



# Fish Health Section



The official link to the FHS website is: <http://www.afs-fhs.org/>

## FHS NEWS

### 2014 INTERNATIONAL SYMPOSIUM ON AQUATIC ANIMAL HEALTH

Portland, Oregon  
Aug 31 – Sept 4, 2014



Please join us for the **7<sup>th</sup> International Symposium on Aquatic Animal Health** (ISAAH-7) in Portland, Oregon (August 31 – September 4, 2014). ISAAH has been held every four years since the first meeting in Vancouver in 1988. Since you attended the last ISAAH in Tampa in 2010 you already know that this is a great opportunity to interact with fellow aquatic animal health professionals from throughout the world. The best of Portland and our global ISAAH community await you!

Please visit the ISAAH-7 website for more information: <http://microbiology.science.oregonstate.edu/content/isaah>

Registration opens March. Abstracts and Early Registration must be submitted by May 31.

## JOURNAL OF AQUATIC ANIMAL HEALTH

Volume: 25, Number: 4

Experimental Transmission of VHSV Genotype IVb by Predation (p. 221-229)  
*Rodman G. Getchell, Emily R. Cornwell, Geoffrey H. Grocock, Po Ting Wong, Laura L. Coffee, Gregory A. Wooster, Paul R. Bowser*

Acute Mortality, Bacterial Load, and Pathology of Select Lines of Adult Rainbow Trout Challenged with *Weissella* sp. NC36 (p. 230-236)  
*David P. Marancik, Timothy J. Welch, Timothy D. Leeds, Gregory D. Wiens*

Infestation and Pathological Alterations by *Ergasilus sarsi* (Copepoda) on the Tanganyika Killifish from Africa (p. 237-242)  
*Esmari Kilian, Annemariè Avenant-Oldewage*

Comparative Analysis of the Acute Response of Zebrafish *Danio rerio* Skin to Two Different Bacterial Infections (243-251)  
*Aijun Lü, Xiucai Hu, Yi Wang, Xiaojing Shen, Aihua Zhu, Lulu Shen, Qinglei Ming, Zhaojun Feng*

Triploid Grass Carp Susceptibility and Potential for Disease Transfer when used to Control Aquatic Vegetation in Reservoirs with Avian Vacuolar Myelinopathy (p. 252-259)

*Rebecca S. Haynie, William W. Bowerman, Sarah K. Williams, John R. Morrison, John M. Grizzle, John M. Fischer, Susan B. Wilde*

Assessment of the Risk of White Sturgeon to become Infected and Potential Carriers of Infectious Pancreatic Necrosis Virus (p. 260-264)  
*Scott E. LaPatra, Sherry Mead*

A Cross-Sectional Study of the Association between Risk Factors and Hemorrhagic Disease of Grass Carp in Ponds in Southern China (p. 265-273)  
*Song Yang, Shuqin Wu, Ningqiu Li, Cunbin Shi, Guocheng Deng, Qing Wang, Weiwei Zeng, Qiang Lin*

Ammocoetes of Pacific Lamprey Are Not Susceptible to Common Fish Rhabdoviruses of the U.S. Pacific Northwest (p. 274-280)  
*G. Kurath, J. C. Jolley, T. M. Thompson, D. Thompson, T. A. Whitesel, S. Gutenberger, J. R. Winton*

Predominant Bacteria Associated with Red Snapper from the Northern Gulf of Mexico (p. 281-289)  
*Covadonga R. Arias, Kevin Koenders, Andrea M. Larsen*

Fish Processing Facilities: New Challenge to Marine Biosecurity in Canada (p. 290-294)  
*M. H. H. Price, A. Morton, J. G. Eriksson, J. P. Volpe*

## **STUDENT SUBSECTION**

Hello FHS students!

Please see the student blog for a new mentor profile with FHS president Dr. Paul Hershberger: <http://afs-fhs-students.blogspot.ca/>

We are looking for submissions for both students and mentors so if you or your adviser are interested, please send us an e-mail at [student.section.fhs@gmail.com](mailto:student.section.fhs@gmail.com).

