Facilitator - L. Brigham (W-AMSA-2)

Effect of technological advances and climate change on Arctic  
shipping in the first half of 21st century.

1345-1445  
1445-1545 ARCTIC MARINE SHIPPING ASSESSMENT 3,  
Facilitator - R. MacDonald (W-AMSA-3 )

Effect of technological advances and climate change on Arctic  
offshore development and tourism in the first half of the 21st  
century.

ARCTIC MARINE SHIPPING ASSESSMENT 4,  
Fourth session same time as above (W-AMSA-4  
location TBA)

### Coffee Break

1545-1605

### Canatec Associates International Ltd.

CLOSING CEREMONIES, Chair - F. Bercha

1605-1700

Awards, announcements and closing remarks.

... have a safe journey home