TENTATIVE SCHEDULE

Sunday, August 30

Registration Open	11:00 - 17:30
Exhibitor Move-in	11:00 - 18:00
Poster Set-up	13:00 - 17:30
Opening Reception	18:30 – 21:00

Monday, August 31

Registration Open	7:30 - 17:00
Exhibitor Move-in	8:00 - 10:00
Poster Set-up	8:00 - 10:00
Conference Welcome	8:30 - 9:20
Plenary Session	9:20 - 10:00
Refreshment Break	10:00 - 11:00
Trade Show & Posters Open	10:00 - 18:30
Sessions	11:00 – 13:00
Lunch (On your own)	13:00 - 14:30
Sessions	14:30 - 17:30
Happy Hour & Posters	17:30 - 18:30
Joe Brown BBQ/Live Auction	18:30 - 23:00

Tuesday, September 1

Registration Open	8:00 - 17:00
Plenary Session	9:00 - 9:40
Trade Show	9:30 - 18:00
Refreshment Break	9:40 - 10:40
Sessions	10:40 - 13:00
Lunch (On your own)	13:00 - 14:30
Sessions	14:30 - 17:30
Happy Hour & Posters	17:30 - 18:30
NL Kitchen Party 2020	20:00 - 22:00

Wednesday, September 2

Registration Open	8:00 - 15:00
Sessions	8:30 - 9:50
Refreshment Break	9:50 - 10:30
Trade Show	9:30 - 12:30
Sessions	10:30 - 12:30
Lunch (On your own)	12:30 - 14:00
Exhibitor Move-out	12:30 - 16:00
Sessions	14:00 - 17:00
Gala Reception	19:00 - 19:30
Gala Dinner	19:30 - 22:30

The Battery neighbourhood with Signal Hill in the background.
Photo: Michel Rathwell, Flickr

CALL FOR PAPERS – DEADLINE: March 18, 2020

Aquaculture Canada and WAS North America 2020 encourage the submission of both high quality oral and poster presentations. All abstracts must be in English – the official language of the conference.

Oral presentations will be 20 minutes. Authors of studies involving proprietary products or formulations should present this information in workshops or the trade show. Oral presentations will be restricted to the use of Power Point. Slides, overhead projectors and video players will not be available or allowed.

All presenters are required to pay their own registration, accommodation and travel expenses. Aquaculture Canada and WAS North America 2020 cannot subsidize registration fees, travel or hotel costs.

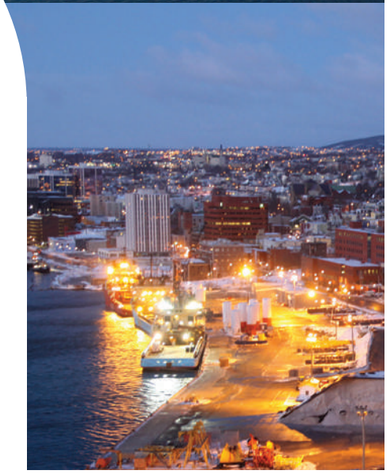
No Abstract Book will be printed – The Abstract Book will be available online.

Abstract submission instructions coming soon!

Colourful downtown St. John's. *Photo: Michel Rathwell, Flickr*

Photo: Loozrboy, Flickr

Photo: Mike Norton, Flickr



AUG. 30-SEPT. 2, 2020

ST. JOHN'S, NEWFOUNDLAND AND LABRADOR, CANADA

ST.JOHN'S CONVENTION CENTRE

AQUACULTURE CANADA AND WAS NORTH AMERICA 2020

AQUACULTURE ASSOCIATION OF CANADA | ASSOCIATION AQUACOLE DU CANADA

WORLD AQUACULTURE Society

naia NEWFOUNDLAND AQUACULTURE INDUSTRY ASSOCIATION Farmed fresh

Details coming soon to the following websites: aquacultureassociation.ca | was.org | naia.ca

Aquaculture Canada
WAS North America

Aug. 30-Sept. 2, 2020

St. John's, Newfoundland and Labrador, Canada

2020

The **World Aquaculture Society (WAS), Aquaculture Association of Canada (AAC) and Newfoundland Aquaculture Industry Association (NAIA)** are **excited** to co-host this **world class**, international event; surely to be the **largest aquaculture conference and trade show in Canadian history**.

