



# Fish Health Section



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

## **FHS NEWS**

### **Schedule at a Glance and Agenda for the 2017 FHS Meeting in East Lansing**

The schedule and agenda for the FHS meeting in East Lansing next week are now available. Please see the PDF files entitled, "FHS mini Schedule at a Glance (1)" and "FHS-GLFHC Draft Agenda0329".

### **Retirement of Scott LaPatra**

Scott LaPatra, Director of Research and Development at Clear Springs Foods, retired early for medical reasons on March 2nd 2017. Scott has been employed with Clear Springs Foods for approximately 26 years. Scott's new email address is [scott.lapatra@gmail.com](mailto:scott.lapatra@gmail.com) should anyone want to get in touch.

I know that Scott would greatly appreciate hearing from everyone, so please don't hesitate to send him an email, thanks!

### **American Fisheries Society Fellows Program – Call for Nominations**

The AFS is seeking nominees for the Fellows Program. AFS designates as Fellows of the Society certain members who have made outstanding or meritorious contributions to the diversity of fields that are included in the American Fisheries Society. Contributions can include, but are not restricted to, efforts in leadership, research, teaching and mentoring, resource management and/or conservation, and outreach/interaction with the public.

For more information and how to submit a nomination, please see the PDF entitled, "2017 AFS Fellows Program callfor nominations".

## **STUDENTS AND EARLY CAREER MEMBERS**

### **"Embark on Successful Career in Fish Health" Workshop at the FHS/EFHW Meeting**

Students and early professionals attending the AFS-FHS Meeting and/or the EFHW are invited to attend the 'Embark on Successful Career in Fish Health' workshop. This workshop will be held on Monday, April 3<sup>rd</sup>, from 5 - 6:30 pm (location TBA).

We've invited three accomplished members of the fish health community to speak on topics relevant to students and early career members. Each speaker will give a 15 minute presentation with a panel Q+A session to follow.

**Publishing piscatorial papers: Dos and don'ts**

Jeffrey C. Wolf, Experimental Pathology Laboratories, Journal of Aquatic Animal Health Editor

**Research funding: Where to find it and how to get it**

James R. Winton, USGS Western Fisheries Research Center

**Successful navigation of the graduate school journey**

Ron Thune, Professor, Louisiana State University

Hope to see everyone there! If you have any questions or would like more information, please contact Amy Long at <mailto:long.amy.80@gmail.com>.

**American Association of Fish Veterinarians (AAFV) Scholarships**

The American Association of Fish Veterinarians (AAFV) recognizes the burgeoning cost of veterinary education coupled with the fact that most veterinary schools do not provide training in aquatic veterinary medicine. Thus, the AAFV Student Scholarship Program has been established to assist veterinary students in their quest to increase their experience and training in aquatic veterinary medicine, specifically fish. This includes, but is not limited to, participating in aquatic programs, short courses, externships, conferences and presentations and research projects. The AAFV Executive Board and Student Scholarship Committee has set the amount for each scholarship at \$500. The number of scholarships offered each year will be dependent on available funds. Scholarships will be presented once a calendar year and need to be used within one year of being awarded.

<http://www.iaaam.org/blog/2017/3/1/medway-scholarship-application-deadline-april-1-2017>

For more information on these scholarships, eligibility, and application procedures, please see the two documents entitled, "2017 AAFV Scholarship Announcement 1" and "2017 AAFV Scholarship Application".

**Merck Animal Health Champions Young Aquaculture Leaders with New Salmon Science Award**

Merck Animal Health (known as MSD Animal Health outside the US and Canada) is proud to announce the introduction of the High Quality Salmon Science Award supporting research in salmon health and welfare by tomorrow's industry leaders.

Starting this year, Merck Animal Health will award one recent graduate in veterinary or animal science the opportunity to present their research to an impressive number of industry specialists at an upcoming Merck Animal Health High Quality Salmon meeting in Scotland, UK.

Applications are due by April 7<sup>th</sup>, 2017.

For more information on this award, please visit the following website:  
<http://www.merck-animal-health.com/news/2017-3-27.aspx>

## **MEETINGS, WORKSHOPS AND COURSES**

### **CE Sessions Planned for Upcoming Fish Health Meetings**

The QA/QC committee of the FHS is pleased to announce two upcoming continuing education sessions on Quality Management System Training at the Fish Health Section Meeting (April 7<sup>th</sup>, 2017) and again at the Western Fish Disease Workshop (June 20, 2017).

