April 19 to 23, 2009
Fairmont Queen Elizabeth, Montreal, Quebec, Canada

Preliminary Program

16th International Conference on Aquatic Invasive Species

Hosted by

Fisheries and Oceans Canada

Pêches et Océans Canada

NOAA
The introduction and spread of invasive species in freshwater and marine environments is a worldwide problem that is increasing in frequency. There are various pathways by which non-indigenous invertebrate, fish, and plant species are introduced, become established and cause significant damage to coastal and freshwater ecosystems, and to the economies that depend upon them.

Fisheries and Oceans Canada and NOAA are Co-hosting the 16th International Conference on Aquatic Invasive Species that will be held in Montreal, Canada, April 19 to 23, 2009.

This conference series continues to evolve to incorporate new and emerging issues related to aquatic invasive species. This is the most comprehensive international forum for the review of accumulated scientific knowledge; presentation of the latest field research; introduction of new technological developments for prevention, monitoring and control; and discussion of policy, legislation, public education and outreach initiatives to raise awareness of the impacts of aquatic invasive species and prevent new introductions. The conference typically involves over 400 participants from 30 countries representing academia, industry, government agencies, NGOs and other stakeholders involved in these issues and seeking opportunities for cooperation and collaboration to address them.

Technical Program Committee

Christopher J. Wiley, Fisheries and Oceans Canada and Transport Canada, Co-Chair
David F. Reid, National Oceanic and Atmospheric Administration, Co-Chair
Abraham bij de Vaate, Waterfauna Hydrobiologisch Adviesbureau, Past Chair, Technical Program Committee, 2007
Kay H. Austin, International Joint Commission, United States Section
Beth Brownson, Ontario Ministry of Natural Resources
Renata Claudi, RNT Consulting Inc.
Alfred F. Cofrancesco, US Army Engineer Research & Development Center
Becky Cudmore, Fisheries and Oceans Canada
John Dettmers, Great Lakes Fishery Commission
Marc Gaden, Great Lakes Fishery Commission
Sharon Gross, US Geological Survey
Robert Hester, Ontario Power Generation
Michelle Harmon, National Oceanic and Atmospheric Administration
Jim Houston, International Joint Commission, Canadian Section
Françoise Labonté, Fisheries and Oceans Canada
Rob Leuven, Radboud University Nijmegen
Frances Lucy, Institute of Technology, Sligo, School of Science
Nicholas Mandrak, Fisheries and Oceans Canada
Fred Nibling, US Bureau of Reclamation
Bivan Patnaik, US Coast Guard
Stephen Phillips, Pacific States Marine Fisheries Commission
Sanjeevi (Raju) Rajagopal, Radboud University Nijmegen
Glenn Rhett, US Army Engineer Research & Development Center
Anthony Ricciardi, Canadian Aquatic Invasive Species Network
Gerard van der Velde, Radboud University Nijmegen
Leonard Willett, US Bureau of Reclamation
Conference Location
All conference sessions are being held at the Fairmont Queen Elizabeth in downtown Montreal. Trudeau International Airport is a major hub for Canadian, US and international flights. It is about a 30-minute drive from the airport to downtown Montreal and taxis are available around the clock. Via Rail provides daily scheduled train service to downtown Montreal, and the train station is adjacent to the Fairmont Queen Elizabeth, one level below ground. See the ICAIS website for more information about Montreal.

Hotel Accommodation
The Fairmont Queen Elizabeth is the official hotel for the Conference. The hotel is located in the heart of downtown Montreal with easy access to restaurants and shopping. The hotel is about a 30-minute taxi ride from Montreal’s Pierre Elliot Trudeau International Airport, and the Via Rail station is adjacent to the hotel, one level below ground.

The hotel is offering a special reduced rate for Conference participants of CAD$169.00 per night single/double occupancy. This link takes you directly to the on-line reservation form for ICAIS 2009 https://resweb.passkey.com/go/icais There are a limited number of rooms in the conference block, so be sure to make your reservation early.

The cut-off date for reservations is March 18, 2009 and after that date, accommodation will only be provided based on availability at the time of booking, and at the prevailing rate.

Please note that if you are a member of the Fairmont President’s Club you will receive free high-speed Internet access in your guest room during your stay (a cost saving of over $15.00 per day). Membership in the Fairmont President’s Club is free and provides many additional benefits at Fairmont hotels and resorts worldwide. To take advantage of the free Internet access and other benefits, be sure to sign up in advance of your arrival at the hotel. For details go to http://www.fairmont.com/EN_FA/MainNavigation/FPC.htm

Conference Registration
The early registration deadline for the conference is February 1, 2009. Please complete the form at the back of this brochure, or on-line through the Conference website, and send payment by cheque or money order in $CAD or $USD payable to ICAIS. Send payment to:

Elizabeth Muckle-Jeffs
Conference Administrator
1027 Pembroke Street East, Suite 200
Pembroke ON K8A 3M4 Canada
T: North America: 1-800-868-8776
T: International: (01) 613-732-7068
F: (01) 613-732-3386
E: elizabeth@theprofessionaledge.com
W: www.icais.org

To pay by Visa or MasterCard please contact the Conference Administrator and provide the information by telephone, or send the completed form by fax to the number indicated above.

Please note that for currencies other than $CAD or $USD, the rate will be converted to the currency of the card at the applicable exchange rate at the time the transaction is processed.

Refund Policy
Registration fees are refundable, less a $50 administration fee, provided that written notification of cancellation is provided to the Conference Administrator at the address indicated above by March 15, 2009. Refunds will not be issued until after the conference.
### Monday, April 20 Morning

**Plenary Session: Aquatic Invasive Species in a Changing World**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am</td>
<td>Welcoming Remarks</td>
<td>Fisheries and Oceans Canada and National Oceanic and Atmospheric Administration</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Black Swans on the Pond: The Future of Biological Pandemonium and Globalization</td>
<td>Andrew Nikiforuk, Journalist and Author</td>
</tr>
<tr>
<td>9:45 am</td>
<td>Questions and Discussion</td>
<td></td>
</tr>
<tr>
<td>10:00 am</td>
<td>Can We Predict (and Prevent) Aquatic Invasions?</td>
<td>Hugh J. MacIsaac, Director, CAISN Network and University of Windsor, GLIER, Canada</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Can We Predict the Impacts of Aquatic Invasions?</td>
<td>Anthony Ricciardi, McGill University, Redpath Museum, Canada</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Keynote Address</td>
<td>Wendy Watson-Wright, Assistant Deputy Minister, Science, Fisheries and Oceans Canada</td>
</tr>
<tr>
<td>11:30 am</td>
<td>Luncheon</td>
<td></td>
</tr>
</tbody>
</table>

### Monday, April 20 Afternoon

**Concurrent Session A-1**  
**Shipping: Great Lakes Management**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Joint US/Canadian Ballast Water Inspection Program: A Binational Approach to Securing the Great Lakes and St. Lawrence River</td>
<td>Matt Edwards, US Coast Guard Marine Safety Detachment, USA</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>Update on the Canadian Ballast Water Database</td>
<td>Sonya C. Santavy, Transport Canada, Ontario Region, Canada</td>
</tr>
<tr>
<td>2:10 pm</td>
<td>The Great Ships Initiative: Making Ballast Treatment in the Great Lakes a Reality</td>
<td>Allegra Cangelosi, Northeast-Midwest Institute, USA</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Timelines for Implementing Commercial Ballast Water Treatment Systems</td>
<td>Dale B. Bergeron, Minnesota Sea Grant College Program, USA</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>Break</td>
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</tbody>
</table>

**Concurrent Session B-1**  
**Tunicates**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>1:30 pm</td>
<td>Modeling the Effectiveness of Searches for Invasive Tunicates in a Prince Edward Island Estuary</td>
<td>Lisa G. Kanary, University of New Brunswick, Canada</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>Invasion Pathways of the Clubbed Tunicate Styela clava in the Northeastern Pacific</td>
<td>John A. Darling, US EPA, National Exposure Research Laboratory, USA</td>
</tr>
<tr>
<td>2:10 pm</td>
<td>What’s in a Water Sample? Using QRT-PCR and PCR to Detect Invasive Tunicate Eggs and Larvae</td>
<td>Sarah Stewart-Clark, CAISN, University of Prince Edward Island, Canada</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Risk Analysis for the Introduction of Non-indigenous Ascidians</td>
<td>Martin H. Davis, Fawley Biofouling Services, UK</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>Break</td>
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</tr>
</tbody>
</table>