The conference will feature hundreds of **world-class speakers and delegates** from around the globe on the science, technology, business and social aspects of aquaculture. St. John's is located on the **most eastern edge of North America**, is Canada's **oldest European settlement**, and the region is home to some of the **most ecologically interesting areas in the World**. Nearby **UNESCO heritage** sites and **wildlife and nature conservancies** make for exciting daily excursions. **Historic** and archival locations (one of the **4 corners of the Earth, Viking Settlements,** etc.) are within 2 day excursions. This city, **famous** for its **hospitality**, **music and culinary experiences** is a quick trip across the Atlantic from Europe, and easily accessible from all other parts of North America, and the globe, by air. St. John's is also home to **internationally recognized centres in aquaculture and fisheries science**, with Memorial University's Fisheries and Marine Institute and Faculty of Science leading the way.

Aquaculture Canada and WAS North America 2020 is the place to learn about the latest in aquaculture, see the newest technology in the trade show, and have a great time in the many fantastic restaurants and entertainment sites that St. John's and Newfoundland and Labrador have to offer.

We look forward to showcasing St. John's and the surrounding area to delegates.

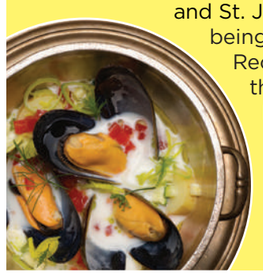
A CRITICAL TRADE SHOW FOR AQUACULTURISTS!

With 130 booths, Aquaculture Canada and WAS North America 2020 will have the largest aquaculture trade show in Canada! This is your opportunity to see the latest in products and services for the aquaculture industry. It is the place to visit current suppliers and make new contacts. To grow your business and keep pace with the technological advancements in the industry – this is the time and place to do it!

George Street *Photo: Michel Rathwell, Flickr*

SOCIAL EVENTS

The program will include engaging and exciting s*ocial and networking* events to enhance your experience and business opportunities. Meet old friends and new acquaintances, relax and enjoy yourself in the best of hospitality and entertainment that Newfoundland and Labrador, and St. John's have to offer. Events being planned include the Welcome Reception to open the conference, the AAC annual Dr. Joe Brown BBQ in support of aquaculture students, a Newfoundland Kitchen Party, and finally a evening Gala dinner. **Details and costs of these events to be confirmed soon**.



Newfoundland Mussel farm tour

TECHNICAL PROGRAM COVERS THE LATEST RESEARCH

The Aquaculture Canada and WAS North America 2020 program committee is building an extensive technical program featuring special sessions, and various symposia and workshops on all of the species and issues facing aquaculturists around the world. Sample topics will include:

Special Topics
- Cleaner Fish
- Fish Welfare
- Aquaculture Monitoring Technologies
- Aquaculture Biotechnology
- Fish and Shellfish Physiology
- Recirculating Aquaculture Systems
- Mussel and Oyster Culture
- Sea Lice: Control and Mitigation
- Public Perception and Trust
- Indigenous Partnerships / Engagement
- Law, Regulations and Policy
- Human Resource Challenges
- Marine Safety / Regulatory Requirements
- Communications and Advocacy
- Municipal Leader Forum
- Governmental Town Hall
- CEO's Workshop
- Culinary Sesson
- Women in Aquaculture
- Innocvation Norway: Global Growth and the 'Blue Planet'
- Biorefining / Bioprocessing / Valuization
- Material Management, Processing and Utilization
- Aquaculture Services - 'Show and Tell'
- Product Traceability and Food Safety
- Aquaculture in an Era of Climate Change
- eDNA
- Wild-Culture: Ecological Interactions
- Wild Culture: Genetic Interactions
- Harmful Algal Blooms
- The Integration of Offshore Ocean Aquaculture with Renewable and Non-Renewable Resources
- Environmental Impact Monitoring
- Modelling in Support of Aquaculture Ecosystem Management
- Aquatic Invasive Species