These sessions will be taught by Dr. Kelly Burkhart, microbiologist and quality management trainer with the National Animal Health Laboratory Network (NAHLN). Topics to be covered include: document writing and control, record keeping, training, equipment, corrective action, root cause analysis and internal audits. The training will be RACE-approved for veterinarians requiring continuing education hours.

This training should be valuable for all aquatic animal health laboratories, and especially those who are participating in the QA/QC recognition program of the FHS. Quality Management Training like this will likely be a requirement of the upcoming Tier 2 process, but this training would be of benefit to those just starting Tier 1, or those labs just contemplating entering the process in the future.

And for those of you sending in those samples to the lab? Field pathologists, inspectors and technicians should not feel left out! This workshop will give you training on the documentation required for the samples that you send, and insight in to the care that should be taken in processing them to give you confidence in the results.

For more information on the April session, contact Mark Fast at [mfast@upei.ca](mailto:mfast@upei.ca).  
For more information on the June session, contact Marcia House at [mhouse@nwifc.org](mailto:mhouse@nwifc.org)

### **The Canadian Aquaculture Institute Workshops: “Health and Husbandry of Aquatic Laboratory Animals” and “Advanced Aquatic Animal Care and Husbandry”**

**University of Prince Edward Island**

**May 8-11, 2017**

The Canadian Aquaculture Institute is offering two workshops for Veterinarians, Animal Care Technicians, and Research Staff involved in the use of fish and other aquatic species in research teaching and testing. Both courses offer both didactic and hands-on experience in the field.

They run back to back and can be taken individually or together.

Health and Husbandry of Aquatic Laboratory Animals. This is an introductory course which covers basic CCAC requirements for fish in research as well as sessions on aquatic facility design and maintenance, handling and restraint, basic techniques and diagnostics.

This course is May 8 and 9, 2017 and web-site with the full curriculum is

<http://www.upei.ca/skillsdevelopmentandlearning/course/health-and-husbandry-aquatic-laboratory-animals>

Advanced Aquatic Animal Care and Husbandry. This course is for Veterinarians, Animal Care Technicians and Research Staff that are interested in some advanced training in Aquatic Laboratory Animals. The didactic lectures and hands-on labs involve field based techniques, advanced laboratory diagnostics, surgery, salt-water systems and more.

This course is May 10 and 11th, 2017 and the web-site with the full curriculum is

<http://www.upei.ca/skillsdevelopmentandlearning/course/advanced-aquatic-animal-care-and-husbandry>

For more information on these workshops one can go to the above websites or contact Dr. Jonathan Spears at [jspears@upei.ca](mailto:jspears@upei.ca).

**North American Comparative Immunology Workshop**  
**North Carolina State University, Raleigh, NC**  
**June 12-15, 2017**

Welcome to the annual North American Comparative Immunology Workshops. These meetings are designed to foster collaborations among established investigators, postdoctoral fellows and graduate students interested in immune function in a wide range of model and non-model organisms.

As a field, comparative immunology is undergoing a transformation propelled by the emergence of new and innovative genomic technologies and the recognition of a wider biological role for immunity. The study of organismal models with simple morphology or exceptional biology provides unique insight into immunobiology, medicine and evolution and the potential for novel therapeutics.

At NACI, we highlight research in the evolution of immune systems, development of immune cells, the immune dialogue between host, microbiota, and pathogens, as well as ecological aspects of disease. Students are strongly encouraged to present their research. The workshops provide a venue for exciting interactions to generate new ideas and collaborations.

We look forward to seeing you at our 2017 NACI Workshop in Raleigh, North Carolina! For more information, please visit the website: <http://naciworkshop.com/>.

**2017 Western Fish Disease Workshop**  
**Clearwater Resort, Suquamish, WA**  
**June 20-22, 2017**

The 58<sup>th</sup> Western Fish Disease Workshop is being co-hosted by the NWIFC and WDFW and will be held at the Suquamish Clearwater Resort on the Kitsap Peninsula in Washington on June 20-22, 2017. We are now encouraging interested individuals to register, reserve their lodging, and sign up to give an oral presentation or poster. For details on the workshop and the CE session which will be on Quality Management System Training, we encourage all to go to our website at <http://wfdw.nwifc.org>.

Please open the PDF entitled, “Western Fish Disease Workshop Announcement” for full information on this great meeting.

