



# Fish Health Section



The official link to the FHS website is: <https://units.fisheries.org/fhs/>

## FHS NEWS

### **The AFS Journals Department Is Seeking High-Quality Photographs to Feature on the Cover of the *Journal of Aquatic Animal Health***

The cover photograph need not correspond to the issue contents, so any high-quality, interesting photo or image is welcome!

Suggested subjects include histopathology, radiography, gill parasites, etc.

We would also be interested in hearing from you if you know of photographers we should contact, a particular lab with a great photo database, or subject matter we should be keeping our eyes open for.

The photographer will retain copyright of the image. \$100 payment for professional photographers.

Please e-mail your possible cover photos or tips to Journals Manager Laura Hendee at [journals@fisheries.org](mailto:journals@fisheries.org). Also see the attached flyer.

## STUDENTS AND EARLY CAREER MEMBERS

### **MS Opportunity – Simulation Modelling in Aquaculture University of Prince Edward Island Atlantic Veterinary College Department of Health Management**

The Atlantic Veterinary College (AVC) at the University of Prince Edward Island (UPEI) is seeking a highly-qualified applicant for a master's student position in aquatic epidemiology with an emphasis on improving surveillance efforts using simulation modelling approaches. The successful candidate will contribute to a research programme that focuses on the development and application of novel quantitative approaches to salmon health and sustainability. This programme focuses on ecosystem health on the East Coast of Canada and includes modules that explore the use of latent variable and agent-based models to improve antimicrobial and anti-parasitic therapies, as well as the early detection and more effective control of disease via risk-based surveillance and novel sensor technologies.

The successful individual will join a multi-disciplinary team of epidemiologists, data science modellers, statisticians, fin-fish clinicians, ecosystem health and regulatory veterinary medicine specialists, whose work focuses on holistic approaches to assist the Canadian and international aquaculture sector improve the productivity, sustainability and health of aquatic food animal stocks. The master's student will contribute to a major multi- institutional grant involving academic, industry and government partners related to modelling the spread of pathogens in the marine environment, including interactions between farmed and wild fish, and the evaluation of mitigation strategies to reduce disease risk.

In particular for the portion of the research project that this master's student will join, the successful individual will work with a team to take models of virus transmission risk and extend them to incorporate adjusted seaway distances and hydrodynamic features, to improve model generalizability and implement it in a user-friendly platform.

The selected candidate must have:

- An undergraduate degree in the biological or veterinary sciences
- An interest in statistical and simulation modelling
- Proficiency in at least one scientific programming language (e.g. R, Python) is beneficial but not required.
- Experience with aquatic animal diseases is desirable.
- Experience of working in a multidisciplinary group with demonstrated abilities to communicate with individuals from diverse backgrounds is expected.
- Must be self-motivated and able to work both independently, and as an effective partner within the team

This master's student assignment will start as soon as possible, and run until August 31, 2020 (the term may be reduced or extended depending on participation in the project, available funding and project requirements). A competitive master's stipend will be offered on a per annum basis for the duration of the assignment.

Questions about the position should be forwarded directly to Dr. Ian Gardner through emailing Sheri Gregory ([shgregory@upei.ca](mailto:shgregory@upei.ca)). Interested candidates should submit a letter of intent, curriculum vitae and the names of three referees by email to:

Dr. Ian Gardner  
Canada Excellence Research Chair – Aquatic Epidemiology  
Department of Health Management  
Atlantic Veterinary College, UPEI  
550 University Avenue,  
Charlottetown, Prince Edward Island CANADA, C1A 4P3  
Telephone (902) 620-5059 Email: [shgregory@upei.ca](mailto:shgregory@upei.ca)

In accordance with Canadian immigration requirements, all qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