Crustaceans
- Shrimp Culture
- Shrimp Nutrition
- Shrimp Health & Disease
- Macrobrachium
- Other Crustaceans

Finfish
- Salmonids
- Tuna
- Flatfish
- Freshwater Finfish (e.g. tilapia, catfish, bass, percids etc.)
- Marine Finfish
- Larval Fish Culture
- Zebrafish
- Other Speices

Shellfish
- Scallops
- Oysters
- Clams
- Mussels
- Other Shellfish

Other Species
- Algae / Seaweeds
- Sea Urchins
- Sea Cucumbers
- Ornamentals
- Endangered Species

Nutrition
- Finfish Nutrition
- Shellfish Nutrition
- Feeds and Feedstuffs
- Live Feed (incl. copepod culture)
- Nutraceuticals, Probiotics and Clinical Diets
- Incorporating Plant-Based Ingredients
- Alternative Feed Ingredients
- Feed Management and Safety

Aquatic Animal Health and Disease
- Parasites
- Bacterial Diseases
- Viral Diseases
- Biosecurity
- Epidemiology
- Vaccines
- Therapeutants and Other Treatments

Production Systems
- Open Ocean (Offshore) Aquaculture
- IMTA / Integrated Aquaculture
- Freshwater Pond Aquaculture
- Small Scale Aquaculture and Aquaponics
- Urban Aquaculture
- Hatchery Technology
- Larval Culture / Production

Aquaculture Engineering
- Water Quality & Effluents
- Recreational and Ornamental Pond Management
- Biofloc Technologies and Applications
- Fish Transport
- Cage Design and Mooring Systems
- Land-Based Aquaculture

Genetics and Reproduction
- Fish Reproduction
- Broodstock Culture, Selection and Management
- Shrimp, Finfish and Shellfish Breeding: Genetics
- Genetic Engineering

Economics and Marketing
- Market Driven Aquaculture: Developing and Sustaining an Industry
- Aquaculture Economics
- Organic Aquaculture: Future Opportunities
- Certification
- Risk Management

Global Aquaculture
- Latin American and Caribbean Aquaculture
- Aquaculture in Asia / Pacific
- Aquaculture in India
- Aquaculture in Africa

Note: topics may be split or combined based on interest / submitted abstracts.

INSTRUCTIONS FOR PREPARATION OF ABSTRACTS

Expanded Abstract Format - Please refer to the sample.

1. **TITLE OF PAPER:** The abstract title is printed in CAPITAL LETTERS, with the exception of scientific names which should be Upper/lower case and italicized (see example). Scientific names should not be preceded or followed by commas or parentheses or other markings.

2. **AUTHOR(S):** The first name should be the presenting author. Use * after the presenting author. Type in upper/lower case.

3. **ADDRESS AND EMAIL:** Type only the presenting author's institution, address and email. Type in upper/lower case.

4. **MAXIMUM LENGTH:** One Page

5. **PAGE SIZE:** Standard 8.5 x 11 inch paper (portrait)