Thanks,

Sarah McConnachie

## **MEETINGS AND WORKSHOPS**

**39<sup>TH</sup> ANNUAL EASTERN FISH HEALTH WORKSHOP – see attached [Abstract-presentation directions.doc](#); [39 efhw title form.doc](#), [39 efhw registration form.doc](#)  
Shepherdstown, West Virginia  
April 28 – May 2, 2014**

**ACCEPTING TITLE FORMS, ABSTRACTS, and REGISTRATION!!!**

\*\*\*\*\* Please note, the registration form was updated to allow for guests to come to the Wednesday night BBQ social. If you've already submitted your registration form, but would like to bring a guest, please give us a shout by sending us an email\*\*\*\*\*.  
Please **Save-The-Date** for next year's Eastern Fish Health Workshop!

Check us out on our Facebook page (search for Eastern Fish Health Workshop) and Like us!

<https://www.facebook.com/#!/pages/Eastern-Fish-Health-Workshop/164449723610923>

**Important Deadlines:**

**Call for Abstracts: now open**

**Abstracts Due By: 15 March 2014**

**Registration due by: 15 March 2014 (to avoid the late fee)**

**Powerpoints due: 14 April 2014**

**Reserve hotel room: 28 March 2014**

We are proud to announce the 39<sup>th</sup> Annual Eastern Fish Health Workshop at the Clarion Hotel and Conference Center in historic Shepherdstown, WV. Registration begins at our annual reception on Monday, April 28 from 5:00 until 7:00 PM and is followed by an evening of interesting, bewildering, and bemusing case reports. There will be three full-days of sessions (April 29 – May 1), followed by a full-day continuing education course on Friday, May 2. We encourage contributions for oral presentations of case reports and research investigations that are pertinent to animal health within marine and freshwater environments.

There are a few small changes that you may notice. As Rocco retires this year, a small group of us is taking over what he alone did for the past 18 years. We will continue to rely on him during the transition, but we need everybody's help to keep this meeting going. It is, and will be, a tall order. Attending, collaborating, and socializing are many ways that you can help us.

Because each of us in this small group will have a different role, communications will generally be from a common email- this is to ensure we don't lose any emails and that we have access to most communications. However, we know that the ability to just email Rocco, and maintain a personal access to him was very important in the past. If you are concerned about something or need to contact us individually, please don't hesitate. Our contact information is provided at the end of this email. We may hit some bumps this year, but hope you'll all stick with the meeting in the years to come.

**SPECIAL SESSIONS**

1. Bazinga!!! Case reports that take a Sheldon Cooper to solve: **Shane Boylan** chairs our annual opening session of baffling, bewildering, and bemusing case reports that showcase the ingenuity and smarts of some of our aquatic gurus as they deal with unusual maladies and pesky pathogens.

**Emily Cornwell** – Hey, That's My Yolk

**David Groman** – “I Can’t Sense You and I Look Funny” Emergent Morphologic Abnormalities of Atlantic Salmon (*Salmo salar*) from Chile  
**Paul Bowser**- Gas Bubble Disease in a Zebrafish Research System  
**Lester Khoo**- There Is More Than Meets The Eye  
**Tom Loch**- Plodding Through The Ploys Of A Plotting Bacterium: Is It A PLO?  
**Elsburgh “Tres” Clarke**- My Collasate Is Better Than Your Honor Roll Regranex: The Use Of Collasate For Gross Resolution Of Head Lateral Line Erosion Syndrome In An Orange Shouldered Tang (*Acanthurus olivaceus*)

2. I’m a Seq’er too: Next Generation Sequencing techniques for use in Fish Health- From Ion Torrents to Illumina HiSeq systems, high throughput technologies (i.e., next generation sequencing) can also be utilized by fish health professionals answering research questions that would have taken a year to address just a few years ago, now, in about a week. These technologies allow for thousands of genes or mutations, among other things, to be looked at all at once, without the cumbersome infrastructure investment of arrays. **Mark Fast** will chair this session that will help give you some of the basics in utilizing these technologies for your own research and present how these technologies have been applied to major questions in fish health.

**Mark Fast**- Floundering for an answer

**Janet Warg**- Use of the Ion PGM™ System to Identify and Characterize Viruses in Aquatic Diagnostic Samples

**Deb Iwanowicz**- Application of RNA-seq for the detection of fish pathogens and biomarker transcripts

**Tom Waltzek**- Discovery of Emerging Fish Viruses Through Next Generation Sequencing

3. From basic to sophisticated: evolutionary view of innate and adaptive immunity- **Jacques Robert** chairs this session that is focused on fundamental aspects of immunity in invertebrates and vertebrates including innate and acquired immune functions, immunogenetics, and genomics.