**Concurrent Session C-1**  
**Control**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Integrated Approach to Protecting Industrial Assets from Macrofouling</td>
<td>Renata Claudi, RNT Consulting Inc., Canada</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>New Challenges for the Chicago Sanitary and Ship Canal Dispersal Barrier</td>
<td>Philip B. Moy, University of Wisconsin Sea Grant, USA</td>
</tr>
<tr>
<td>2:10 pm</td>
<td>UV 101: The Basics of UV Disinfection</td>
<td>Ji An, Trojan Technologies, Canada</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>UV Inactivation of Viral Hemorrhagic Septicemia Virus (VHSV IVb, Great Lakes Drum Isolate)</td>
<td>Linda Sealey, Trojan Technologies, Canada</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>Break</td>
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</table>

**Concurrent Session D-1**  
**Education and Outreach**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>1:30 pm</td>
<td>Please Don’t Dump in Our Oceans: Innovative, Educational, Outreach Products Featuring Lionfish and Caulerpa taxifolia Created by Educators for Educators</td>
<td>Linda Walters, University of Central Florida, Department of Biology, USA</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>Aquatic Invaders: Sea Grant/AZA Project Explains Pathways to Zoo and Aquarium Audiences</td>
<td>Katie Mosher Patterson, North Carolina Sea Grant, USA</td>
</tr>
<tr>
<td>2:10 pm</td>
<td>Mandatory HACCP Training for Bait Harvesters: Ontario’s Approach</td>
<td>Beth Brownson, Ontario Ministry of Natural Resources, Canada</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Boat Washing Stations — Palliative or Cure?</td>
<td>Douglas A. Jensen, University of Minnesota Sea Grant Program, USA</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>Break</td>
<td></td>
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</tbody>
</table>
Monday, April 20 Afternoon

**Concurrent Session A-2**

**Shipping: Canadian Research**

- 3:20 pm Physical Factors Influencing the Dilution and Long Range Dispersion of Ballast Water Discharged in a Harbour
  Mathew Wells, University of Toronto at Scarborough, Department of Physical and Environmental Sciences, Canada

- 3:40 pm Invertebrates and Resting Stages in Sediment of Ballasted Ships Entering Canadian Ports
  Elizabeta Brisik, CAISN, University of Windsor, GLIER, Canada

- 4:00 pm Non-indigenous Dinoflagellates (Motile and Cyst Forms) Introduced by Ship Transport to Canadian Aquatic Ecosystems
  Oscar Casas-Monroy, CAISN, Université du Québec à Rimouski, Canada

- 4:20 pm Pseudo-nitzschia Propagule Pressure in Ballast Water Discharged in a Harbour
  Mathew Wells, University of Toronto at Scarborough, Department of Physical and Environmental Sciences, Canada

**Concurrent Session B-2**

**Tunicates**

- 3:20 pm Monitoring for Tunicates in Nova Scotia
  Benedikte Vercaenmer, Fisheries and Oceans Canada, Bedford Institute of Oceanography, Canada

- 3:40 pm First Occurrence of the Invasive Colonial Ascidian Didemnum vexillum to Utilize Eelgrass Zostera marina as Substrate
  Mary R. Carman, Woods Hole Oceanographic Institution, Geology and Geophysics Department, USA

- 4:00 pm Rapid Response to a New Marine Invader in Ireland – Didemnum spp.
  John Kelly, EnviroCentre, Northern Ireland

- 4:20 pm Successful Eradication of the Colonial Violet Tunicate Botryllus violaceus, in Belleoram Harbour, Fortune Bay, on the Southern Newfoundland Coast – Rapid Response and Mitigation Strategy
  Cynthia H. McKenzie, Fisheries and Oceans Canada, Northwest Atlantic Fisheries Centre, Canada

- 4:40 pm Development of a Portable Aquatic Laboratory for Mitigation Studies on Aquatic Invasive Tunicates
  Garth Arsenault, University of Prince Edward Island, Atlantic Veterinary College, Canada

- 5:00 pm New Mitigation Options Against Ciona intestinalis
  Christine Paezold, University of Prince Edward Island, Atlantic Veterinary College, Canada

- 5:20 pm Field Trial to Optimize High-pressure Water Treatment for Ciona intestinalis on Mussel Aquaculture on Prince Edward Island
  Aaron Ramsay, University of Prince Edward Island, Atlantic Veterinary College, Canada

- 5:40 pm Washington State’s Response to Invasive Tunicates in Puget Sound: Accomplishments, Lessons Learned and Next Steps
  Kevin Anderson, Puget Sound Partnership, USA

**Concurrent Session C-2**

**Control**

- 3:20 pm Ultraviolet for Golden Mussel Larvae Control and Microcystis Removal as Pilot Experiments
  Cintia Pinheiro dos Santos, Federal University of Rio Grande do Sul, Centro de Ecologia, Brazil

- 3:40 pm Control and Eradication of the Invasive Ectoparasite Gyrodactylus salaris on Atlantic Salmon (Salmo salar) in Norway
  Jarle Steinkjer, Directorate for Nature Management, Norway

- 4:00 pm Invasive Fish Eradication Using Rotenone Derived Products in Water Bodies of Andalusia (Southern Spain)
  Carlos Fernandez-Delgado, University of Cordoba, Department of Zoology, Spain

- 4:20 pm Better Biocide Delivery to Fouling Surfaces: Reaching the Interface from Within
  Sanjeevi Rajagopal, Radboud University Nijmegen, Institute for Wetland and Water Research, The Netherlands

- 4:40 pm Chronic Thermal Tolerance Limits of Quagga Mussels from Lake Mead (Arizona/Nevada) Relative to Zebra Mussels from Oklahoma, Kansas and New York
  Robert F. McMahon, University of Texas at Arlington, USA

- 5:00 pm Eradication of Introduced Signal Crayfish (Pacifastacus leniusculus) and Rudd (Scardinius erythrophthalmus) Using the Pharmaceutical BETAMAX VET®
  Helge Bardal, National Veterinary Institute, Section for Zoology, Norway

**Concurrent Session D-2**

**Education and Outreach**

- 3:40 pm Watercraft Inspection Training for Dreissenid Mussels in the Western United States
  Stephen H. Phillips, Pacific States Marine Fisheries Commission, USA

- 4:00 pm Using Interactive Web Technology to Educate and Inspire Community Action to Address Aquatic Invaders
  Robin Goettel, Illinois-Indiana Sea Grant Program, USA

- 4:20 pm Invasive Wetlands Plants Campaign and Outreach
  Hélène Godmaire, Great Lakes United, Union Saint-Laurent Grands Lacs, Canada

- 4:40 pm Linking Science, Community, and Action Through Aquatic Invasive Species (AIS) Education: Outcomes of a Pilot Project and Why it Worked
  Samuel Chan, Oregon State University, Sea Grant College Program and Extension Service, USA

- 5:00 pm Understanding Citizens’ Attitudes and Beliefs Regarding Behaviors that Prevent the Spread of Invasive Species: Applications for a Statewide Awareness Campaign
  Samuel Chan, Oregon State University, Sea Grant College Program and Extension Service, USA

- 5:20 pm Aquatic Invasive Species Watercraft Inspection Program in NW Ontario, Canada
  Laurie Wesson, Fisheries and Oceans Canada, Canada

- 5:40 pm Piloting a Volunteer AIS Boater Education Program: Michigan’s Experience with Clean Boats, Clean Waters
  Carol Y. Swinehart, Michigan Sea Grant College Program, USA
New York State Waterbird Mortality as a Result of Type E Botulism and Non-native Invasive Species
David Adams, New York State Department of Environmental Conservation, Office of Invasive Species Coordination, USA