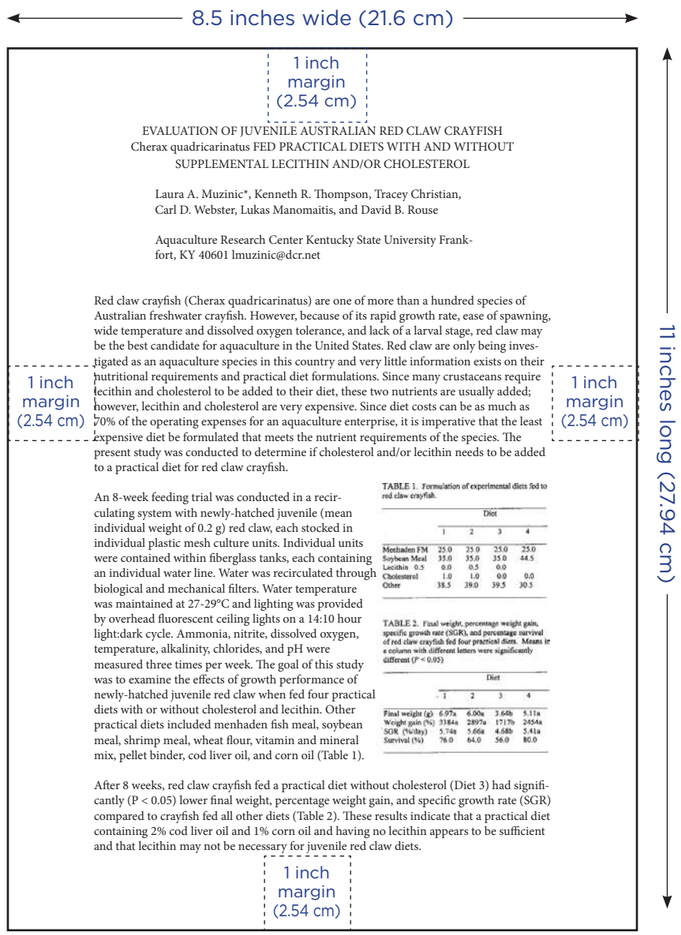
6. **MARGINS:** 1-inch margin throughout (left/right/top/bottom)

7. **SPACING:** Single spaced

8. **PARAGRAPHS:** Paragraphs should be separated by a blank line and should not be indented.

9. **FONTS:** Character fonts should be 12 point type.

10. **FIGURES & TABLES:** Figures and tables are highly recommended. They should be reduced to the appropriate size for a one page abstract and should be clearly readable at the reduced size. The reduced figures and tables should be included in the abstract in camera-ready form.



EVALUATION OF JUVENILE AUSTRALIAN RED CLAW CRAYFISH Cherax quadricarinatus FED PRACTICAL DIETS WITH AND WITHOUT SUPPLEMENTAL LECITHIN AND/OR CHOLESTEROL

Laura A. Muzinic*, Kenneth R. Thompson, Tracey Christian, Carl D. Webster, Lukas Manomaitis, and David B. Rouse

Aquaculture Research Center Kentucky State University Frankfort, KY 40601 lmuzinic@dcr.net

Red claw crayfish (Cherax quadricarinatus) are one of more than a hundred species of Australian freshwater crayfish. However, because of its rapid growth rate, ease of spawning, wide temperature and dissolved oxygen tolerance, and lack of a larval stage, red claw may be the best candidate for aquaculture in the United States. Red claw are only being investigated as an aquaculture species in this country and very little information exists on their nutritional requirements and practical diet formulations. Since many crustaceans require lecithin and cholesterol to be added to their diet, these two nutrients are usually added; however, lecithin and cholesterol are very expensive. Since diet costs can be as much as 70% of the operating expenses for an aquaculture enterprise, it is imperative that the least expensive diet be formulated that meets the nutrient requirements of the species. The present study was conducted to determine if cholesterol and/or lecithin needs to be added to a practical diet for red claw crayfish.

An 8-week feeding trial was conducted in a recirculating system with newly-hatched juvenile (mean individual weight of 0.2 g) red claw, each stocked in individual plastic mesh culture units. Individual units were contained within fiberglass tanks, each containing an individual water line. Water was recirculated through biological and mechanical filters. Water temperature was maintained at 27-29°C and lighting was provided by overhead fluorescent ceiling lights on a 14:10 hour light:dark cycle. Ammonia, nitrite, dissolved oxygen, temperature, alkalinity, chlorides, and pH were measured three times per week. The goal of this study was to examine the effects of growth performance of newly-hatched juvenile red claw when fed four practical diets with or without cholesterol and lecithin. Other practical diets included menhaden fish meal, soybean meal, shrimp meal, wheat flour, vitamin and mineral mix, pellet binder, cod liver oil, and corn oil (Table 1).