**Mike Criscitiello**- Improved transcriptome for the whiteleg shrimp (*Litopenaeus vannamei*), a dominant crustacean in global seafood mariculture

**Yuko Ohta**- Genome Based Shark Immunity

**Rob Wheeler**-Innate Immune and Pathogenicity Determinants in a Zebrafish Fungal Infection Model

**Eva M. Bengten**- Gamma Delta T cells in channel catfish

**Leon Grayfer**- The amphibian (*Xenopus laevis*) type I interferon response to Frog Virus 3: new insight into ranavirus pathogenicity

4. Myxozoans: Where we sit with these enigmatic parasites- **Matt Griffin** will chair this session and discuss various problems with these parasites, what is being done to mitigate them, and hopefully spur discussion for how to manage these problematic parasites.

**Matt Griffin**- Smallmouth Buffalo to Control of Proliferative Gill Disease in Catfish Aquaculture: Results of a 3 year study

**Jerri Bartholomew**- *Ceratonova shasta*: Evolution of (how we perceive) a parasite

**Thomas Graham Rosser**- A Survey Of Myxozoan Actinospores Isolated From Aquatic Oligochaetes From Commercial Channel Catfish Ponds In The Mississippi Delta

**Thomas Graham Rosser-** Comparison Of The Migratory Route Of *Henneguya ictaluri* In Channel Catfish, Blue Catfish, And Their Hybrid Cross

**Luke Iwanowicz-** Zschokkella-Like Myxozoans In Wild-Caught Brown Bullhead (*Ameiurus nebulosus*) And White Suckers (*Catostomus commersonii*)

**Heather Walsh-** An Overview of Myxozoan Parasites Commonly Observed in Largemouth (*Micropterus salmoides*) and Smallmouth Bass (*M. dolomieu*) Inhabiting the Chesapeake Bay Watershed

**Chris Whipps-** Myxosporidiosis in Laboratory Zebrafish

**Jayde Ferguson-** A Survey of Myxozoan Parasites of Alaskan Salmonid Fishes

5. Alternatives to Antibiotics: Strategies For Combating Aquatic Animal Diseases-

**Tom Loch** chairs this session on innovative ways to manage disease in aquatic animals without the use of chemotherapeutants.

**Rocco Cipriano-** Reduce your dependency: Manipulate and maintain your physical surroundings

**Greg Wiens-** Selective Breeding for Disease Resistance: Part of An Integrated Strategy to Reduce Disease Loss and Antibiotic Use

**Susan Marcquenski-** Controlling furunculosis in Wisconsin – an adaptive vaccination strategy that works for us

6. Biofilms, the Good, the Bad, and the Slimy: Emerging aquatic diseases in aquaculture and aquarium facilities have led to questions about the role of biofilms in disease events. In aquatic culture environments biofilms may have beneficial effects but may also harbor pathogens and other microbial organisms with negative effects. **Grace Karreman** chairs this session that will look at some aspects of biofilms and their implications for pathogen and disease management.

**Bill Van Bonn-** Aquarium Microbiome Influence on Resident Animal Health: A Case Study

**Tom Schoenfeld-** Molecular Analysis and Monitoring of Biofilter Health in Recirculating Aquaculture Systems

**Esteban Soto-** The Sticky Situation of *Francisella noatunensis*

7. Coral Health- a three way conversation: **Laurie Richardson and Garriet Smith** chair this session on coral health that will examine the roles and interactions between the coral animal, zooxanthellae, and coral-associated microbes in coral health and disease.

8. You can't trust water: It's not as good as you think! **Stephen Smith** will chair this session that presents various problems with water quality, how they are diagnosed and its effects on aquatic animal health.

**Helen Roberts-Sweeney-** The Mysterious Goldfish Homicide

**Lester Khoo-** Nitrite – Why most fish are not Met or Brown fans

**Julius Tepper-** The Pond Zinger® Humdinger

**Stephen Smith-** Problems with Passing Gas (problems with supersaturation)

**General Sessions:**

**Matt Griffin-** *Edwardsiella piscicida* in catfish aquaculture in Mississippi: An update

**Stephen Reichley-** Influence Of *Bolbophorus damnificus* And *Drepanocephalus spathans* On Mortality Associated With *Edwardsiella piscicida* Challenge In Juvenile Channel Catfish

**Luke Iwanowicz**- Isolation and Genomic Identification Of A Novel Aquareovirus Detected In The Endangered Fountain Darter, *Etheostoma fonticola*