Impact of the Zebra Mussel (Dreissena polymorpha) on Native Unionid Bivalves in European Ecosystems
Jean-Nicolas Beisel, Université Paul Verlaine – Metz, Laboratoire des Interactions Ecotoxicologie, Biodiversité, Écosystèmes, France

Comparative Phylogeography of Two Invasive Colonial Tunicates Reveals Contrasting Invasion Histories in North America
Dan Bock, CAISN, University of Windsor, GLIER, Canada

Control of the Highly Invasive Curly Leaved Pondweed (Lagarosiphon major) in a Lake in the River Shannon Catchment, Ireland
Joe M Caffrey, Central Fisheries Board, Ireland

Use of Mitochondrial Cytochrome c Oxidase I (COI) Gene Sequences to Suggest Probable Source Populations of Non-indigenous Ascidians in Newfoundland
Ashley G. Callahan, Memorial University of Newfoundland, Ocean Sciences Centre, Canada

Prevention of Dispersion Strategy for Golden Mussels in Central Parts of South America
Claudia T. Callil, Federal University of Mato Grosso, Biosciences Institute, Brazil

Gametogenesis and Population Traces of Limnoperna fortunei (Dunker, 1857) in a Brazilian Wetland
Claudia T. Callil, Federal University of Mato Grosso, Biosciences Institute, Brazil

Fragmentation and Dispersal of the Invasive Colonial Tunicate Didemnum vexillum
Mary Carman, Woods Hole Oceanographic Institution, Geology and Geophysics Department, USA

Shell Growth of Limnoperna fortunei in Two Localities Under Different Climate in the Plata Basin (Argentina)
Gustavo Darrigran, Grupo de Investigación sobre Moluscos Invasores Plajas, División Zoología Invertebrados, Argentina

Population Structure of the Invasive Hydrozoan Cordylophora in the Great Lakes
John A. Darling, US Environmental Protection Agency; National Exposure Research Laboratory, USA

Developing Robust, Risk-based Audit Protocols to Prevent the Accidental Introduction of Non-native Fishes in England and Wales
Gareth D. Davies, Bournemouth University, Centre for Conservation Ecology and Environmental Change, UK

Chinese Mitten Crabs in the St. Lawrence River and Estuary, Canada: Origin and Risk of Invasion
Yves de Lafontaine, Environment Canada, St. Lawrence Centre, Canada

Non-indigenous Species in Montreal Harbour, St. Lawrence River: Where Are They?
Yves de Lafontaine, Environment Canada, St. Lawrence Centre, Canada

Recruitment, Growth and Survival of the Exotic Brazilian Pepper (Schinus terebinthifolius) at Restored Mosquito Impoundments in Mosquito Lagoon, FL
Melinda Donnelly, University of Central Florida, Department of Biology, USA

Analyzing the Economic Benefits of Regulating Ships’ Ballast Water Discharges
Lisa Drake, Science Applications International Corporation, USA

Re-evaluating Eradication of Nuisance Species: Invasion of the Tunicate, Gona intestinalis
Paul Edwards, CAISN, McGill University, Canada

Do Round Gobies Benefit from Parasite Release: Comparison With the Parasite Fauna of Native Fish Species in the Great Lakes-St. Lawrence Basin
Andrée Gendron, Environment Canada, Centre Saint-Laurent, Canada

Genetic Tracks of the Invasion of Limnoperna fortunei in South America
Sara Ghabooli, CAISN, University of Windsor, GLIER, Canada

Invasive Plant Species of the St. Lawrence Wetlands: Community Groups Are Watching!
Martin Jean, Environment Canada, Canada

Could Limnoperna Fortunel Be Worse Than Dreisessa Polymorpha? Population Density and Potential Impacts
Alexander Y. Karatayev, Buffalo State College, Great Lakes Center, USA

Feeding Activity of Suspended Mussels and Invasive Tunicates in Prince Edward Island: A Mesocosm Approach
Mayo Lecuona, CAISN, Université du Québec à Rimouski, Institut des sciences de la mer (ISMER), Canada

Aquatic Invasive Species Research in the Bay of Fundy (2006-08)
Jennifer Martin, Fisheries and Oceans Canada, Canada

Morph Ratio, Matting Pattern and Incipient Gender Specialization in Nymphoides Peltata – An Invasive Species in Wular Lake of Kashmir
Ather Masoodi, Aligarh Muslim University, Department of Botany, India

Structure of the Community of Invertebrates Associated with Echinorhonia crassipes Mart. (Solsms-Laubach) After the Introduction of Limnoperna fortunei (Dunker, 1857) (Bivalvia, Mytilidae) in the Upper Paraguay River, MT, Brazil
Sandra Francisca Marçal, Federal University of Mato Grosso, Brazil

Alien Fishes of Belarus: Diversity, Vectors of Introduction and Risk Assessment
Sergey E. Mastitsky, Buffalo State College, Great Lakes Center, USA

Evaluations of Phytoplankton Enumeration Experiment Workshop Samples Using Digital Signal Processor Based FlowCAM®
Bruce N. Nelson, Battenkill Technologies Inc., USA

An Evaluation of Viability Assays Using a Continuous Imaging Particle Analyzer (FlowCAM®) for Ballast Water Analysis and Regulatory Compliance
Harry Nelson, Fluid Imaging Technologies, USA

Phylodistostomum folium, a Fish Helminth Parasite Introduced by Zebra Mussels in the Ebro River, Spain
Miguel A. Peribáñez, University of Zaragoza, Faculty of Veterinary Science, Department of Pathology Animal, Spain

Corbula fluminea (Muller, 1774) – Invasive Species in Romanian Waters
Oana P. Papa, Grigore Antipa National Museum of Natural History, Romania

Detection of a Colonising, Aquatic, Non-indigenous Species
Samir A. Qureshi, CAISN, University of Windsor, GLIER, Canada

Do Nodularia spumigena Blooms Force Back Neogobius melanostomus (the Round Goby) Invasion in the Gulf of Gdańsk?
Mariusz Sapata, University of Gdańsk, Institute of Oceanography, Poland

International Tunicate DNA Bank
Sarah Stewart-Clark, CAISN, University of Prince Edward Island, Canada

Great Lakes Aquatic Non-indigenous Species Information System (GLANSIS)
Rochelle A. Sturtevant, NOAA National Center for Research on Aquatic Invasive Species, USA

The American Mud Crab Rhithropanopeus harrisii in the Southern Baltic Sea – Is There an Invasion?
Anna Sznajewska, University of Gdańsk, Institute of Oceanography, Poland

Investigation About Growth and Settling of Limnoperna fortunei in Artificial Substrate at Three Different Channels of Upper Paraná River Floodplain, Brazil
Alice Michyko Takeda, Universidade Estadual de Maringá/DBI/Nupelia/National Council of Scientific and Technological Development, Brazil

Trends on the Publications of 100 Worst Invasive Species from 1965–2007
Rahel A. Tedla, CAISN, University of Windsor, GLIER, Canada

New Evidence for Natural Reproduction of European Catfish Silurus glanis, an Introduced Native Freshwater Fish, in Flanders (Belgium)
Hugo Verreycken, Research Institute for Nature and Forest, Belgium

Use of NaCl Brine and Road Salt as a Ballast Water Treatment Technology for Transoceanic Vessels Entering the Great Lakes
Tony Wang, CAISN, University of Windsor, GLIER, Canada
**Monday, April 20, 6:15 pm to 6:45 pm**

