



AQUACULTURE  
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# Watermark

News from the Aquaculture Association of Canada

April 2018 Issue 20180426

## President's Message



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AC'18 is fast approaching with only five weeks left to go before we meet in beautiful and historic Quebec City! We are finalizing our plans for the conference, which will be held at Hotel Le Concorde Quebec from May 27<sup>th</sup> – 30<sup>th</sup>. The program we have planned is forward-thinking and inspiring and will provide an update in the latest in aquaculture research and development.

We will also be hosting a number of social events, including the President's Reception on Sunday May 27<sup>th</sup>, the Dr. Joe Brown Student BBQ on Monday May 28<sup>th</sup>, and the Gala Dinner on May 29<sup>th</sup>. As a special event following the President's Reception, we will be screening the documentary Food Evolution, which explores the controversies around GMOs and food. One of our keynote speakers, Dr. Allison Van Eenennaam, appears in the film and will be conducting a Q&A with delegates after the show. We think this will spark interesting thought and discussion for the conference and is fitting with this year's theme of Innovation and Sustainability.

In addition to the excellent program we have planned, I encourage our members to attend our Annual General Meeting over lunch on Tuesday at 1 pm. As an Association, we work diligently to deliver an outstanding conference each year and to provide significant value for your membership. As members, your input and opinions on the decisions that the Board of Directors make on behalf of the Association is extremely important. It is your membership that drives the Association and keeps it alive. You can help shape the Association by engaging in activities such as the Annual General Meeting, so I encourage all members to attend on Tuesday May 29<sup>th</sup>.

Thank you to our sponsors, product sponsors, and tradeshow participants so far for AC'18 (there is still time for those that are still interested in becoming a sponsor or tradeshow participant). As well, thank you to our dedicated members. I look forward to seeing all of you in Quebec City next month!

Stefanie Colombo, AAC President ([president@aquacultureassociation.ca](mailto:president@aquacultureassociation.ca))

# Aquaculture Canada 2018

Aquaculture Canada 2018 will be held at Hôtel Le Concorde, Quebec City, Quebec from May 27<sup>th</sup> – 30<sup>th</sup>, 2018.



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## AC 2018 Important Dates

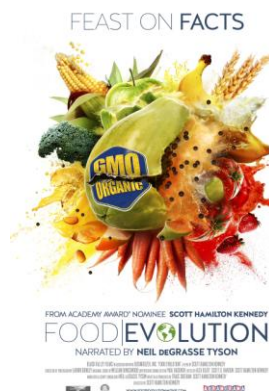
Conference Dates	May 27-30
Student Gathering	May 27
President's Reception	May 27
Poster Session	May 28
Dr. Joe Brown BBQ and Auction	May 28
Gala Dinner	May 29



### SPECIAL EVENT: Food Evolution Screening

Sponsored by AquaBounty and the Centre for Aquaculture Technologies Canada

WHEN: 7:45pm Sunday May 27, following the President's Reception, with Q&A from Keynote speaker Dr. Allison Van Eenennaam from UC Davis.



See the trailer: [www.foodevolutionmovie.com](http://www.foodevolutionmovie.com)

## AC 2018 Schedule of Social Events

**Student Gathering:** A chance for students to meet and socialize in a local pub.

Time and Date: 4pm Sunday May 27

Location: TBD (check the Aquaculture Canada Student-Affairs Facebook page)

**President's Reception:** Informal event to welcome all participants and to kick off the conference.

Time and Date: 5:30pm Sunday May 27

Location: Hôtel le Concorde Québec

**Poster Session:** Designated poster session (with a cash bar) for presenters to speak to delegates about their work.

Time and Date: 4:30pm Monday May 28

Location: Hôtel le Concorde Québec

**Dr. Joe Brown BBQ and Auction:** Good food, drink, and fun are involved in this important fundraiser for the AAC Student Endowment Fund.