**Rod Getchell**- Susceptibility Of Goldfish To Viral Hemorrhagic Septicemia Virus Type IVb By Intraperitoneal Injection

**David Groman**- *Exophiala angulospora* Causes Systemic Mycosis In Atlantic Halibut (*Hippoglossus hippoglossus*)

**Shona Whyte**- Sea lice management in New Brunswick, Canada

**Jordan Poley**- *Lepeophtheirus salmonis* responses to different classes of anti-sea lice drugs

**Okechukwu Igboeli**- Female lice are from Venus, male lice are from Mars

**Paul Bowser**- Some Comments On The Early History Of Fish Health -- Who Was Dr. Plehn?

**Stephen Cassle**- Treating The Cownose Ray (*Rhinoptera bonasus*) For *Eimeria southwelli* With Ponazuril® (Toltrazuril Sulfone)

**Isaac Standish**- Recent Developments In The Host Species and Geographic Range Expansion of the Epizootic Viral Hemorrhagic Septicemia Virus

**Lauren Smith**- Disseminated Toxoplasmosis and Serologic Survey for *Toxoplasma gondii* in the Wild Florida Manatee (*Trichechus manatus latirostris*)

**Jan Giles**- Validation of MALDI-TOF Mass Spectrometry for Rapid Identification of *Yersinia ruckeri*

**Michelle MacDonald**- Assessing Immunostimulatory Feeds on Wound Healing in Atlantic Salmon (*Salmo salar*) Infected with Sea Lice (*Lepeophtheirus salmonis*)

**Call For General Session Titles and Abstracts:** To guarantee a place on the program, please return a tentative title for your presentation via email **as soon as possible**. Do this by completing the appropriate sections of the Word attachment entitled "39 efw title form". If you are presenting a diagnostic case, please indicate with your tentative title that you would like your contribution to be included in our special session entitled: "The Aquatic Detective."

Abstracts must be submitted by **15 March 2014**. E-mail abstracts to [TheEFHW@gmail.com](mailto:TheEFHW@gmail.com). Please follow the directions for preparation of abstracts and presentations (see attachment). Your attention to these guidelines is greatly appreciated. Power Point presentations are due by **14 April 2014**.

**Best Student Paper Presentation:** The Eastern Fish Health Workshop will present \$200 and a plaque for the Best Student Presentation. Eligible individuals must be currently enrolled in an undergraduate or graduate research program and present his/her own research. The award will be presented at our Banquet and the recipient must be present. You must register by completing the appropriate section of the "39 efw title form" attachment.

**Registration:** A **\$225** registration fee (U.S. dollars) includes a reception on Monday evening, workshop proceedings, refreshments at breaks, buffet breakfasts and luncheons on each of the three days of the workshop, dinner on Tuesday night and the Anniversary Banquet on Thursday night. Make checks payable to the "Eastern Fish Health Workshop" and return payment with your registration form by **15 March 2014**. A

late registration fee of **\$250** (U.S. dollars) is charged after this date. The EFHW does not accept credit cards and there are no daily or discounted registrations.

### **Lodging**

Individual accommodations must be made with the Clarion Hotel and Conference Center (<http://www.clarionshepherdstown.com>) at 1-304-876- 7000. Please call the hotel and identify your affiliation with the Eastern Fish Health Workshop in order to secure the special conference rate of **\$83 + tax** per night. In order to secure your reservations, please call the Clarion Hotel before **28 March 2014**. A map of the area can be found at <http://www.clarionshepherdstown.com/contact.html>. The Clarion Inn is located approximately 50 minutes from Dulles International Airport, 90 minutes from the Baltimore-Washington International Airport (BWI), and 30 minutes from the Hagerstown Regional Airport. Rental cars are available at all airports. A shuttle service is also available from Dulles International Airport to the Clarion Hotel. If you wish to utilize this service, please make such reservations with the hotel clerk at the same time that your lodging reservations are made.

### **Optional Wednesday Night Activity**

Last time we were in Shepherdstown, we enjoyed a nice BBQ at the local park. Big Daddy's BBQ will be catering the event again this year and we'll have drinks and casual conversation. There may even be a friendly soccer (re)match this year. Please join us as the additional cost is only \$15. If you have a significant other that would like to attend this event, they are more than welcome. Please include \$15 for each person with your registration form.

### **Continuing Education Opportunity:**

On **Friday, May 2, 2014**, we'll be offering **6** hours of RACE-approved continuing education. This year's topic will be pharmacology and pharmaceuticals in fish health. For only \$50, you'll get the 6 hours of CE, breakfast, and lunch.