**Closing date for applications is May 31, 2018 or until a suitable candidate is identified.**

## **MEETINGS, WORKSHOPS AND COURSES**

### **24th Annual Aquaculture Drug Approval Coordination Workshop and the 59th Western Fish Disease Workshop**

**Bozeman, Montana**

**June 19-22, 2018**



**Registrati  
on  
&  
Call for  
Papers**

The 24<sup>th</sup> Annual USFWS Aquaculture Drug Approval Coordination Workshop and the 59<sup>th</sup> Annual Western Fish Disease Workshop will be held together and jointly hosted the week of June 18<sup>th</sup> at the Best Western Gran Tree Inn in Bozeman, Montana. Bozeman, Montana has grown to be one of the leading destinations for a western Rocky Mountain vacation, featuring attractions like museums, mountain ranges and wilderness areas, collegiate athletics, unique & historic district, and Yellowstone National Park.

**Workshop and CE Session:** The two day **Western Fish Disease Workshop** will cover all aspects of the health of wild and cultured fish and shellfish and will be preceded by a one day **Aquatic Animal Drug Approval Coordination Workshop** session on Tuesday, June 19<sup>th</sup>. Following the conclusion of the Western Fish Disease Workshop a continuing education session on **Bacterial Kidney Disease Management** will occur. Details for both the workshops and CE session are available at the meeting website at [https://www.fws.gov/fisheries/AADAP/aquaculture\\_workshop.html](https://www.fws.gov/fisheries/AADAP/aquaculture_workshop.html).

Now is the time to register for the meeting, sign up to give a paper or poster, and reserve your lodging. Be forewarned that June is a popular tourist time in Bozeman so we encourage you to book your lodging early.

**Call for Papers:** Oral and poster presentations are being solicited on all aspects of health of wild and cultured fish and shellfish including diseases, pathogens, vaccine development, test methods, health management, intriguing case histories, and

submissions for the special session. Individuals interested in presenting a paper or poster at the workshop are requested to submit the following: (a) the title of their presentation, (b) whether it will be presented orally or as a poster, and (c) any equipment needs. **Titles should be submitted no later than May 1, 2018.** The planning committee will use this information to begin developing an agenda for the meeting. Formal abstracts will be required for each oral presentation and poster. **The deadline for receipt of abstracts is May 15, 2018.** Our web site has guidelines for formatting your abstract. If you have questions pertaining to oral or poster presentations for the AADAP workshop, please contact Molly Bowman (molly\_bowman@fws.gov). If you have questions (pertaining to oral or poster presentations for the WFDW workshop please contact Ken Staigmiller (kstaigmiller@mt.gov).

Please see the attached flyer for more information.

**Health and Colony Management of Laboratory Fish short course**  
**Salisbury Cove, Maine**  
**August 12-17, 2018**

The MDI Biological Laboratory is pleased to present the short course Health and Colony Management of Laboratory Fish in our state-of-the-art training laboratory, the Maine Center for Biomedical Innovation.

This one-week short course is intended to help colony managers, researchers, and veterinarians monitor and maintain the health of a colony of aquatic organisms. The course consists of lectures, laboratory exercises with a high faculty to student ratio, and discussions. During the course, there are ample opportunities for students to discuss unusual and/or unsolved diagnostic case experiences from their home laboratories as problem-solving exercises.

This course is approved by the AAVSB RACE (American Association of Veterinary State Boards Registry of Approved Continuing Education) to offer a total of 35 CE (Continuing Education) Credits to veterinarians and veterinary technicians.

More information can be found in the attached course listing and online at the course webpage: <https://mdibl.org/course/health-and-colony-management-of-laboratory-fish-2018/>

**8<sup>th</sup> International Symposium on Aquatic Animal Health**  
**Charlottetown, Prince Edward Island, Canada**  
**September 2-6, 2018**



May 16, 2018

Organizers of the **8<sup>th</sup> International Symposium on Aquatic Animal Health** are still receiving abstract submissions for oral and poster presentations. Prominent fish health researchers have been recruited for topic specific forums and while scientific sessions are filling up fast, there are still slots available in several “special” sessions listed below. Potential presenters are encouraged to submit abstracts promptly to ensure a place in the program and the opportunity to participate in one of the preeminent International Aquatic Animal Health Symposiums. The deadline for abstract submission is merely two weeks away!