Time and Date: 6:30pm Monday May 28

Location: Pub Ozone Grande Allée

**Gala Dinner:** The final social event of the conference that includes the presentation of the Lifetime Achievement Award. Not to be missed!

Time and Date: 7pm Tuesday May 29

Location: Hôtel le Concorde Québec

## Editor's Note - Publications

### The Aquaculture Association of Canada Reviews Research & Development & Commercialization Needs for Seaweed Farming in Canada

The AAC has been at the forefront of promoting various sectors of Canadian aquaculture R&D&C efforts since 1984. The recent edition of the AAC Bulletin entitled "Aquaculture Canada and Sea Farmers 2017 Seaweed Symposium" was guest edited by T. Chopin and C. Couturier, co-convenors of the symposium. The publication essentially provides an update on seaweed farming potential and practices in Canada, with submissions by leading seaweed researchers and industry across the country. The last time the AAC did such a summary was in 2006. The publication concludes with a summary of future directions for R&D&C for the sector and will be welcomed by those interested in the subject.

A copy of the Bulletin may be downloaded by clicking on the hyperlinked image below.



## Student's Corner

### Engage, Connect, and Act - Aquaculture Canada Conference

The Aquaculture Association of Canada (AAC) is hosting its annual conference in Quebec City this year (May 27-30, 2018) at Hotel Le Concorde. Experts from around the world will discuss the latest developments in hatchery technology, feeding techniques, grow-out methods, processing, and markets. This is a great opportunity for students to promote their research (proposed, in-progress, or completed) and provide a platform to showcase and discuss with research and industry partners. AAC Conferences are always very well attended by students and industry partners, and therefore provide a great opportunity for networking and career opportunity. Moreover, you do not want to miss out the student gathering at a local pub; a student event that has been a success in the past years. The student gathering this year will be on Sunday May 27 from 4-6pm at a local pub close to the conference hotel. Stay tuned for updates through the Aquaculture Canada Student-Affairs Facebook page <https://www.facebook.com/aac.studentaffairs>

For more information about the conference, please visit the AAC website (<http://aquacultureassociation.ca/product/aquaculture-canada-2018-conference-and-tradeshow/>).

If you have any questions about the conference, feel free to contact me at [brunolg@gmail.com](mailto:brunolg@gmail.com).

Looking forward to seeing you all there.

Bruno Gianasi

AAC Student Board Member, Student Affairs Committee



*The Aquaculture Association of Canada would like to thank all donors of product and auction items for the upcoming Aquaculture Canada 2018!*

*If you have items to donate, contact Bruno at [brunolg@gmail.com](mailto:brunolg@gmail.com)*



# Attention Students: Emerging Leaders in Canadian Aquaculture

*Submitted by Joanne Liutkus*

The Aquaculture Association of Canada is excited to launch a new funding program in partnership with aquaculture industry associations across Canada:

## **The Emerging Leaders in Canadian Aquaculture (ELCA) Program.**

### **How It Works:**

Aquaculture industry associations hold a number of research and policy-based workshops throughout the year to discuss and find solutions to key questions pertaining to a variety of pertinent topics, for example, fish health, the study of wild and farmed interactions, and pest management. Workshops engage industry leaders, researchers in academia and independent organizations, and government. These events are excellent opportunities for graduate students studying in related fields to gain applied knowledge from industry discussions and to network with potential collaborators and future employers.

THE ELCA Program, through AAC partnership with interested regional industry associations, will see funding made available to support travel for graduate and post-graduate students to these events. ELCA will provide up to 70% of travel costs.

ELCA opportunities will be posted and advertised through the Aquaculture Association of Canada at least two months before the workshop date and will remain open until 2 weeks before the event.

### **Eligibility:**

- MSc or PhD students in at least their second year of a thesis-based or course-based program at a Canadian university studying in a related field to the workshop topic, or
- Post-doctoral fellows at Canadian universities in programs of a related nature.
- Student members in good standing of the Aquaculture Association of Canada.