**Speed Poster Presentations**

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:15 pm</td>
<td>Ships as Vectors for Freshwater Bryozoans</td>
<td>Rebekah Kipp, McGill University, Redpath Museum, Canada</td>
</tr>
<tr>
<td>6:20 pm</td>
<td>Assessing the Economic Impacts of Aquatic Invasive Species in the United Kingdom</td>
<td>Matthew P.J. Oreska, University of Cambridge, Department of Zoology, UK</td>
</tr>
<tr>
<td>6:25 pm</td>
<td>Numerical Modelling for the Economic Costs of Biological Invasion</td>
<td>Simone Delphim, National Laboratory for Scientific Computing - LNCC, Brazil</td>
</tr>
<tr>
<td>6:30 pm</td>
<td>Navigational Buoy Monitoring for Invasive Species in the St. Lawrence River and Lower Laurentian Great Lakes (2007-2009), with Addition of Molecular Biomonitorting for Epidemiology of Zoonotic Pathogens</td>
<td>David Bruce Conn, Berry College, School of Mathematical and Natural Sciences, USA</td>
</tr>
<tr>
<td>6:35 pm</td>
<td>Early Colonisation of the Zebra Mussel (<em>Dreissena polymorpha</em>) in Lough Neagh Northern Ireland: Ecological and Consequential Socio-economic Impacts for the Rural Eel Fishing Industry</td>
<td>Sarah McLean, Queens University Belfast, Northern Ireland</td>
</tr>
<tr>
<td>6:40 pm</td>
<td>Biology and Post-emergence Herbicidal Management of Water Hyacinth (<em>Eichhornia crassipes</em>) in the Water Bodies of Southern India</td>
<td>Chinnagounder Chinnusamy, Tamil Nadu Agricultural University, India</td>
</tr>
<tr>
<td>6:45 pm</td>
<td>Dinoflagellate Cysts as Indicators of Potential Introduction of Invasive Marine Species in East Coast Canadian Ports</td>
<td>Olivia Lacasse, Université du Québec à Rimouski, Institut des Sciences de la Mer de Rimouski, Canada</td>
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## Tuesday, April 21 Morning

### Plenary Session: Commercial Shipping in a Changing World

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 8:30 am| Does Increased Regulation Effectively Prevent New Introductions of AIS?  
Ivan Lantz, Shipping Federation of Canada, Canada |
| 9:00 am| Challenges and Solutions to Test the Performance of Ballast Water Treatment Systems Onboard Vessels According to the IMO Type Approval Guideline  
Stephan Gallisch, GoConsult, Germany |
| 9:30 am| Break                                       |

### Concurrent Session A-3

#### Shipping: Policy

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
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</table>
| 10:00 am| US Coast Guard’s Proposed Ballast Water Discharge Standard Rulemaking  
BinW. Patnaik, US Coast Guard, Environmental Standards Division, USA |
| 10:20 am| US Coast Guard’s Proposed Ballast Water Management System Approval Procedures  
Richard A. Everett, US Coast Guard, Environmental Standards Division, USA |
| 10:40 am| US Coast Guard’s Ballast Water Management Program: Developing a US Administration Type Approval Process for Ballast Water Management Systems that Make Use of Biocides, Active Substances or Preparations  
John C. Morris, US Coast Guard, Environmental Standards Division, USA |
| 11:00 am| Invasive Species Threat to the Arctic  
Farrah Chan, CAISN, University of Windsor, GLIER, Canada |
| 11:20 am| Have the New Ballast Water Regulations and Inspection Program Reduced the Risk of NIS Introductions for the Laurentian Great Lakes?  
Matthew G. Deneau, Fisheries and Oceans Canada, Great Lakes Laboratory for Fisheries and Aquatic Sciences, Canada |
| 11:40 am| No Unmanaged Ballast – Implementation of Multi-agency Ballast Water Regulations into the Great Lakes  
Christopher J. Wiley, Fisheries and Oceans Canada/Transport Canada – Ontario Region, Canada |
| 12:00 pm| Luncheon                          |

### Concurrent Session B-3

#### Dreissena

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</table>
| 10:00 am| Changes in Behaviour of *Dreissena polymorpha* (Bivalvia) Induced by Potential Fish Predators of Various Species and Size  
Jaroslaw Kobak, Nicolaus Copernicus University, Institute of General and Molecular Biology, Poland |
| 10:20 am| Do Life History Traits Mediate Exotic Species Replacement? A Case Study of Zebra and Quagga Mussels  
Lisa A. Jones, McGill University, Redpath Museum, Canada |
| 10:40 am| Distribution and Ecology of Zebra Mussels (*Dreissena polymorpha*) in the Newly Formed Cardiff Bay  
Muriel Alix, Faye Cardiff University, School of Biosciences, Wales |
| 11:00 am| Does Size Matter? A Quantitative Assessment of Human Waterborne Pathogens in Zebra Mussel (*Dreissena polymorpha*) Size Ranges Found in an Irish “at Risk” Lake  
Frances Lucy, Institute of Technology, Sligo, Ireland |
| 11:20 am| Recent Dramatic Changes in the Offshore Benthic Community of Lake Michigan  
Thomas F. Nalepa, NOAA, Great Lakes Environmental Research Laboratory, USA |
| 11:40 am| Recent Dramatic Dreissenid-Induced Changes in Offshore Pelagic Food Webs of the Great Lakes: Mechanisms and Global Implications  
Henry A. Vanderpluym, NOAA, Great Lakes Environmental Research Laboratory, USA |
| 12:00 pm| Luncheon                          |

### Concurrent Session C-3

#### Control

<table>
<thead>
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<th>Time</th>
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</table>
| 10:00 am| Chlorine Minimization for Biofouling Control in Industrial Cooling Water Systems: Comparison of Different Modes of Chlorination  
Sanjeevi Rajagopal, Radboud University Nijmegen, Institute for Wetland and Water Research, The Netherlands |
| 10:20 am| The Use of Potassium Chloride to Control Zebra Mussels in an Open Body of Water  
Dan Butts, ASI Group Ltd., Canada |
| 10:40 am| *Pseudomonas fluorescens* Strain CL145A as a Zebra and Quagga Mussel Control Agent  
Daniel P. Mollo, New York State Museum, Division of Research and Collections, USA |
| 11:00 am| Commercialization of a *Pseudomonas fluorescens* strain for Controlling Zebra and Quagga Mussels  
Pamela Marrone, Marrone Organic Innovations, Inc., USA |
| 11:20 am| BioBullets: Effective Control of Zebra and Quagga Mussels in Industrial Settings and the Open Environment  
David C. Aldridge, University of Cambridge, Department of Biological Sciences, USA |
| 12:00 pm| Luncheon                          |

### Concurrent Session D-3

#### Monitoring and Rapid Response

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 10:00 am| Application of Citizen Science and Search Theory to Optimally Detect Species at Low Density: A Case Study of Monitoring the Asian Shore Crab (*Hemigrapsus sanguineus*)  
David G. Delaney, McGill University, Department of Biology and School of Environment, Canada |
| 10:20 am| A Habitat-Based Probabilistic Sampling Approach for Invasive Species in a Columbia River Reservoir  
Timothy D. Counihan, US Geological Survey, Western Fisheries Research Center, USA |
| 10:40 am| Risk-Based Surveillance for the Management of Invasive Species  
Christopher L. Jerde, University of Notre Dame, Department of Biological Sciences, USA |
| 11:00 am| Influence of Pest Population Size at Time of Detection on the Efficacy of Ensuing Management Measures  
Oliver Floerl, National Institute of Water and Atmospheric Research, New Zealand |
| 11:20 am| New Method to Detect and Identify Invasive Bivalves Using a Continuous Imaging Particle Analyzer (FLOWCAM™)  
Harry Nelson, Fluid Imaging Technologies, USA |
| 11:40 am| The Application of Multiple Gene PCR to Single Cell Diatoms from Fixed Ballast Water Samples  
Imke Lang, CAISN, Mount Allison University, Canada |
| 12:00 pm| Luncheon                          |
**Concurrent Session A-4**

**Shipping: Policy Support**

1:30 pm  
US Coast Guard Experience with Implementation of a Prototype Ballast Water Management Equipment Evaluation Program  
Brian Moore, US Coast Guard, Environmental Standards Division, USA

1:50 pm  
Testing and Evaluation of Experimental Shipboard Ballast Water Treatment Systems for STEP: Experience and Lessons Learned  
Michael G. Dyer, US Department of Transportation, Volpe National Transportation Systems Center, USA

2:10 pm  
The European Union in the Dawn of Ballast Water Management Approaches  
Matej David, University of Ljubljana, Faculty of Maritime Studies and Transport, Slovenia