**"Fish Pharmacology and Treatment"** will discuss drug bioavailability, dose escalation, safety and efficacy, and administration routes. The principles of pharmacology with respect to fish will then be explored through special topics such as sea lice treatment and resistance issues, on farm application (e.g., pond, sea cage) and considerations, aquaria applications (small scale and large, and regulatory issues with respect to requirements for veterinary drug approval and use. This course is designed for people planning or currently conducting fish research and/or overseeing fish welfare at aquatic animal health facilities, aquaculture centers, hatcheries, and aquariums. Participants will earn 6.0 CE credit hours from the Fish Health Section (FHS) of the American Fisheries Society and receive the materials on a jump drive along with the Eastern Fish Health Workshop meeting booklet.

### **Optional, On-Your-Own, Pre- or Post- Meeting, things to do:**

If anyone would like some other information on the area, please let us know. There are many great things to do, including: battlefield tours (Antietam), hiking (Maryland heights), gambling (Charles Town casino), walking a small town (Harpers Ferry and Shepherdstown), or just viewing the scenery (the Potomac and Shenandoah rivers come together at Harper's Ferry). It's a beautiful part of the country that shouldn't be missed.

**Please use the following email address for submission of title forms, registration, abstracts, powerpoints, and any questions: [TheEFHW@gmail.com](mailto:TheEFHW@gmail.com)**

However, we want to still have a personal touch as Rocco has provided in the past, so please, if you have specific concerns feel free to email us individually. Thank you,

Roy, Al, Stacey, Tom, Mark, and Scott

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**Mark Fast, MSc, PhD – CE and program organization**

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**UPCOMING COURSES IN AQUATIC ANIMAL HEALTH**

The Canadian Aquaculture Institute is pleased to be partnering with the Centre for Life-Long Learning in the delivery of an introductory and advanced course in Aquatic Animal Health.

The following workshops will be offered at the Atlantic Veterinary College, University of Prince Edward Island, from May 26 - 29, 2014.

**Health and Husbandry of Aquatic Laboratory Animals**

**May 26 & 27, 2014**

**Advanced Aquatic Animal Care and Husbandry**

**May 28 & 29, 2014**

These modular workshops are designed to provide both introductory and advanced training in aquatic animal health. The first two-day workshop "Health and Husbandry of Aquatic Laboratory Animals" can be taken separately or combined with "Advanced Aquatic Animal Care and Husbandry". One may enroll in both workshops but "Advanced Aquatic Animal care and Husbandry" has a prerequisite of either the basic workshop or equivalent training and experience.

For more information, visit the Canadian Aquaculture Institute website [lifelonglearning.upei.ca/cai](http://lifelonglearning.upei.ca/cai)

**"HEALTH AND COLONY MANAGEMENT OF LABORATORY FISH"**

**Mount Desert Island Biological Laboratory Bar Harbor, Maine**

**17 – 22 August 2014**

Applications are being accepted for this 1-week educational opportunity for individuals

with maintenance, management or research responsibilities in which fish are used as laboratory animals.

APPLICATION DEADLINE - JUNE 13, 2014.

The course is offered at the Mount Desert Island Biological Laboratory, Salisbury Cove, Maine during the period of 17 - 22 August 2014. Topics to be discussed will include general system design and water quality management, anatomy and histology of fish, general fish diseases and disease management strategies. Infectious and non-infectious diseases common to all fish as well as specific diseases of importance to laboratory-maintained zebrafish will be discussed. The course will consist of lecture, laboratory exercises and discussions. During the course there will be an opportunity for students to discuss unusual and/or unsolved diagnostic case experiences from their home laboratories as problem-solving exercises. The course should be particularly valuable to technical staff, graduate students, postdoctoral fellows, junior faculty and investigators needing skills to monitor the health of a colony of aquatic organisms. The course also provides a unique educational opportunity for Residents in Laboratory Animal Medicine Programs.