**Fourth Australasian Scientific Conference on Aquatic Animal Health & Biosecurity**  
**The Pullman Reef Hotel, Cairns, Queensland, Australia**  
**July 10-14, 2017**

The Fourth FRDC Australasian Scientific Conference on Aquatic Animal Health & Biosecurity will be held in Cairns, Queensland, Australia – gateway to the Great Barrier Reef and Daintree rainforest. The conference provides a forum for presentation of research, diagnostic, epidemiology, management and policy issues encompassing all areas of aquatic animal health and bio-security.

For more information on this conference, please see the word document, “4th Australasian Scientific Conference on Aquatic Animal Health & Biosecurity 2017.”

**2017 Salmon Disease Workshop – Registration Open**  
**Corvallis, Oregon**  
**July 24 – August 4, 2017**

This workshop is designed for professionals working in the fish health field and will emphasize recent advances and developments in our understanding of salmonid

diseases. The workshop is limited to 20 participants. Registration closes Jun 1.

For more information, or if you wish to receive graduate credit and to register, please contact Dr. Jerri Bartholomew at [bartholj@science.oregonstate.edu](mailto:bartholj@science.oregonstate.edu)

**Registration:** [https://apps.ideal-logic.com/cms?key=F3T9-25VWY\\_K9KH-5PTF\\_37f45578](https://apps.ideal-logic.com/cms?key=F3T9-25VWY_K9KH-5PTF_37f45578)

**Information:** <http://microbiology.science.oregonstate.edu/salmon-disease-workshop>

**Health and Colony Management of Laboratory Fish**  
**MDI Biological Laboratory**  
**August 13–19, 2017**

Health and Colony Management of Laboratory Fish is a short course to help colony managers, researchers and veterinarians monitor and maintain the health of a colony of aquatic organisms. This course is broad and is appropriate for technical staff, students, postdocs, investigators, as well as veterinarians and veterinary trainees.

The course consists of lecture, laboratory exercises and discussions. With a high faculty to student ratio, 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.

<https://mdibl.org/course/health-and-colony-management-of-laboratory-fish/>

**18<sup>th</sup> International Conference on Diseases of Fish and Shellfish**  
**Belfast, Northern Ireland**  
**September 4-8, 2017**

The 18<sup>th</sup> International Conference on Diseases of Fish and Shellfish in Belfast, Northern Ireland takes place from the 4<sup>th</sup> – 8<sup>th</sup> September. The Conference will include a full scientific programme including keynotes, oral presentations, poster sessions and workshop as well as a histopathology workshop that will take place on Sunday 3<sup>rd</sup> September. During your stay in Belfast you will experience a “Taste of Ireland” including a Civic Reception hosted by the Lord Mayor of Belfast and a gala dinner at the “World’s Leading Tourist Attraction” Titanic Belfast. We also invite you to participate in a study visit to the Fish Testing Station at Bushmills, located on the beautiful north coast of Ireland as well as a visit to the UNESCO site at the Giant’s Causeway or the Old Bushmills Distillery established in 1608.

We look forward to welcoming you to Belfast and Northern Ireland in September.

Please note Abstract submission is now open and will close on March 10<sup>th</sup> 2017. Please click on the picture below to be directed the website.



## **JOBS/GRADUATE ASSISTANTSHIPS**

**Fish Conservation Physiology and Molecular Biology Postdoctoral Researchers**  
**Department of Wildlife, Fish, and Conservation and School of Veterinary Medicine**  
**University of California, Davis**  
**Davis, CA**

The University of California Davis is seeking two highly motivated, organized, and dynamic Postdoctoral Researchers with experience in Molecular Biology and Fish Conservation Physiology to join the labs of Drs. Richard Connon and Nann Fangue in the School of Veterinary Medicine and the Department of Wildlife, Fish, and Conservation Biology at UCD. Appointments will be for one year with a possibility for extension to two or three years.

For more information, please see the pdf entitled, "SEARCH FOR two Postdoctoral Researchers Prop 1 Disease and Contaminants".

**Pathogen Surveillance and Discovery – AGREETT Faculty Position**  
**University of Minnesota, College of Veterinary Medicine**  
**St. Paul, MN**

A new strategic university-wide emphasis on Global Systems Science, and university-wide investment into Agricultural Research, Education, Extension and Technology Transfer (AGREETT) program (<http://www.cfans.umn.edu/agreett>), has prompted the University of Minnesota, College of Veterinary Medicine (CVM) into hiring a cluster of at least six faculty members in the broad area of infectious disease across its three Departments. The Veterinary Population Medicine Department (VPM) invites applications for a tenured or tenure-track faculty position in **pathogen surveillance and discovery**, with emphasis on zoonotic/emerging infectious diseases. The appointment is expected to be at the rank of assistant, associate or professor positions. The final rank and terms of appointment will depend on the qualifications and experience of the selected candidate consistent with collegiate and University policies.