2:30 pm  
An Overview of Australia’s Proposed Biofouling Management Requirements  
Peter Neimanis, Australian Quarantine and Inspection Service, Seaports Program, Australia

2:50 pm  
Break

**Concurrent Session B-4**

**Dreissena**

1:30 pm  
The Effect of Temperature on Zebra Mussel (Dreissena polymorpha) Densities in Two Oklahoma Reservoirs  
Chad J. Boeckman, Oklahoma State University, Ecotoxicology and Water Quality Research Laboratory, USA

1:50 pm  
Laboratory Spawning and Mortality of Quagga Mussel (Dreissena bugensis) Embryos and Larvae from the Newly Established Population in the Southwestern United States  
Kevin B. Johnson, Florida Institute of Technology, Department of Marine and Environmental Systems, USA

2:10 pm  
When is an Invasive Species Not Invasive? Contrasting Filter-Feeding Mussels in Coastal Ecosystems and Freshwater Lakes  
Kevin B. Johnson, Florida Institute of Technology, Department of Marine and Environmental Systems, USA

2:30 pm  
Interactions Between Pollution and Parasitism in Zebra Mussels (Dreissena polymorpha)  
Laëtitia Minguez, Université Paul Verlaine – Metz, Laboratoire des Interactions, Ecotoxicologie, Biodiversité, Ecosystèmes, France

2:50 pm  
Break

**Concurrent Session C-4**

**Fish**

1:30 pm  
Stock-Recruit Model: An Underused Tool to Manage Aquatic Invasive Fishes  
Michael Hoff, US Fish and Wildlife Service, Fisheries Division, USA

1:50 pm  
Population Increment of Native and Alien Fish Species in The Dutch Rivers Rhine and Meuse: Competition and Relations with Environmental Variables  
Martijn Dorenbosch, Radboud University Nijmegen, Institute for Wetland and Water Research, The Netherlands

2:10 pm  
Some Life-history Patterns of Non-native Monkey Goby Neogobius fluviatilis (Pallas, 1814) from the River Ipel’ (Slovakia)  
Mária Cápová-Placha, Comenius University, Department of Ecology, Slovakia

2:30 pm  
Observations of the Ecology of the Goby Rhinogobius brunneus, a Recent Introduction to the Columbia River  
Christopher Walker, US Geological Survey, Western Fisheries Research Center, USA

2:50 pm  
Break

**Concurrent Session D-4**

**Monitoring and Rapid Response**

1:30 pm  
Binational Aquatic Invasive Species Rapid Response Policy Framework – An Update on International Joint Commission Activities  
Mark J. Burrows, International Joint Commission, Great Lakes Regional Office, Canada

1:50 pm  
Rapid Detection of Invasive Species in Ballast Water Using Molecular Methods  
Andrew R. Mahon, University of Notre Dame, Center for Aquatic Conservation, USA

2:10 pm  
Development of a Standardized PCR Method for Dreissenid Mussel Monitoring  
John S. Wood, Pisces Molecular, LLC, USA

2:30 pm  
Aquatic Invasive Species Monitoring in Alaska  
Lisa Ka’aihue, Prince William Sound Regional Citizens’ Advisory Council, USA

2:50 pm  
Break
<table>
<thead>
<tr>
<th>Concurrent Session A-5</th>
<th>Concurrent Session B-5</th>
<th>Concurrent Session C-5</th>
<th>Concurrent Session D-5</th>
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</thead>
<tbody>
<tr>
<td><strong>Golden Mussel</strong></td>
<td><strong>Fish</strong></td>
<td><strong>Monitoring and Rapid Response</strong></td>
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<td><strong>3:20 pm</strong></td>
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<tr>
<td>Effect of Invasive Bivalves Dreissena polymorpha and Lissocypus fortunei on Benthic Communities Lyubov E. Burlakova, Buffalo State College, Great Lakes Center, USA</td>
<td>Sex Ratio as One of the Major Factors Promoting the Invasion of the Round Goby (Neogobius melanostomus) in the Gulf of Gdańsk Mariusz R. Sapota, University of Gdańsk, Institute of Oceanography, Department of Marine Biology and Ecology, Poland</td>
<td>Volunteer Based Early Detection and Rapid Response; Examples of Successful Partnerships Addressing Non-native Finfish in the Tropical Western Atlantic Lad Akins, Reef Environmental Education Foundation, USA</td>
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<td>Effects of the Presence and Density of Conspecifics on Settling Juveniles of the Invasive Bivalve L. fortunei Paula Sardiña, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina</td>
<td>Status of the Non-native Gobiids in Fish Communities and Food Webs of the Lower Vistula River (Central Poland) 3-5 Years After Their Appearance Tomasz Kakareko, Nicolaus Copernicus University, Institute of Ecology and Environmental Protection, Poland</td>
<td>Standardizing Sampling Techniques for Potamopyrgus antipodarum (New Zealand Mudsnail) to Establish Early Detection and Monitoring Programs Jill M. Hardiman, US Geological Survey, Western Fisheries Research Center, USA</td>
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<tr>
<td>Colonization Pattern and Population Density of the Invasive Bivalve L. fortunei in a Reservoir in Central Argentina Alexander Karatayev, Buffalo State College, Great Lakes Center, USA</td>
<td>Present Status of the North American Umbra pygmaea (Eastern Mudminnow) in Flanders (Belgium) and in Europe Hugo Verreycken, Research Institute for Nature and Forest, Belgium</td>
<td>The Adirondack Park: A Region of Opportunities for Successful Aquatic Invasive Species Spread Prevention and Management Hilary A. Smith, The Nature Conservancy-Adirondack Chapter, USA</td>
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<td>Potential Distribution of Golden Mussel (L. fortunei) in North America Based on Environmental Limits Observed in a Tropical Wetland of Brazil Márcia Divina de Oliveira, Embrapa Pantanal, Brazil</td>
<td>Impacts of Introduced Aquatic Alien Species in European Aquaculture Initiatives Stephan Gollasch, GoConsult, Germany</td>
<td>Developing and Implementing a Citizen Volunteer Lake Water Quality Monitoring Program on 20 Northwestern Montana Lakes for Early Aquatic Nuisance Species (ANS) Detection John L. Wachsmuth, Montana Fish, Wildlife &amp; Parks, USA</td>
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<td>Overview of the Naval Research Laboratory’s Phytoplankton Enumeration Experiment Workshop Bruce N. Nelson, Battenkill Technologies Inc., USA</td>
<td>Life History Traits of Invasive Topmouth Gudgeon (Pseudorasbora parva) from Europe Eva Záhorská, Comenius University, Department of Ecology, Slovakia</td>
<td>Biological Synopsis of Selected Phytoplankton New to the Bay of Fundy Jennifer L. Martin, Fisheries and Oceans Canada, Biological Station, Canada</td>
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<tr>
<td>Computation Fluid Dynamics Characterization of Inline Sampling for Ballast Water Discharges Edward J. Lemieux, US Naval Research Laboratory, USA</td>
<td>Do Native Predators Feed on Exotic Preys? An Answer for Round Goby in a Multi-Species Assemblage of Piscivorous Fish (St. Lawrence River, Canada) Yorick Reyjoi, Ministère des Ressources Naturelles et de la Faune du Québec, Canada</td>
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</tbody>
</table>
Wednesday, April 22 Morning

**Plenary Session: Risk Analysis in a Changing World**

8:30 am
Frameworks and Tools for Risk Analysis of Non-indigenous Species
David M. Lodge, University of Notre Dame, Center for Aquatic Conservation

9:00 am
Practical Applications of Risk Assessments in an Aquatic Invasive Species Program
Becky Cudmore, Fisheries and Oceans Canada, Centre of Expertise for Aquatic Risk Assessment, Canada

9:30 am
Break

**Concurrent Session A-6**

**Shipping: Great Lakes Research**

10:00 am
The Role of Domestic Shipping as a Vector for Introduction and Spread of Aquatic Non-indigenous Species in the Great Lakes
Sarah Bailey, Fisheries and Oceans Canada, Canada