The 2018 symposium marks the thirtieth anniversary of the ISA AH, which will be held September 2 – 6, 2018 in Prince Edward Island, Canada. The ISA AH meets every four years and typically attracts 300–400 fish health professionals from around the world. This will be only the second time the Conference has been hosted in Canada; the inaugural conference took place in Vancouver in 1988.

Delegates attending ISA AH 2018 will have the opportunity to join other aquatic health professionals from around the world for scientific workshops, business meetings, keynote and research presentations. The theme of this year’s event is “Integrating Biotechnology in the Advancement of Aquatic Animal Health” and promises to be an exciting and informative symposium.

Early Bird registration rates are available now and there are limited spaces for registered delegates to attend the pre-conference scientific workshops. As such, participants are encouraged to sign up as soon as possible. Registration and conference information can be found here: <https://isaah2018.com/>

**Important deadlines:**

Abstract Submission Deadline: May 31, 2018

Early Bird Registration Deadline: July 13, 2018

Accommodations Booking Deadline: August 3, 2018

Workshop Registration Deadline: August 3, 2018

Oral PowerPoint Submission Deadline: 1 Day Prior to Session

On behalf of Dave, Esteban and the rest of the organizing committee, we look forward to seeing you in PEI in September!

Matt

Program Committee Chair, Matt Griffin: [griffin@cvm.msstate.edu](mailto:griffin@cvm.msstate.edu)

Local Organizing Chair, Dave Groman: [groman@upei.ca](mailto:groman@upei.ca)

Fish Health Section President, Esteban Soto Martinez: [sotomartinez@ucdavis.edu](mailto:sotomartinez@ucdavis.edu)

### **General Sessions:**

1. Coral Diseases
2. Aquatic Mammals
3. Parasitology Myxozoa
4. Bacteriology / Mycology
5. Virology
6. Immunology General
7. Immunology Vaccines
8. Diagnostics and Quality Assurance
9. Invertebrate and Shellfish Disease
10. Parasitology General
11. Parasitology Sea Lice – Ectoparasites
12. Ornamentals and Aquarium Medicine
13. Antibiotic Use / Pharmacology
14. Toxicology / Tox Path
15. Microbiomes

### **Special Sessions:**

1. World Aquatic Veterinary Medical Association (WAVMA)
2. American Association of Fish Veterinarians (AAFV)
3. Diseases of Wild Fin-Fish
4. Quantitative Atlantic Salmon Health (QASH)
5. Genomic Applications in Aquatic Animal Health
6. eDNA / Metagenomics
7. Co-infections in Fish
8. Latin American Fish Health
9. Caribbean Fish Health
10. Gill Health
11. Climate Change & Aquatic Animal Health
12. Bridges between Aquaculture, Human & Environmental Health
13. Sturgeon Disease
14. Tuna Disease
15. Tilapia Disease
16. Zebrafish/Lab Animal Medicine
17. Emergent Disease
18. Nutrition and Fish Health
19. Aquatic Epidemiology

20. Aquatic Animal Health Management  
21. Cleaner Fish Disease

**Gill Health Symposium for Marine Fish**  
**Zhongshan Park, Singapore**

**November 21-23, 2018**

We are proud to announce the first international **Gill Health Symposium for Marine Fish** hosted by the Universities of Sydney, Auckland and Bergen. This 3-day symposium will focus on the function and form of fish gills in the face of a changing ocean environment with emphasis on ocean warming and acidification. The symposium will bring together scientists with expertise in a variety of disciplines such as marine biology, ecology, ecophysiology, environmental chemistry, aquaculture and fisheries.