TABLE 1. Formulation of experimental diets fed to red claw crayfish.

	Diet			
	1	2	3	4
Menhaden FM	25.0	25.0	25.0	25.0
Soybean Meal	35.0	35.0	35.0	44.5
Lecithin 0.5	0.0	0.5	0.0	
Cholesterol	1.0	1.0	0.0	0.0
Other	38.5	39.0	39.5	30.5

TABLE 2. Final weight, percentage weight gain, specific growth rate (SGR), and percentage survival of red claw crayfish fed four practical diets. Means in a column with different letters were significantly different ($P < 0.05$)

	Diet			
	1	2	3	4
Final weight (g)	6.97a	6.00a	3.66b	5.11a
Weight gain (%)	3384a	2897a	1717b	2454a
SGR (%/day)	5.74a	5.66a	4.68b	5.41a
Survival (%)	76.0	64.0	56.0	80.0

After 8 weeks, red claw crayfish fed a practical diet without cholesterol (Diet 3) had significantly ($P < 0.05$) lower final weight, percentage weight gain, and specific growth rate (SGR) compared to crayfish fed all other diets (Table 2). These results indicate that a practical diet containing 2% cod liver oil and 1% corn oil and having no lecithin appears to be sufficient and that lecithin may not be necessary for juvenile red claw diets.

PLEASE SUBMIT YOUR ABSTRACT ONLINE

Submit your abstract via the internet at the meeting website.
Follow the complete instructions on the website for online submission.

http://aquacultureassociation.ca/product/aquaculture-canada-and-was-north-america-2020/

If you are unable to submit your abstract online, contact the Conference Manager for alternative methods at: worldaqua@was.org or Fax: +1-760-751-5003

ATTENDEE REGISTRATION FORM

Aquaculture Canada and WAS North America 2020

Aug 30-Sept 2, 2020 – St. John's, Newfoundland, Canada

Address for payments in CND:
ACWNA 2020
16 Lobster Lane
St. Andrews, NB, Canada E5B 3T6
Tel: +1 760 751 5005
Fax: +1 760 751 5003
Email: worldaqua@was.org

Online registration is preferred at http://aquacultureassociation.ca/product/aquaculture-canada-and-was-north-america-2020/ or Fax or mail both sides with payment. Please use one form per person.

PLEASE PRINT CLEARLY OR TYPE ALL REQUESTED INFORMATION

BADGE INFORMATION: (As you want your name badge to read – No titles, please - Limited to 40 Letters & Spaces)

First Name _____ Surname (Family Name)_____

Company or Institution _____

CONTACT INFORMATION: Email _____

Postal Address _____

City/State_____Prov _____ Postal Code _____ Country_____

Phone _____ Fax _____ Title: (circle one) Dr. Mr. Ms. Mrs.

(Include country and city code) *(Include country and city code)*

REGISTRATION FEES: In order to receive the discount rates as listed below, this form and payment must be received by the date listed. See brochure for what is included in registration fees.