10:20 am
Introducing Non-indigenous Species to the Great Lakes via Ballast Water: Quantifying Vector Strength and Evaluating Current Management Strategies
Mark S. Minton, Smithsonian Environmental Research Center, National Ballast Information Clearinghouse, USA

10:40 am
Brine as an Alternative Treatment of Water Ballast Tanks for Non-compliant Ships Wishing to Enter the St. Lawrence Seaway
Philip T. Jenkins, Philip T Jenkins & Associates Ltd., Canada

11:00 am
Brine Treatment for Limiting Spread of Non-indigenous Species via Ballast Water
Johanna Bradie, CAISN, University of Windsor, GLIER, Canada

11:20 am
Great Lakes Shipping, Trade and AIS: A Report from the US Transportation Research Board
Hugh MacIsaac, National Academy of Sciences, Canada

12:00 pm
Luncheon

**Concurrent Session B-6**

**Risk Analysis**

10:00 am
Predicting Smallmouth Bass Spread and Distribution to Develop a Management Strategy for British Columbia
Leif-Matthias Herborg, British Columbia Ministry of the Environment, Canada

10:20 am
Patterns of Invasion in Western Europe: Can We Predict Which Aquatic Invaders to Expect in Britain and Ireland?
Philine E. zu Ermgassen, University of Cambridge, Department of Zoology, UK

10:40 am
Statewide Risk Analysis for the Spread of Zebra and Quagga Mussels in Colorado, USA
Jonathan M. Bassenbroek, University of Toledo, Lake Erie Center and Department of Environmental Sciences, USA

11:00 am
Hung Out to Dry: Fitness Loss Due to Desiccation of Eurasian Watermilfoil (Myriophyllum spicatum) and Implications for Efficient Risk Management
Matthew A. Barnes, University of Notre Dame, Department of Biological Sciences, USA

11:20 am
Investigating Patterns of Risk Activity Within an Invasion Pathway
Andrew Drake, CAISN, University of Toronto, Canada

11:40 am
Predicting the Secondary Spread of Bythotrephes longimanus (Spiny Water Flea) in the 2EB Watershed in Ontario
Erin L. Gertzen, CAISN, McGill University, Canada

12:00 pm
Luncheon

**Concurrent Session C-6**

**Invasion Biology**

10:00 am
An Alternative Hypothesis for Invasional Meltdown: General Facilitation by Dreissenidae
Kristen M. DeVanna, University of Toledo, Lake Erie Center, USA

10:20 am
Alien Invasive Species at the Romanian Black Sea Coast – Present and Perspectives
Marius S. S. Ovidiu, University of Constanta, Romania

10:40 am
Genetic Structure of Native and Introduced Populations of the Charru Mussel Mytilletia charruana
Eric Hoffman, University of Central Florida, Department of Biology, USA

11:00 am
Invasion Genetics of the Round Goby (Apollonia melanostoma = Neogobius melanostomus): Founding Sources, Spatial Patterns, and Temporal Changes
Carol A. Stepien, University of Toledo, Lake Erie Center, USA

11:20 am
Biological Invasions in Aquatic Ecosystems of the Lake Baikal Basin
Dmitriy V. Matafonov, Institute of General and Experimental Biology, Russia

11:40 am
Introduction of Aquatic Organisms to Thailand Via Aquarium Trade
Suchana Chavanich, Chulalongkorn University, Faculty of Science, Department of Marine Science, Thailand

12:00 pm
Luncheon

**Concurrent Session D-6**

**Western Dreissena**

10:00 am
U.S. Bureau of Reclamation Response to the Western Dreissena Invasion
Fred L. Nibling Jr., U.S. Bureau of Reclamation, Lower Colorado Dams Office, USA

10:20 am
The Quagga Mussel: Dealing with an Invasive Species
Leonard Willett, US Bureau of Reclamation, Lower Colorado Dams Office, USA

10:40 am
Response of Southern Nevada Water Authority to the Quagga Mussel Invasion of Lake Mead
Peggy Roef, Southern Nevada Water Authority, USA

11:00 am
Salt River Project and the Threat of Dreissenid Invasion in the Southwest
Lesly Swanson, Salt River Project Environmental Services, USA

11:20 am
Exercise Those Mussels: Building Dreissenid Response Readiness Through Mock Drills
Paul Heimowitz, US Fish and Wildlife Service, Region 1, USA

11:40 am
Quagga and Zebra Mussels: Are They a Major Cause of the Botulism E Epidemic? Could it Happen Out West?
Daniel P. Molloy, Division of Research and Collections, New York State Museum, USA

12:00 pm
Luncheon
### Concurrent Session A-7: Shipping: Testing Technologies

**1:30 pm**  
**The Wilh. Wilhelmsen Group Ballast Water Treatment Initiative**  
Iver Iversen, Wilhemsen Ships Equipment, Norway

**1:50 pm**  
Continuous Treatment (UV or UV Advanced Oxidation Plus Filtration) of Ballast Water in Closed-loop Processing Proves Viable  
Linda Sealey, Trojan Technologies, Canada

**2:10 pm**  
Methods for Measuring the Impact of UVC Treatments on Marine Phytoplankton  
Benjamin F.N. Beall, University of Western Ontario, Department of Biology, Canada

**2:30 pm**  
Differences in the Responses of Marine Phytoplankton to Monochromatic and Polychromatic UVC  
André Morson, University of Western Ontario, Department of Biology, Canada

**2:50 pm**  
Break

### Concurrent Session B-7: Risk Analysis

**1:30 pm**  
Predation as a Component of the Risk of Establishment by Rusty Crayfish in Lakes  
Darren C.J. Yeo, University of Notre Dame, Department of Biological Sciences, USA

**1:50 pm**  
Predicting Future Great Lakes Invaders: Global Datasets of Shipping Traffic and Environmental Conditions Identify High-risk Shipping Routes  
Reuben P. Keller, University of Notre Dame, Center for Aquatic Conservation, USA

**2:10 pm**  
GlobalFish: An Environmental Matching Tool for Freshwater Organisms  
Nicholas E. Mandrak, Fisheries and Oceans Canada, Great Lakes Laboratory for Fisheries and Aquatic Sciences, Canada

**2:30 pm**  
A Comparison and Evaluation of Qualitative Approaches to the Assessment of Risk from Invasive Species  
Marten A. Koops, Fisheries and Oceans Canada, Great Lakes Laboratory for Fisheries and Aquatic Sciences, Canada

**2:50 pm**  
Break

### Concurrent Session C-7: Invasion Biology

**1:30 pm**  
Effects of an Invasive Catfish on Aquatic Macroinvertebrates  
Craig Duxbury, Walt Disney Imagineering, Research and Development, USA

**1:50 pm**  
The Role of Balanus improvisus in the Present Macrobenthic Communities in the Gulf of Gdańsk, Southern Baltic  
Anna Dziubinska, University of Gdańsk, Institute of Oceanography, Poland

**2:10 pm**  
Vectors of Introduction, Spread and Potential Impacts of Exotic Freshwater Gastropods in Southern US  
Alexander Y. Karatayev, Buffalo State College, Great Lakes Center, USA

**2:30 pm**  
Is the Chinese Mitten Crab Eriocheir sinensis Threatening the Baltic Coastal Ecosystem?  
Monika Normant, University of Gdańsk, Institute of Oceanography, Poland

**2:50 pm**  
Break

### Concurrent Session D-7: Crustaceans

**1:30 pm**  
Factors Affecting the Dominance of an Invasive Amphipod (Echinogammarus ischnus) in the St. Lawrence River: Interactions with Other Introduced Species  
Åsa M. Kestrup, CAISN, McGill University, Canada

**1:50 pm**  
Derivation of ‘Functional Responses’ as a Predictive Tool in Invasion Biology: Comparison of Invader vs Native Functional Responses and the Effects of Parasitism  
Jaimie T.A. Dick, Queen’s University Belfast, Medical and Biological Centre, Northern Ireland

**2:10 pm**  
Plasticity of Sexual Reproductive Size in Amphipods as a Strong Survival Mechanism During Invasions. A Case Study in a Dutch Lake  
Dirk Platvoet, University of Amsterdam, Zoological Museum, The Netherlands