**The target audience for the symposium are scientists from university, government and private sectors and managers from aquaculture and fisheries industries.**

Applications will be reviewed from **1 May 2018**. Priority will be given to early and mid career researchers (<10 years from PhD award) and those residing in developing countries. Maximum capacity is 30 people.

The **goal** of the symposium is to create small teams of discipline experts to co-author topic reviews to be submitted as part of a special research topic in ***Frontiers of Marine Science***.

**Applications open 1 April 2018. To apply, go to: <http://sydney.edu.au/science/life-environment/research/gill-health-symposium.shtml>**

**Applications should include:**

- short cv (4 pages max.)
- letter of support from your Department Head, Director or relevant supervisor
- statement addressing (1 page max.) current research program and career interests
- statement addressing (1 page max.) your willingness to contribute and support the goals of the Gill Health Symposium

**For more information, please see the attached flyer and/or email: Associate Professor Joy Becker, [joy.becker@sydney.edu.au](mailto:joy.becker@sydney.edu.au)**

**JOBS/GRADUATE ASSISTANTSHIPS**

**Associate Professor of Fisheries and Mariculture**  
**Texas A&M University–Corpus Christi**  
**Corpus Christi, Texas**

The Department of Life Sciences at Texas A&M University-Corpus Christi and Texas A&M AgriLife Research has an outstanding opportunity for a strategic full-time joint appointment position as Associate Professor of Fisheries and Mariculture. This position will be funded by the Chancellor's Research Initiative as a transformational hire of benefit to various collaborative entities within the Texas A&M System investigating host-pathogen interactions in catastrophic aquaculture diseases. Applicants should have at least eight years' experience in aquaculture disease (e.g., viral) research, particularly in an area resulting in intellectual property (e.g., vaccines). Candidates must demonstrate a commitment to high quality research and teaching in a collaborative environment involving Texas A&M AgriLife Research (<https://agriliferesearch.tamu.edu>), the Texas Veterinary Medical Diagnostic Laboratory (<http://tvmdl.tamuc.edu>), and private sector (e.g., biopharma) partners. The successful candidate will be expected to maintain a vigorous, externally funded research program in support of PhD and Masters programs; and also teach and advise graduate and undergraduate researchers at TAMUCC.

Texas A&M–Corpus Christi and Texas AgriLife Research will provide a competitive salary package, including start-up funding, and research laboratory space within the Genetics Core Laboratory (<http://genomics.tamucc.edu>) in the new TAMUCC Life Sciences Building and marine wet laboratory space at the nearby Texas A&M AgriLife Research, Mariculture Research Facility. Ample research opportunities also exist with the Harte Research Institute for Gulf of Mexico Studies (<http://harteresearchinstitute.org>), Center for Coastal Studies (<http://ccs.tamucc.edu>) and Conrad Blucher Institute (<http://www.cbi.tamucc.edu/>). Texas A&M University–Corpus Christi is a Hispanic Serving Institution and candidates seeking to mentor underrepresented groups in science are especially encouraged to apply.

Required skills, knowledge, and experience: Applicants should have a PhD or MD in applicable field, at least eight years' experience in aquaculture disease (or related field) research, and a record of successful grants, scholarship, and IP development. Applicants should be able to provide day-to-day scientific, technical, and organizational leadership within his/her research team, advancing IP considerations to ensure optimal long-term patent protection around vaccines as well as novel technologies.

Apply online at <https://islanderjobs.tamucc.edu>. Application must include a cover letter describing qualifications, research and teaching interests, curriculum vitae, and the names and contact information of four references. The scheduled start date of this position is Fall, 2019; however, the position will remain open until filled with preference given to applicants applying prior to June 15, 2018.