### **Applying:**

- Interested individuals should complete the application form found [here](#).
- Submit your application by the identified deadline. Application deadlines and reviewers will change with workshops.
- Funding decisions will be made within 5 business days of application submission and on a first come first serve basis, unless otherwise indicated.

### **Deliverables:**

Successful applicants will be asked to write a short entry on their experience for publication in AAC's Watermark Newsletter / as an AAC blog post.



### **The First Opportunity:**

AAC in partnership with the BC Salmon Farmers Association (BCSFA) ([www.bcsalmonfarmers.ca](http://www.bcsalmonfarmers.ca)) invites ELCA applications for funding to attend an upcoming BCSFA Research Priorities workshop. Successful students can meet with BC industry members and researchers working in several areas of salmon farming and environmental management, learn about current operations and take in a farm tour.

## ***Exploring Priorities for Marine Environmental Research on BC's Coasts***

### **A BC Salmon Farmers Association Research Workshop**

#### ***in Partnership with the BC Seafood Expo***

In partnership with the BC Seafood Expo, the BCSFA is hosting a workshop to discuss and set future priorities for the Marine Environmental Research Program. Focus groups will discuss research priorities on fish health, management of wild salmon stocks, the changing ocean climate, and science communications. The discussions will help form the next iteration of this important program into the future.

The workshop will provide an opportunity for researchers, government, and industry stakeholders to share their expertise, evaluate research priorities, and generate ideas important to forwarding BC's coastal research agenda.

**WHEN:** June 11-12, 2018

**WHERE:** The Rotary Room, Florence Filberg Centre  
411 Anderton Ave, Courtnay, BC

[View Map](#)

**CONFIRMED SPEAKERS TO DATE:** Wild and Farmed Fish Health Interactions - Dr. Michael Kent, Oregon State University; Science and Communications – Perspectives from the Forestry Industry – Dr. Paul Adams, Professor Emeritus, Oregon State University; Wild Salmon Migrations – Chrys Neville, Pacific Biological Station, Fisheries and Oceans Canada

### **Partnering with the Expo**

The Workshop will be run in partnership with the BC Seafood Expo. Workshop participants will have access to plenary speaker presentations, the evening International Seafood Buyers Reception on June 11<sup>th</sup>, and a salmon farm tour on June 12<sup>th</sup>. There is no registration cost to workshop participants.

More details will follow on guest speakers, accommodation booking codes, and Expo-scheduled events with access for workshop registrants.

### **Get in Touch**

Please forward interest in applying for travel funding to attend this workshop, or get on the mailing address for further information, by contacting:

**Joanne Liutkus, BC Salmon Farmers Association ([joanne@bcsalmonfarmers.ca](mailto:joanne@bcsalmonfarmers.ca))**

### **Deadline**

Applications should be received by Monday May 27, 2018.

# Student Award Winner Profile

## Holly Fisher, B.Sc. – Poster Presentation Award 2017

### ***Where and what you are studying?***

I am a recent graduate of the Dalhousie Faculty of Agriculture, where I completed my B.Sc. with a Major in Animal Science.

### ***What is your thesis about?***

Our research was on using black soldier fly meal as a possible protein source for Atlantic salmon. We ran a feed trial to see what effects this innovative feed ingredient had on the growth parameters of the salmon, which was a great opportunity to learn about carnivore's fish nutrition. Our research, and the research of others, was used in the Canadian Food Inspection Agency approval of this new feed ingredient in salmonid diets, which was an amazing opportunity to see our research make a difference in the aquaculture industry.

### ***Who is your supervisor?***

My supervisor is Dr. Stephanie Collins, who is the new Assistant Professor of Monogastric Nutrition in the Department of Animal Science and Aquaculture. It was a great opportunity to have Dr. Stephanie Collins as my Supervisor for my fourth year project, and Dr. Collins was a wealth of knowledge and extremely supportive during this project.