TYPE OF REGISTRATION FULL CONFERENCE & TRADE SHOW	Register by June 30, 2020	Register after June 30, 2020	Trade Show is included in the Full Conference Registration Rate
In order to receive the Pre-Registration discount rate, this form and payment must be received by the date above			To qualify for Member Rate, you must complete the Association Memberships section on the reverse side.
MEMBER RATE* **STUDENT MEMBER RATE*** Include Student I.D.	☐ CND $500 ☐ CND $250	☐ CND $600 ☐ CND $300	
Non-Member Rate **Student Non-Member Rate** Include Student I.D.	☐ CND $600 ☐ CND $300	☐ CND $700 ☐ CND $350	
Spousal Rate (must accompany full reg.) Name _____	☐ CND $250	☐ CND $300	TOTAL REGISTRATION FEE CND$ _____
TRADE SHOW PASS (if not a full conference registrant) Good for 3 days admission to exhibits only – Aug 31, Sept 1 and 2 CND$50			TOTAL TRADE SHOW PASS CND$ _____
DR. JOE BROWN BBQ (in aid of AAC Student Endowment Fund) Aug 31 (Ltd. # Tickets Avail) CND$40			TOTAL BBQ CND$ _____
Registration fees include tickets to the **Kitchen Party** (Tues. Sept 1) and **Gala Dinner** (Wed. Sept 2). Please indicate by checking if you plan on attending.			☐ Kitchen Party ☐ Gala Dinner
MEMBERSHIP DUES: Enter amount from Membership Application on other side if applicable.			TOTAL MEMBERSHIP DUES CND$ _____
Please do not mail registration after July 15, 2020, or Fax after Aug. 14, 2020. After these dates bring this form with you to register at the conference.			TOTAL AMOUNT CND$ _____
Registration Confirmation and Receipt will be e-mailed after processing.			

CANCELLATION POLICY: Cancellation of registration must be received - in writing - no later than July 24, 2020. Refunds for registration fees will be subject to a 20% handling fee. Refunds are processed after the conference. No refund will be made for cancellations received after July 24, 2020 or for "no shows". After July 24, 2020, no refunds will be made for professional or personal emergencies, flight cancellations, denied visa, weather related cancellation or other travel emergencies. Fees for memberships are non-refundable

PAYMENT METHOD: All fees must be paid to the order of ACWAS 2020.

☐ Cheq ☐ Visa ☐ Mastercard ☐ American Express ☐ Discover ☐ Diner's Club

Card _____ Expiration Date_____ Sec. Code_____

Name on Card _____ Date _____ Signature_____

For bank transfer details, contact us.

REGISTRATION FORM (Continued) Contact: _____

ASSOCIATION MEMBERSHIPS: Please check all boxes for associations for which you are a current member. Membership in any of these associations qualifies you for Member Rate* Registration Fees. You can join an association at any time before registering to qualify for Member Rate.

- ☐ African Chapter of WAS
- ☐ Americas Tilapia Alliance
- ☐ American Veterinary Medical Association
- ☐ AQUABIO
- ☐ Aquacultural Engineering Society
- ☐ Aquaculture Association of Canada
- ☐ Aquaculture Association of South Africa
- ☐ Aquaculture Feed Industry Association
- ☐ Aquaculture Without Frontiers
- ☐ Asian Fisheries Society
- ☐ China Society of Fisheries
- ☐ Egyptian Aquaculture Society
- ☐ European Aquaculture Society
- ☐ Fish Culture Section - AFS
- ☐ Global Aquaculture Alliance
- ☐ IAFI The International Association of Seafood Professionals
- ☐ Indonesian Aquaculture Society
- ☐ Korean Aquaculture Society
- ☐ Korean Society of Fisheries and Sciences (KOSFAS)
- ☐ Malaysian Fisheries Society
- ☐ National Aquaculture Association
- ☐ National Shellfisheries Association
- ☐ Newfoundland Aquaculture Industry Association
- ☐ Sociedad Brasileira de Acuicultura
- ☐ Society of Aquaculture Professionals (India)
- ☐ South African Aquaculture Society
- ☐ Spanish Aquaculture Association (SEA)
- ☐ Striped Bass Growers Association
- ☐ US Trout Farmers Association
- ☐ World Aquaculture Society
- ☐ World Aquatic Veterinary Medical Association
- ☐ Zebrafish Husbandry Association

MEMBERSHIP APPLICATIONS ☐ NEW APPLICATION ☐ RENEWAL

AQUACULTURE ASSOCIATION OF CANADA Web: http://aquacultureassociation.ca/join-us/

MEMBERSHIP CATEGORY: (Indicate only one)
- ☐ Organizational (CND $300/yr) ☐ Student (CND $50/yr)
- ☐ Individual (CND $100/yr)
- ☐ Retired (CND $50/yr) *Signature of Professor or copy of Student ID required*

Total Amount for AAC Membership
CND $ _____
Please enter this amount under "Membership Dues" section on opposite side of this form.