**Aquaculture Biologist-Staff Fellow**

**U.S. Food and Drug Administration, Center for Veterinary Medicine, Office of Research  
Laurel, Maryland**



Become a part of the Department that touches the lives of every American! At the Department of Health and Human Services (HHS) you can give back to your community, state, and country by making a difference in the lives of Americans everywhere. It is the principal agency for protecting the health of citizens. Join HHS and help to make our world healthier, safer, and better for all Americans.

The Food and Drug Administration (FDA), Center for Veterinary Medicine (CVM), Office of Research, Division of Applied Veterinary Research is seeking qualified applicants for the position of Biologist. The Division of Applied Veterinary Research conducts applied and basic research using animals and animal systems in support of current and evolving regulatory issues. The Division provides research solutions to issues of animal health, food safety of animal derived products, and other animal industry associated technologies. This position will be filled through FDA's Staff Fellowship program. The appointment is up to 2 years with opportunity for renewal.

As a Biologist working on aquaculture projects, your primary responsibility will be to support research programs to address issues related to the use of drugs and feeds in aquaculture. Goals of the research are to (1) facilitate new drug approval process for aquatic species (minor species) and (2) assist with the Agency's surveillance efforts to protect the food supply from illegal drugs/chemicals in farmed fish. Your duties would include, but are not limited to, caring for fish and amphibian colonies, testing and maintenance of water quality, and conducting experimental procedures for approved animal use and laboratory protocols under the guidance of principal investigators. Laboratory duties include antimicrobial susceptibility testing, performing biochemical analyses and molecular techniques such as polymerase chain reaction (PCR) and whole genome sequencing, analyzing aquatic research data to determine whether data is accurate and valid, preparing and administering treatments, and assessing microbial cultures from tissues and blood of aquatic animals, and assist in the review of research documents for compliance with current Good Laboratory Practice (GLP) requirements.

Applicants must have experience in microbiological and molecular procedures, and in aquatic animal husbandry, handling and necropsy. Applicants must have good communication skills (written and oral), work well in a team setting but also independently, and be detail-oriented. Experience ensuring compliance with Good Laboratory Practices (GLP) is preferred.

This position is located in Laurel, Maryland and is available immediately. The position can be filled at the GS-9 or GS-11 equivalent level based on experience and education. The salary range for the GS-9 equivalent level is \$56,233 to \$73,105 and for the GS-11 equivalent level is \$68,036 to \$88,450 based on experience and education. Further information regarding qualification requirements can be found at the following link: <https://www.opm.gov/policy-data-oversight/classification-qualifications/general-schedule-qualification-standards/0400/general-natural-resources-management-and-biological-sciences-series-0401>

**The vacancy announcement will close on: May 31, 2018**

**\*\*Applications will be reviewed and interviews will be scheduled on a first come, first serve basis.\*\***

Please submit your letter of interest, resume, and transcripts to: [CVMOpportunities@fda.hhs.gov](mailto:CVMOpportunities@fda.hhs.gov) with the subject line of "DAVR Aquaculture Biologist". Questions may also be directed to the CVM Opportunities mailbox.

The position is now posted on USAJOBS at the following link: <https://www.usajobs.gov/GetJob/ViewDetails/499003600>

The posting is open from May 8, 2018 to June 8, 2018.

**Postdoctoral position - Flavobacterium genetics**  
**Department of Biological Sciences**  
**University of Wisconsin-Milwaukee**

Dr. Mark J McBride is currently seeking a postdoctoral scientist interested in conducting genetic experiments on *Flavobacterium* species at the University of Wisconsin-Milwaukee. Depending on the interests of the individual, projects could include genetic analyses of virulence of *Flavobacterium columnare* and/or *Flavobacterium psychrophilum*, or studies of *Flavobacterium johnsoniae* gliding motility and protein secretion. A combination of these is also possible depending on the individual.

Salary will depend on experience and accomplishments. Apply by contacting Dr. McBride by email. Please send your CV and names of 3 references.