### ***What is your background?***

I am an Animal Science student, and have focused my educational career researching insects as a possible feed source. As a two time recipient of the NSERC Undergrad Student Research Award, I have researched insect proteins and their possibilities in human nutrition. My fourth year project gave me the opportunity to work in the aquaculture unit at the Dalhousie Faculty of Agriculture, and I was thrilled to get the opportunity to work with carnivorous fish and to explore this area of research.

### ***How did you get interested in what you are studying?***

I have always had a passion for entomophagy, the consumption of insects, and when Dr. Collins mentioned she was working on a project using black soldier fly meal as a feed source for salmon, I knew that this project would be a perfect fit for me.

### ***What if any challenges do you face in your studies?***

As an undergrad there were many challenges while completing this project, but every challenge is an opportunity to grow and learn. Having never worked with Atlantic salmon before, I had to learn about their metabolism, proper care, and what could affect their growth. After completing this project, I feel confident in my knowledge of salmonid nutrition and cannot wait to complete more projects in aquaculture.

### ***What do you see yourself doing after you graduate?***

After completing my B.Sc., I decided to complete my Masters in Agriculture, which I am excited to start this semester at the Dalhousie Faculty of Agriculture, in partnership with Cape Breton University. I love to learn, and this is a great opportunity for me to expand my knowledge in entomophagy and animal nutrition.

### ***What has been your most positive experience in your studies so far?***

The most positive experience of my studies so far would have to be the chance to work with such an amazing group of people. Every person I have had the opportunity to work with has taught me valuable information that I will be able to use in my educational career and personal life.



Want to be featured in the ***Student Spotlight?***  
Submit a short summary of your research (~200 words) and your photo to be featured in an issue of the Watermark! Send your submission to

[klgill@gov.pe.ca](mailto:klgill@gov.pe.ca)

# International Symposium on Aquatic Animal Health

The Atlantic Veterinary College (AVC) and the Prince Edward Island (PEI) BioAlliance are partnering with the American Fisheries Society—Fish Health Section (FHS) to co-host the 8<sup>th</sup> International Symposium on Aquatic Animal Health (ISAAH) from September 2–6, 2018, in Charlottetown, PEI.

The ISAAH is held every four years. This will be only the second time that the symposium has been hosted in Canada since the inaugural conference in Vancouver, British Columbia, in 1988.

Delegates will discuss current business and research developments, trends, and the future of the aquatic animal health industry during scientific workshops, business meetings, and keynote and research presentations. The theme of the symposium is “Integrating Biotechnology in the Advancement of Aquatic Animal Health.”

Undergraduate and graduate students and post-doctoral fellows studying aquatic animal health are welcome to participate. Of particular interest to them are pre-conference workshops on Diagnostic Test Evaluations, Publication of Scientific Papers, Phlebotomy & Blood Analysis for Fish and Shellfish, Shellfish Necropsy & Disease Detection, and Uses of Virtual Microscopy.

Dr. David Groman, Past President of the FHS, Section Head for Aquatic Diagnostic Services at AVC, and Local Chair of the 2018 ISAAH, said the PEI aquatic animal health community is proud to host this prestigious international symposium.

“It’s a little-known fact that PEI has the highest number of aquatic animal health professionals per capita and per square kilometre than anywhere else in the world,” said Groman. “This is an excellent networking opportunity for people studying aquatic animal health as well as those working in the field.”

Rory Francis, Executive Director of the PEI BioAlliance, said PEI is an ideal location for the symposium.

“PEI is home to more than 30 organizations and companies involved in aquaculture production, health and nutrition, product development, and contract services. Researchers, including the Canada Excellence Research Chair in Aquatic Epidemiology and Canada Research Chairs in Integrated Health Research for Sustainable Aquaculture and Epi-informatics at AVC, provide support and innovative solutions for the global aquaculture industry,” he said.