For more information on the course, please see the course web site at:

[http://www.mdibl.org/courses/Health\\_and\\_Colony\\_Management\\_of\\_Laboratory\\_Fish/182/](http://www.mdibl.org/courses/Health_and_Colony_Management_of_Laboratory_Fish/182/)

## **JOBS**

### **FISH PATHOLOGIST**

Department of Natural Resources  
Colorado Parks and Wildlife

Position Title: Fish Pathologist  
Classification: Wildlife Manager IV  
Job Location: 122 East Edison, Brush, CO 80723  
Close Date: March 12, 2014

TO APPLY: [Wildlife Manager IV - Fish Pathologist](#)

If you have difficulty with the link, please access the State of Colorado' job website at <https://www.colorado.gov/dhr/jobs>

Mary Vigil, HR Specialist  
Department of Natural Resources  
[maryi.vigil@state.co.us](mailto:maryi.vigil@state.co.us)

**ASSISTANT OR ASSOCIATE PROFESSOR OF AQUATIC ANIMAL HEALTH**  
**DEPARTMENT OF MEDICINE AND EPIDEMIOLOGY**  
**SCHOOL OF VETERINARY MEDICINE**  
**UNIVERSITY OF CALIFORNIA, DAVIS**

**SALARY:** Dependent on qualifications and experience

**QUALIFICATIONS:** Veterinarian (or equivalent) with advanced training in Aquatic Animal Health (AAH) with an emphasis on fish health. PhD and documented research record or potential to develop an independent research program in AAH, is required. Clinical experience and competence in AAH is required. Demonstrated aptitude/experience or potential in teaching is required. Evidence of leadership, including excellent communication and interpersonal skills is required. Board certification or eligibility for the American College of Zoological Medicine, American College of Veterinary Microbiology, American College of Veterinary Pathologists, or American College of Preventative Medicine is preferred. Certification in American Fisheries Society Fish Health Section is encouraged.

**RESPONSIBILITIES: Research:** The position requires the development of a creative, independent and productive basic and/or applied research program in AAH. This includes establishing a strong extramurally funded laboratory, training of graduate academic and clinical students and publication in peer-reviewed scientific/professional journals. Areas of research focus could include microbiology, virology, immunology, population health and/or pathology.

**Clinical:** The position includes a 25% commitment to AAH Service of the Veterinary Medicine Teaching Hospital (VMTH). The individual will be responsible for directing, instructing and supervising veterinary students and house officers; providing health care and service to patients; and advising and consulting with referring veterinarians and clients.

**Teaching:** Responsibilities include: 1) participation in the graduate academic programs (MS and PhD) of the campus. ; 2) participation in the graduate clinical (resident) training program of the VMTH; and 3) clinical teaching in the VMTH; participation in lectures and laboratories in the DVM professional curriculum

**Service:** University and public service through committee work, participation in professional organizations, continuing education and other appropriate means is required.

**APPLICATION PROCESS:** To receive fullest consideration, applications must be received by March 31, 2014; position open until filled. Interested applicants should submit 1) a letter of intent outlining special interest in the position, overall related qualifications and experience and career goals; 2) curriculum vitae; and 3) the names and addresses of three professional references. Application materials may be submitted by using the University's online submission program, <https://recruit.ucdavis.edu/apply/JPF00238>.

*The University of California, Davis and the Department of Medicine and Epidemiology, School of Veterinary Medicine, are interested in candidates who are committed to the highest standards of scholarship and professional activities, and to the development of a campus climate that supports equality and diversity. The University of California is an affirmative action/equal opportunity employer.*

**FACULTY POSITION IN AQUATIC ANIMAL HEALTH  
MEMORIAL UNIVERSITY OF NEWFOUNDLAND  
DEPARTMENT OF OCEAN SCIENCES**

The Department of Ocean Sciences (DOS), located at the Ocean Sciences Centre (OSC) of Memorial University (<http://www.osc.mun.ca/>), is building on its strengths in marine science, and invites applications for a tenure-track faculty position to be appointed at the level of assistant professor subject to budgetary approval. The successful candidate will possess a Ph.D. and post-doctoral or equivalent experience and be expected to develop an internationally competitive basic research program related to fish and/or shellfish health including, but not limited to, fields such as immunology, disease detection or prevention, environmental biology, toxicology, genetics, or nutrition. Further, the ideal candidate will be able to conduct research with direct applications to marine aquaculture, and to take advantage of the research infrastructure available through the OSC's Dr. Joe Brown Aquatic Research Building (JBARB; [www.mun.ca/osc/jbarb/](http://www.mun.ca/osc/jbarb/)) and the newly constructed Deep-Sea and Cold-Water Research Facility (CDRF). This latter facility houses a large level II/III containment lab and specialized research equipment (including tissue culture facilities, an Aria III flow cytometer/cell sorter, a confocal microscope with resonance scanning capabilities, a complete histological suite, and a benchtop scanning electron microscope).