Mark J McBride  
Distinguished Professor  
Department of Biological Sciences  
University of Wisconsin-Milwaukee  
Rm 181 Lapham Hall  
[3209 N. Maryland Ave.](https://www.uwm.edu/department/biological_sciences)  
[Milwaukee, WI 53211](https://www.uwm.edu/department/biological_sciences)  
Phone: 414-229-5844  
Fax: 414-229-3926  
email: [mcbride@uwm.edu](mailto:mcbride@uwm.edu)

## **RESOURCES/NEWS**

**Western Fisheries Science News: March 2018 - Issue 6.3**

## **Fish Health Highlights....**

### **Science Collaboration Brings Dr. Maya Groner to WFRC**

As Dr. Maya Groner prepares for her first research trip to Alaska, her enthusiasm for starting a new adventure and chapter in her career is evident. “This will be my first research trip to Alaska and I’m looking forward to seeing for myself how disease and other stressors are affecting the herring populations.” Maya, a research ecologist, has recently partnered with Dr. Paul Hershberger, leader of the USGS WFRC’s Marrowstone Marine Field Station (MMFS), and his team to investigate Pacific herring in Alaska’s Prince William Sound. Collaborations are an important element to science projects at the WFRC—be it with management agencies, universities, tribes, or fellow scientists—to strengthen understanding of fish issues and generate strategies for addressing those issues. The addition of Maya to the Disease Ecology programs at Marrowstone and the WFRC, through this collaboration, will bring more expertise and new perspectives to a complex and on-going challenge for fisheries in the region. We’re looking forward to the partnership.

Maya first learned about WFRC and met Paul Hershberger through a National Science Foundation research coordination network on the ecology of infectious marine diseases. They met over the years and saw some overlap in their interests. “Working at WFRC’s facilities was attractive because of the ecology and fish health overlap” said Maya, “as well as the saltwater facility at MMFS and their work with forage fish.” Now, she is employed as a research scientist at the Prince William Sound Science Center in Cordova, Alaska where she is supervised by Scott Pegau, Director of the Oil Spill Recovery Institute and Lead of the Herring Research and Monitoring Program, which she and Paul both participate in. The majority of her research will be conducted at WFRC’s Seattle Center and the MMFS. Together, scientists will be running a number of experiments as well as sampling herring populations in Alaska.

Maya brings with her much expertise in the area of ecology and evolution of aquatic diseases. Her educational background includes a B.A. in Earth and Environmental Science at Wesleyan University and a Ph.D. in Biological Sciences at University of Pittsburgh. Maya has worked on a variety of topics, including the effects of pesticides and pathogens on amphibians, effects of climate change and disease on shellfish and seagrass, the epidemiology of sea lice in salmon, and the epidemiology of epizootic shell disease in American lobsters. In her last postdoc she also worked on quantifying the effects of increasing seawater temperature and mycobacteriosis on striped bass in Chesapeake Bay. Her research investigates how shifts in the relationships between the host, pathogen and environment can create novel interactions resulting in increased pathogen virulence, reduced population resilience and changes in disease ranges. Her research takes an applied approach, examining declining species, threatened ecosystems, impacts of climate change, and interactions between wild and farmed fisheries.

For her current project, Maya will be looking at the impact of three diseases—viral hemorrhagic septicemia, viral erythrocytic necrosis, and ichthyophoniasis—on Pacific herring populations. She’s interested in using tools that have been developed to look at population dynamics. “I’m really excited about using mark-recapture to look at disease” said Maya, “I plan to use agent based models and population matrix models to quantify the impacts of environmental conditions and disease on affected populations.” This is an area she has long-been interested in, as she bridges some gaps in ecology...

See the attached newsletter for the rest of this story.

Read the whole newsletter online at: <http://wfrc.usgs.gov/newsletter/>

To subscribe (or unsubscribe) to the “Western Fisheries Science News” mailing list, please do so at <http://wfrc.usgs.gov/newsletter/maillist.html>