Early bird registration for the conference ends on July 13. For more information, visit <https://isaah2018.com/>



## 36<sup>th</sup> Fish Feed and Nutrition Workshop Announces 2018 Student Award

*Submitted by André Dumas, Fish Nutrition Director at the Centre for Aquaculture Technologies Canada*

The 36<sup>th</sup> edition of the Fish Feed and Nutrition Workshop took place on picturesque Prince Edward Island in September 2017 and was co-hosted by The Center for Aquaculture Technologies Canada (CATC) and the PEI Aquaculture Alliance. This industry-focused workshop takes place every other year in various locations across North America. The workshop is designed to provide a forum for discussion with a focus on fish feed and nutrition activities in Canada, Mexico, and the USA.

The involvement of participants has demonstrated rightly that aquaculture nutrition has value and is a very dynamic industry.

CATC, PEI Aquaculture Alliance, and the organizing committees are deeply thankful for the 13 sponsors that contributed generously to this event. The program for this 36<sup>th</sup> edition was put together by 22 members of the Steering Committee and Advisory Committee. Fifty-seven research scientists, innovation and product managers, as well as investors and students engaged in open discussions about timely and relevant topics such as fish health and nutrition, functional feeds, modernization of regulatory frameworks, ingredient market risk management, nutrigenomics, nutritional physiology, alternative and emerging ingredients, and feed processing.

The Committees' members agreed in advance to allocate equally any monetary surplus to student funds administered by national aquaculture associations from Canada and the USA. It is with great enthusiasm that CATC presents, on behalf of PEI Aquaculture Alliance and Committees' members, a donation of \$3,970 for the Student Endowment Fund of the Aquaculture Association of Canada.

On behalf of the AAC, we would like to thank the Steering Committee and Advisory Committee for this generous donation to the AAC Student Endowment Fund!

Thank you also to the following donors to the 2017 Student Endowment Fund:

Santosh Lall  
Brad Hicks  
Geoffrey McBriarty  
Science Atlantic  
Helen Gurney-Smith  
Betty House  
Joanne Burry  
René Lavoie  
Ramon Filgueira

Cyr Couturier  
Don MacDonald  
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Daria Gallardi  
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Susan Waddy  
Odd Grydeland  
Steve Leadbeater  
Tillmann Benfey  
Grieg Seafood  
Craig Clarke  
Linda Hiemstra  
Mark Flaherty



## In the News

[Canada's Ocean Supercluster: Atlantic Canada as a world-class centre of ocean enterprise and excellence](#)

[Minister LeBlanc announces independent expert panel on aquaculture science](#)

## Recently published: Canadian aquaculture research

Dumas, A., Raggi, T., Barkhouse, J., Lewis, E., & Weltzien, E. 2018. The oil fraction and partially defatted meal of black soldier fly larvae (*Hermetia illucens*) affect differently growth performance, feed efficiency, nutrient deposition, blood glucose and lipid digestibility of rainbow trout (*Oncorhynchus mykiss*). *Aquaculture*. 492, 24-34. DOI: 10.1016/j.aquaculture.2018.03.038

Gianasi, B. L., Hamel, J-F., & Mercier, A. 2018. Morphometric and behavioural changes in the early life stages of the sea cucumber *Cucumaria frondosa*. *Aquaculture*. 490, 5-18. DOI: 10.1016/j.aquaculture.2018.02.017.