The DOS, which is located 12 km north of the university's main campus in St. John's, has excellent laboratory and seawater facilities, an active field services unit, and is recognized internationally for the quality and productivity of research programs in marine biology and ecology, aquaculture, marine animal physiology, biochemistry and genomics, and chemical, biological and fisheries oceanography. The mandate of the DOS is to carry out high-quality research focused on organisms and processes in cold oceans, deliver undergraduate and graduate courses in marine sciences, and supervise/mentor honours and graduate (M.Sc. and Ph.D.) students and post-doctoral fellows. At present, the DOS has a core faculty of 15 and a staff of over 40. In addition, over 60 graduate students and post-doctoral fellows are presently conducting research at the OSC.

Memorial University is the largest university in Atlantic Canada, and as the Province's only university, plays an integral role in the education and cultural life of Newfoundland and Labrador. Offering diverse undergraduate and graduate programs to almost 18,000 students, Memorial provides a distinctive and stimulating environment for learning in St. John's, a safe, friendly city with great historic charm, vibrant cultural life and easy access to a range of outdoor activities.

Applications, including a C.V., the names of three referees, and a statement of research and teaching interests, should reference the position number **VPA-OSC-2014-001** and

be submitted electronically (PDF) to:

**Dr. Garth Fletcher**

**Department of Ocean Sciences, Memorial University of Newfoundland**

**St. John's, Newfoundland, Canada, A1C 5S7**

**Email: [wsparkes@mun.ca](mailto:wsparkes@mun.ca)**

**Phone 709-864-2767**

The deadline to submit an application is **31 March, 2014**.

Memorial University is committed to employment equity and encourages applications from qualified women and men, visible minorities, aboriginal people, and persons with disabilities. Canadian citizens, permanent residents, and foreign nationals are all encouraged to apply. However, Canadian citizens and permanent residents will be given priority.

### **FISH PATHOLOGIST**

**BC Public Service**

**Ministry of Agriculture**

**Abbotsford, B.C.**

The Ministry of Agriculture's [Animal Health Centre](#) provides veterinary diagnostic laboratory services for the livestock, poultry and fin-fish production industries in the Province of British Columbia. Under agreement with Fisheries and Oceans Canada, we support the Federal Fish Health Program.

The Fish Pathologist provides veterinary expertise and leadership in the specialized field of veterinary fish diagnostic pathology. You will work collaboratively with the current Fish Pathologist to accurately diagnose the cause of death, disease, or poor production in submitted fish specimens, prepare reports, and provide recommendations. For a candidate early in their career, this position offers an opportunity to work with a senior fish pathologist as a mentor and colleague.

If you are a skilled veterinarian seeking a new challenge and a position where you can make a difference, we look forward to your application.

This is an excellent opportunity for a pathologist interested in fish to see a large and diverse case load and to work with a group of highly skilled and experienced veterinarians and scientists in an AAVLD (American Association of Veterinary Laboratory Diagnosticians) accredited laboratory.

If you're looking to live and work in a location that's equally close to the amenities of Vancouver and the coastal mountain range, please consider this exciting opportunity to live and work in [Abbotsford](#) – right in the middle of the scenic Fraser Valley.

**To learn more, including how to apply online by March 7, 2014, please visit:**

**<https://search.employment.gov.bc.ca/cgi-bin/a/highlightjob.cgi?jobid=18185>**

*Attention: only applications submitted through the BC Public Service's employment website (see link above) will be accepted.*

**FISH & WILDLIFE HEALTH SPECIALIST – see attached 00678-14 Fish Health.pdf**

State of Washington

Opening date 1/21/14

**CHIEF EXECUTIVE OFFICER, BC CENTRE FOR AQUATIC HEALTH SCIENCES**

The British Columbia Centre for Aquatic Health Sciences (BC CAHS) invites applicants for the position of Chief Executive Officer. The BC CAHS is a nonprofit, financially strong, diagnostic and research lab, established in 2004, that works to improve the aquatic environment by developing and applying scientific knowledge to the health and welfare of aquatic animals and ecosystems.

We work in collaboration with academic research programs, industry and coastal community groups and government agencies. As a West Coast leader in the development of aquatic health diagnostics, BC CAHS strives to improve productivity and environmental sustainability of aquaculture, wild and enhanced fisheries.