**2:30 pm**  
Interference Competition Between Invasive and Native Gammaridean Amphipods, a Matter of Shelter or Intraguild Predation?  
Gerard van der Velde, Radboud University Nijmegen, Institute for Water and Wetland Research, The Netherlands

**2:50 pm**  
Break
### Concurrent Session A-8

**Shipping: Testing Technologies**

**3:20 pm**

**Testing and Verification of Ballast Water Management Systems**
Tor Gunnar Jantsch, Norwegian Institute for Water Research, Norway

**3:40 pm**

**Shipboard Trials of a Ballast Water Treatment System for US and IMO Approval – A Case Study**
David A. Wright, University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, USA

**4:00 pm**

**Land-based and Shipboard Testing of the SEDNA®-System According to the IMO Guidelines**
Matthias Voigt, Hamann AG, Germany

**4:20 pm**

**Chlorine Dioxide as a Treatment for Ballast Water to Control Invasive Species: Shipboard Testing**
Lucie Maranda, University of Rhode Island, Graduate School of Oceanography, USA

**4:40 pm**

**Bacterial Response Following Chlorine Dioxide Treatment of Ballast Water**
Annie Cox, University of Rhode Island, Graduate School of Oceanography, USA

**5:00 pm**

**Testing Ballast Water Treatments on Microorganisms at the Great Ships Initiative Land-based Facility**
Euan D. Reavie, University of Minnesota-Duluth, USA

### Concurrent Session B-8

**Risk Analysis**

**3:20 pm**

**Development of the Canadian ‘GloBallast’ System**
 Matthwy Thomas, BMT Fleet Technology Ltd., Canada

**3:40 pm**

**Ireland’s Most Unwanted – Risk Assessment and Prioritisation of Invasive Species for Management**
John Kelly, EnviroCentre, Northern Ireland

**4:00 pm**

**Developing Risk-based Mitigation and Remediation Procedures for Non-native Freshwater Fishes: A Case Study of Pseudorasbora parva in the UK**
Gareth D. Davies, Bournemouth University, Centre for Conservation Ecology and Environmental Change, UK

**4:20 pm**

**Marine Biosecurity Risk Evaluation to Protect High-Value Areas of New Zealand**
Marnie L. Campbell, Australian Maritime College, National Centre for Marine Conservation and Resource Sustainability, Australia

### Concurrent Session C-8

**Invasion Biology**

**3:20 pm**

**Otters, Crabs and Louisiana Crayfish in Ewaso Ng’iro River: Victory of the Natives?**
Mordecai O. Ogada, Kenya Wildlife Trust, Kenya

**3:40 pm**

**Larval Settlement Substrate Preferences of Balanus amphitrite (the Striped Barnacle), a Long- Established Invader on Florida’s East Coast**
Holly Sweat, Florida Institute of Technology, Department of Marine and Environmental Systems, USA

**4:00 pm**

**Community-level Effects of Co-occurring Native and Exotic Ecosystem Engineers**
Jessica M. Ward, McGill University, Redpath Museum, Canada

**4:20 pm**

**The Ecology of Invasive Hydroids on Man-made Structures in Port Phillip Bay, Australia**
Isla Fitridge, University of Melbourne, Department of Zoology, Australia

**4:40 pm**

**Aquatic Invaders as a Vector of Spread of Parasites and Their Potential Effect on Invaded Ecosystems**
Sergey E. Mastitsky, Buffalo State College, Great Lakes Center, USA

**5:00 pm**

**Pathway to Invasion: From Artificial Structure to Rocky Reef**
Katherine A. Dafforn, University of New South Wales, School of Biological, Earth and Environmental Sciences, Australia

### Concurrent Session D-8

**Crustaceans**

**3:20 pm**

**Application of a Lower Food Web Productivity Model to Investigate Ecosystem Level Changes Resulting from Aquatic Invasive Species in Lake Michigan**
David H. Miller, US EPA, Mid-Continent Ecology Division, Large Lakes Research Station, USA

**3:40 pm**

**Resting Egg Bank and Yearly Recruitment Potential of the Fishhook Waterflea (Cercopagis pengoi) in Different Areas of the Baltic Sea**
Tarja Katajisto, Tvärminne Zoological Station, Finland

**4:00 pm**

**A Biochemical Approach to Understand the Invasion Success of an Exotic Amphipod**
Sophie Sroda, Université Paul Verlaine – Metz, Laboratoire des Interactions Ecotoxicologie, Biodiversité, Ecosystèmes, France

**4:20 pm**

**The Swimming Performance in Native and Exotic Amphipods as a Part of Their Anti-predator Strategy**
Vincent Médoc, Université Paul Verlaine – Metz, Laboratoire des Interactions Ecotoxicologie, Biodiversité, Ecosystèmes, France

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**Wednesday, April 22 Afternoon**
### Thursday, April 23 Morning

#### Plenary Session: Emerging Issues in a Changing World

<table>
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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Invasive Species in the Tropics: The Same Old Mistakes in a Changing World</td>
<td>Mordecai Ogada, Kenya Wildlife Trust, Kenya</td>
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<td>9:00 am</td>
<td>Ballast Water Management Moving Towards a New Phase</td>
<td>Dandu Pughiuc, International Maritime Organization, UK</td>
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<td>9:30 am</td>
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#### Concurrent Session A-9: Shipping: Hull Fouling

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<th>Time</th>
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<th>Speaker(s)</th>
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<tr>
<td>10:00 am</td>
<td>Implementing Biofouling Controls on International Shipping</td>
<td>John F. Polglaze, URS, Australia</td>
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<tr>
<td>10:20 am</td>
<td>TBT Ban – A Golden Opportunity for Alien Hitchhikers?</td>
<td>Sanjeevi Rajagopal, Radboud University Nijmegen, Institute for Wetland and Water Research, The Netherlands</td>
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<td>10:40 am</td>
<td>IMProtector: a Novel In-water Treatment System for Vessel Biofouling</td>
<td>Ashley D.M. Coutts, Aquenal Pty Ltd., Australia</td>
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<td>11:00 am</td>
<td>Evaluation of the Efficacy of Hull Cleaning Methods for NIS Vector Control</td>
<td>Chris Woods, National Institute of Water and Atmospheric Research, New Zealand</td>
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<td>11:20 am</td>
<td>Hull Fouling as a Vector for Introduction of Non-indigenous Species</td>
<td>Francisco Sylvester, CAISN, University of Windsor, GLIER, Canada</td>
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<td>12:00 pm</td>
<td>Luncheon</td>
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#### Concurrent Session B-9: Risk Analysis in a Changing World

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<th>Speaker(s)</th>
<th>Location</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>Testing the Effects of Multiple Anthropogenic Stressors on the Spread of Invasive Species: Climate Change, Urbanization and Water Hyacinth</td>
<td>Juliet C. Simpson, Brown University, Department of Ecology and Evolutionary Biology, USA</td>
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<tr>
<td>10:20 am</td>
<td>Effects of Global Warming and Thermal Pollution on Native and Exotic Fish Species in the Rhine</td>
<td>Rob S.E.W. Leuven, Radboud University Nijmegen, Institute for Wetland and Water Research, The Netherlands</td>
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<tr>
<td>10:40 am</td>
<td>Trinational Risk Assessment Guidelines for Alien Invasive Species: Test Cases for the Snakehead (Channidae) and Armored Catfishes (Loricariidae) in North American Waters</td>
<td>Roberto Mendoza, Universidad Autónoma de Nuevo León (UANL), Faculty of Biological Sciences, Mexico</td>
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<tr>
<td>12:00 pm</td>
<td>Luncheon</td>
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#### Concurrent Session C-9: Plants