Hamoutene, D., Cote, D., Marshall, K., Donnet, S., Cross, S., Hamilton, L. C., McDonald, S., Clarke, K. D., & Pennell, C. 2018. Spatial and temporal distribution of farmed Atlantic salmon after experimental release from sea cage sites in Newfoundland (Canada). *Aquaculture*. 492, 147-156. DOI: 10.1016/j.aquaculture.2018.03.040

Poley, J. D., Braden, L. M., Messmer, A. M., Igboeli, O. O., Whyte, S. K., Macdonald, A., Rodriguez, J., Gameiro, M., Rufener, L., Bouview, J., Wadowska, D. W., Koop, B. F., Hosking, B. C., & Fast, M. D. 2018. High level efficacy of lufenuron against sea lice (*Lepeophtheirus salmonis*) linked to rapid impact of moulting processes. *International Journal for Parasitology: Drugs and Drug Resistance*. 8(2), 174-188. DOI: 10.1016/j.ijpddr.2018.02.007

## Upcoming Events

*Aquaculture Canada 2018 Conference and Tradeshow*, **May 27-30, 2018**, Quebec City, QC  
<http://aquacultureassociation.ca/product/aquaculture-canada-2018-conference-and-tradeshow/>

*BC Seafood Expo* **June 11-12, 2018**, Comox Valley, BC  
<https://bcseafoodexpo.com/>

*8<sup>th</sup> International Symposium on Aquatic Animal Health*, **September 2-6, 2018**, Charlottetown, PE  
<https://isaah2018.com/>

*25<sup>th</sup> Annual Cold Harvest Conference & Trade Show*, **September 26-28, 2018**, St. John's, NL  
<http://naia.ca/index.php/media/cold-harvest-conference>

*AquaSur 2018*, **October 17-20, 2018**, Perto Montt, Chile  
<http://www.aqua-sur.cl/en/home-2/>



## PESTO SALMON FILLETS WRAPPED IN PHYLLO PASTRY

### Ingredients

350 g Salmon Fillets  
Phyllo Sheets

Basil Pesto  
1/4 Cup Pine Nuts  
10 Cloves Garlic

2 oz Fresh Basil Leaves  
1/4 Cup Olive Oil  
Clarified Butter

### Directions

#### - Pesto:

- Put all ingredients in a food processor
- Blend to a paste

- Rub paste on fillets, placing on Phyllo sheets and wrapping
- Brush with butter
- Bake at 350 degrees for 15 minutes or until pastry is browned

Prep Time: 45 minutes

Serves: 2

*These recipes courtesy of:*  
Fred Rose  
Rose's Country Catering  
1631 Nursery Road  
Campbell River, B.C.  
V9W 4V4  
(250)287-3779  
rosescat@oberon.ark.com

For more recipes visit us at  
[www.MarineHarvestCanada.com](http://www.MarineHarvestCanada.com)

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## Aquaculture Association of Canada 2017/2018 Board of Directors

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**President Elect:** Joanne Liutkus, BC Salmon Farmer's Association, [joanne@bcsalmonfarmers.ca](mailto:joanne@bcsalmonfarmers.ca)

**Vice-President:** Matthew Liutkus, Skretting [mliutkus@hotmail.com](mailto:mliutkus@hotmail.com)

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**Board Member:** Kim Gill, PEI Department of Agriculture and Fisheries, [kgill@gov.pe.ca](mailto:kgill@gov.pe.ca)

**Board Member:** Greg Gibson, Marine Harvest Canada, [Greg.Gibson@marineharvest.com](mailto:Greg.Gibson@marineharvest.com)

**Student Board Member:** Bruno Gianasi, Department of Ocean Sciences, Memorial University, [brunolg@mun.ca](mailto:brunolg@mun.ca)

***Thank you to all who voted in the 2018 election!***

### Staff:

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16 Lobster Lane, St Andrews, NB E5B 3T6, ph: 506-529-4766, Email: [info@aquacultureassociation.ca](mailto:info@aquacultureassociation.ca)

**Conference Manager:** Joanne Burry, Email: [jmburry@nl.rogers.com](mailto:jmburry@nl.rogers.com)

### Watermark Production

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Do you have suggestions for the next issue? Email: [kgill@gov.pe.ca](mailto:kgill@gov.pe.ca)