Key responsibilities of this position include:

- Overseeing the planning, implementation and evaluation of the organization's programs and services
- Business plan preparation and financial management with operational funding from government, academic, industry and community sources
- Strategic planning and the ability to evolve the future direction of the organization
- Leading independent research projects and service projects in aquatic health science
- Research and grant proposal writing
- Human resource management and cultivation of a positive work environment through leadership and teamwork
- Communication and outreach to the broader community

Required Skills & Experience

- MSc, PhD, or DVM in a field of aquatic health science or related work experience
- Demonstrated research experience, including peer-reviewed publication, in aquatic health science
- Demonstrated teamwork ability, effective leadership and communication with people at all levels of different types of organizations
- Business skills that support day to day operations as well as evolve the organization's future direction
- Ability to communicate scientific information to multiple stakeholders

- Experience working with academics and industry executives as well as government
- A good understanding of the political and social environment of British Columbia, as it relates to aquaculture, is an asset
- Strong creative, strategic-thinking, analytical, organizational, and interpersonal skills
- Willing to work irregular hours and engage in occasional travel

The position is based in Campbell River, on Vancouver Island, BC, the third largest city on Vancouver Island (population 32,000) with excellent transport connections. Community amenities and natural beauty of the surrounding wilderness playground offer an unparalleled lifestyle that gives residents, businesses and visitors room to grow and space to breathe. The salary will be commensurate with experience.

For further information about BC CAHS, consult the website ([www.cahs-bc.ca](http://www.cahs-bc.ca)). Deadline for curriculum vitae submission to BC CAHS is February 28, 2014. Send to [admin@cahs-bc.ca](mailto:admin@cahs-bc.ca) or fax to +1(250) 286-6103. Employment start date will be April/May.

Website:

<http://microbiology.science.oregonstate.edu/content/dr-jerri-bartholomew>

## **POST-DOCTORAL RESEARCHER**

To conduct studies on the pathogenesis of intracellular bacterial pathogens. Duties involve conducting a variety of cellular and molecular techniques involved in the characterization of the interaction of intracellular bacteria and host cells, including the role of Type III secretion system on programmed cell death and host cell physiology. Modern research laboratories are enhanced by centralized core facilities for nucleic acid synthesis and sequencing, hybridoma production, flow cytometry, quantitative PCR and microarray analyses, confocal microscopy, laser capture microdissection, and fluorescence and electron microscopy.

Application can be made at

<https://lsusystemcareers.lsu.edu/applicants/Central?quickFind=57039>

Interested parties can contact me at [thune@vetmed.lsu.edu](mailto:thune@vetmed.lsu.edu) if they have questions.

Ron Thune  
PBS Department  
LSU School of Veterinary Medicine  
Skip Bertman Dr. & River Rd.  
Baton Rouge, LA 70803  
Phone: 225-578-9680

## RESOURCES

International Society of Fish and Shellfish Immunology

Dear Colleague,

on March 1 will start the new year of our society, and I'm writing to remember to subscribe to ISFSI for the 2014. During the general assembly it was decided to maintain for the 2014 the subscription fee of Norwegian Kroner (NOK) 320,00 corresponding to USD 52,8 and Euro 38.4 and this fee also includes a one-year full text subscription to Fish and Shellfish Immunology.

As you can easily argue the fee is very low in order to allow the subscription of the maximum number of scientists and to allow the society to survive.

We are in a delicate moment, and WE TOGETHER HAVE TO DECIDE IF THE SOCIETY IS ALIVE, and without the support of each of one we can't go ahead.

I strongly urge to join and/or renew your subscription to ISFSI by visiting the ISFSI website at [www.isfsim.org](http://www.isfsim.org) or contact the secretary/treasurer Oystein Evensen at [oysein.evensen@nvh.no](mailto:oysein.evensen@nvh.no)

With best regards,  
Giuseppe Scapigliati  
ISFSI President

### **RACHEL CARSON AWARD FOR SCIENTIFIC EXCELLENCE (GROUP) - 2013**



***U. S. Fish and Wildlife Service Aquatic Animal Drug Approval Partnership Program: James Bowker, Molly Bowman, Dan Carty, Niccole Wandelear***

The U.S. Fish and Wildlife Service Aquatic Animal Drug Approval Partnership Program (AADAPP) Research Program generates high quality data to support fish drug approval, making safe and effective fish drugs available to Service and other fisheries professionals. AADAPP staff

– James Bowker, Molly Bowman, Dan Carty, and Niccole Wandelear – are fish biologists with specialized skills and are leading experts in the country on conducting research and generating fish drug approvals in the United States. [Learn more.](#)

<http://www.fws.gov/science/awards-group-2013.html>