<table>
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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Location</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>The Transformation of Aquatic Invasive Species into Environmental and Economic Activities at the Niger River Basin Initiative</td>
<td>Sylvie Trudel, Great Lakes United, Union Saint-Laurent Grands Lacs, Canada</td>
<td></td>
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<tr>
<td>10:20 am</td>
<td>Source Populations and Reproductive Mode of Invasive Cabomba caroliniana in Canada</td>
<td>Andreé M. McCracken, University of Guelph, Department of Integrative Biology, Canada</td>
<td></td>
</tr>
<tr>
<td>10:40 am</td>
<td>The Use of Life Cycle Traits in the Management of the Invasive Species Lagarosiphon major in Lough Corrib, Ireland</td>
<td>Stephanie Evers, Central Fisheries Board, Swords Business Campus, Ireland</td>
<td></td>
</tr>
<tr>
<td>11:00 am</td>
<td>Invasive Aquatic Plants: Growing Solutions in Indiana</td>
<td>Patrice M. Charlebois, Illinois-Indiana Sea Grant/Illinois Natural History Survey, USA</td>
<td></td>
</tr>
<tr>
<td>11:20 am</td>
<td>Status of the Water Chestnut (Trapa natans) Eradication Program in Quebec, Canada</td>
<td>Isabelle Simard, Ministère du Développement durable, de l’Environnement et des Parcs, Canada</td>
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<tr>
<td>11:40 am</td>
<td>Potential for Weed Biocontrol in Ireland: Azolla filiculoides Control by Stenopelmus rufinanus</td>
<td>Jan-Robert Baars, University College Dublin, School of Biology and Environmental Science, Ireland</td>
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<td>12:00 pm</td>
<td>Luncheon</td>
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#### Concurrent Session D-9: Bullfrogs

<table>
<thead>
<tr>
<th>Time</th>
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<th>Speaker(s)</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>10:00 am</td>
<td>Introduction and Session Overview</td>
<td>Stan A. Orchard, BullfrogControl.com Inc., Canada</td>
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<tr>
<td>10:20 am</td>
<td>A Practical and Effective Approach to Bullfrog Control and Eradication</td>
<td>Stan A. Orchard, BullfrogControl.com Inc., Canada</td>
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<tr>
<td>10:40 am</td>
<td>Mechanisms Behind the Successful Invasion of Bullfrogs (Rana catesbeiana) in the Northwest United States</td>
<td>Tiffany S. Garcia, Oregon State University, Fisheries and Wildlife Department, USA</td>
<td></td>
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<tr>
<td>11:00 am</td>
<td>The American Bullfrog as Predator and Cannibal: What are the Benefits of Eating Your Own Species?</td>
<td>Kevin Jancowski, BullfrogControl.com Inc., Canada</td>
<td></td>
</tr>
<tr>
<td>11:20 am</td>
<td>Bullfrog Eradication Efforts in Scotia Canyon, Huachuca Mountains, Arizona, USA</td>
<td>Thomas R. Jones, Arizona Game and Fish Department, USA</td>
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<tr>
<td>11:40 am</td>
<td>To Kill or Not to Kill: The Challenges of Introduced Bullfrog Management in British Columbia</td>
<td>Leif-Matthias Herborg, British Columbia Ministry of Environment, Canada</td>
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<tr>
<td>12:00 pm</td>
<td>Luncheon</td>
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### Thursday, April 23 Afternoon

#### Concurrent Session A-10

**VHS in the Great Lakes**

1:30 pm  
**History and Current Affairs of VHS Virus**  
Gael Kurath, U.S. Geological Survey, Western Fisheries Research Center, USA

1:50 pm  
**Development of Improved Detection Methodologies for Viral Hemorrhagic Septicemia Virus (VHSV) and their Use in the Surveillance of the Great Lakes Region of Canada**  
Kyle Garver, Fisheries Oceans Canada, Pacific Biological Station, Canada

2:10 pm  
**Persistence of VHSV-GL in the Absence of Clinical Disease**  
James W. Casey, Cornell University, Department of Microbiology and Immunology, USA

2:30 pm  
**U.S. Federal Efforts to Address VHSV and Other Aquatic Animal Pathogens**  
P. Gary Egrie, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, USA

#### Concurrent Session B-10

**Lionfish**

1:30 pm  
**Reproductive Biology and Ecology of the Invasive Lionfishes Pterois miles and Pterois volitans**  
James A. Morris, Jr., NOAA National Ocean Service, National Centers for Coastal Ocean Science, USA

1:50 pm  
**Predicting the Impact of Invasive Lionfish (P. volitans and P. miles) on Native Reef Fish Populations in the Caribbean**  
Stephanie J. Green, Simon Fraser University, Department of Biological Sciences, Canada

2:10 pm  
**Dietary Habits and Feeding Ecology of Invasive Lionfish in the Tropical Western Atlantic**  
Lad Akins, Reef Environmental Education Foundation, USA

2:30 pm  
**Bioenergetics and Trophic Impacts of Invasive Lionfish (Pterois miles and Pterois volitans)**  
James A. Morris, Jr., National Oceanic and Atmospheric Administration, National Ocean Service, USA

#### Concurrent Session C-10

**Plants**

1:30 pm  
**Spread and Distribution of Hydrilla verticillata in North America: Where Will it Stop?**  
Alfred F. Cofrancesco, US Army Engineer Research and Development Center, USA

1:50 pm  
**Effects of Temperature, pH and Conductivity on Giant Salvinia (Salvinia molesta) Growth**  
Chetta Owens, US Army Engineer Research and Development Center, USA

2:10 pm  
**Integrating Herbicides with Mycoleptodiscus terrestris to Control Hydrilla**  
Linda S. Nelson, US Army Engineer Research and Development Center, USA

2:30 pm  
**Addressing the Invasive Risks Associated with the Importation of Plants for Planting and Status of Aquatic Federal Noxious Weeds**  
Christa Speekmann, US Department of Agriculture, Animal and Plant Health Inspection Service, USA

2:50 pm  
**Fungal Pathogen – Biocontrol Agent for Eichhornia crassipes**  
Chitra Ramanibai, University of Madras, Department of Zoology, India

3:20 pm  
**Reproductive Ecology of Invasive Alien Potamogeton pectinatus L. in Freshwater Ecosystems of the Kashmir Himalaya, India**  
Zafar Reshi, University of Kashmir, Department of Botany, India

#### Concurrent Session D-10

**Bullfrogs**

1:30 pm  
**Bullfrog Session continues**  
An open discussion, followed by a focused discussion, on issues of common concern and possibilities for future co-operation, collaborations and collective actions.
### Registration Form

Please complete this form, enclose payment in full by cheque in $CAD or $USD funds, payable to ICAIS, and mail to:

**Conference Administrator**  
1027 Pembroke Street East, Suite 200  
Pembroke ON K8A 3M4 Canada

You may also pay by Visa or MasterCard by completing the credit card payment information indicated below and faxing to 613-732-3386.

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<th>Organization</th>
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**Dietary Restrictions**

Please complete this form, enclose payment in full by cheque in $CAD or $USD funds, payable to ICAIS, and mail to:

| Privacy Policy: | Please indicate by checking the appropriate box to confirm whether or not you accept to have your name, organization and e-mail address included in the Conference Participants list that will be provided to all participants. [ ] Yes [ ] No |

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### Registration Fees

**Early Registration**  
(by February 1, 2009)

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<th>Role</th>
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<tr>
<td>Speaker/Poster Presenter/Session Chair</td>
<td>$400.00 + $20.00 GST = $420.00</td>
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<tr>
<td>Conference Participant</td>
<td>$500.00 + $25.00 GST = $425.00</td>
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<tr>
<td>Full-time Student</td>
<td>$300.00 + $15.00 GST = $315.00</td>
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**Late Registration**  
(February 2, 2009 or later)

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<td>Speaker/Poster Presenter/Session Chair</td>
<td>$450.00 + $22.50 GST = $472.50</td>
</tr>
<tr>
<td>Conference Participant</td>
<td>$550.00 + $27.50 GST = $577.50</td>
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<tr>
<td>Full-time Student</td>
<td>$350.00 + $17.50 GST = $367.50</td>
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</table>

**Total** $ 

**Registration fees** include participation in all sessions, registration materials, luncheons each day and a networking reception.

**Refund Policy:** Registration fees are refundable, less a $50 administration fee, provided that written notification of cancellation is provided to the Conference Administrator at the address indicated above by March 15, 2009. Refunds will not be issued until after the conference.