NEWFOUNDLAND AQUACULTURE INDUSTRY ASSOCIATION Web: www.naia.ca | Email: Roberta@naia.ca

- ☐ REGULAR MEMBER: Voting membership is open to individuals representing an aquaculture enterprise that holds a valid aquaculture license in NL, (Price TBD).
- ☐ ASSOCIATE MEMBER: Non-voting individual membership for suppliers, industry supporters and enterprises (CND$500/YR)

Total Amount for NAIA Membership
CND $_____
Please enter this amount under "Membership Dues" section on opposite side of this form.

WORLD AQUACULTURE SOCIETY

For details on the different types of memberships and options, please contact the WAS home office at:
Tel: +1-225-578-3137 | Fax: +1-225-578-3493 | Email: judya@was.org | Web: www.was.org

MEMBERSHIP CATEGORY: (Indicate only one)
- ☐ Individual (Electronic JWAS) CND $84.5/yr) Applies to an individual only
- ☐ Individual (Printed JWAS) (CND $143/yr) Applies to an individual only
- ☐ Individual (E Access) (CND $58.5/yr) Applies to an individual only
- ☐ Student (Electronic JWAS) (CND $58.5/yr) (Copy of Student ID or Signature of Professor required)
- ☐ Student (Printed JWAS) (CND $117/yr) (Copy of Student ID or Signature of Professor required)
- ☐ Sustaining (Electronic JWAS) (CND $136.5/yr) Applies to any one individual from a company
- ☐ Sustaining (Printed JWAS) (CND $195/yr) Applies to any one individual from a company
- ☐ Corporate (Electronic JWAS) (CND $331.5/yr) Allows all employees of one company to attend meeting at Member Rate
- ☐ Corporate (Printed JWAS) (CND $390/yr) Allows all employees of one company to attend meeting at Member Rate
- ☐ Lifetime (Electronic JWAS only) (CND $1300 with no chapter) Applies to an individual only

CHAPTER OPTIONS:

One chapter included in membership. Mark the chapter you choose.
- ☐ Africa
- ☐ Asian Pacific
- ☐ Korea
- ☐ Latin American/Carribean
- ☐ United States (USAS)
- ☐ None (CND $6.5)

You can add extra Chapters for CND $8.45

Total Amount for WAS Membership CND$ _____ Please enter this amount under "Membership Dues" section on opposite side of this form. Fees for memberships are non-refundable.

HOTELS

We have arranged for fantastic rates at various hotels in the downtown St. John's area, including the host hotel Delta St. John's. Please visit the conference website for details.

LOCAL AQUACULTURE FACILITY TOURS:

Please note that we will not be arranging tours. If you wish to tour one of the local facilities please contact the appropriate person below.

Ocean Sciences Centre:
Danielle Nichols,
Research Marketing Manager/Program Coordinator,
Department of Ocean Sciences, Memorial University.
Email: dnichols@mun.ca

Marine Institute:
Heather Burke
Director, Centre for Aquaculture and Seafood,
Email: heather.burke@mi.mun.ca

FULL CONFERENCE REGISTRATION INCLUDES:

Admission to all conference sessions and the trade show

Admission to the Opening Reception

Admission to Kitchen Party

Admission to Gala Dinner

Conference Bag and Show Directory

Refreshment Breaks and Happy Hour

Students receive the full registration package. To qualify for the student rate, a copy of your student I.D. is required.

Only pre-registered attendees are guaranteed materials.

FOR MORE INFORMATION

Aquaculture Canada and WAS North America 2020
Conference Management
16 Lobster Lane
St. Andrews, NB, E5B 3T6, Canada
Tel: +1-760-751-5005
Fax: +1-760-751-5003
Email: joanne@aquacultureassociation.ca OR worldaqua@was.org
REGISTER EARLY AND $AVE!

Ocean Sciences Centre