For full information on this position, please see the PDF entitled, “AGRETT Pathogen Surveillance Job Description”.

**Associate Veterinarian and Microbiologist Positions  
Pacific Seafood  
Nespelem, WA**

Pacific Seafood, located in Nespelem WA, is current seeking applicants for two positions: Associate Veterinarian and Microbiologist.

For more information on these positions, please see the documents entitled, “Associate Veterinarian REV122016” and “Microbiologist REV082016”.

**Senior Fish Pathologist  
Fish Health Laboratory of the Department of Fisheries  
South Perth, Western Australia**

The Department of Fisheries is seeking a Senior Fish Pathologist. The role of the Senior Fish Pathologist is to manage the development and delivery of a world class aquatic animal diagnostic pathology service and support the development and communication of scientific research. The position is also responsible for managing staff focused on the provision of diagnostic reports and advice to Departmental, Government and Industry stakeholders.

The full job description and application forms can be found at: [Senior Fish Pathologist](#) .

Although the application form lists Australia or New Zealand citizenship or permanent resident status as job qualifications, the State of Western Australia has authority to sponsor any successful applicant to achieve such status, upon hiring.

## **RESOURCES/NEWS**

**NAHMS Aquaculture 2020  
NAHMS seeks your help in selecting the focus of the Aquaculture 2020 study.**

The National Animal Health Monitoring System (NAHMS), a nonregulatory unit of USDA–APHIS–VS, is developing its Aquaculture 2020 study. This study is expected to include production of fish, crustaceans, and mollusks for various end uses.

NAHMS strives to collect information that will be most beneficial to the stakeholders. Your input is essential if we are to identify key health issues and fill information gaps facing the U.S. aquaculture industry sectors.



Please complete a brief survey on line in SurveyMonkey to:

- tell us what you consider to be the most important health issues facing the aquaculture industry.
- help identify the critical information needs regarding health-management practices used in the U.S. aquaculture industry sectors.
- share your opinion on how we can encourage aquaculture producers to participate in the Aquaculture 2020 study.

NAHMS will use results from the needs assessment survey to develop the information objectives that will shape the actual NAHMS study.

**The survey will be available from March 22 through April 30, 2017.**

Please use this link to take the survey:

<https://www.surveymonkey.com/r/NAHMSAqua2020>

## **Journal of Aquatic Animal Health**

### **New Issue Contents**

**Volume 29, Issue 1, 2017**

#### **Serology in Finfish for Diagnosis, Surveillance, and Research: A Systematic Review (p. 1-14)**

*Diana Jaramillo, Edmund J. Peeler, Emilie Laurin, Ian A. Gardner & Richard J. Whittington*

#### **Effects of T-2 Toxin on Pacific White Shrimp *Litopenaeus vannamei*: Growth, and Antioxidant Defenses and Capacity and Histopathology in the Hepatopancreas (p. 15-25)**

*Yijia Deng, Yaling Wang, Xiaodi Zhang, Lijun Sun, Chaojin Wu, Qi Shi, Rundong Wang, Xiaodong Sun, Siyuan Bi & Ravi Gooneratne*

#### **Isolation and Characterization of Large Marine Bacteriophage (Myoviridae), VhKM4 Infecting *Vibrio harveyi* (p. 26-30)**

*Tamrin M. Lal, Motohiko Sano & Julian Ransangan*

#### **Potential Reservoirs and Risk Factors for VHSV IVb in an Enzootic System: Budd Lake, Michigan (p. 31-42)**

*Elizabeth Throckmorton, Travis Brenden, Amber K. Peters, Tammy J. Newcomb, Gary E. Whelan & Mohamed Faisal*

#### **Saprolegniosis in Nile Tilapia: Identification, Molecular Characterization, and Phylogenetic Analysis of Two Novel Pathogenic *Saprolegnia* Strains (p. 43-49)**

*Eman Zahran, Elsayed E. Hafez, Ferdaus Mohd Altaf Hossain, Mohamed Elhadidy & Adel A. Shaheen*

**DNA Vaccination Partially Protects Muskellunge against Viral Hemorrhagic Septicemia Virus (VHSV-IVb) (p. 50-56)**

*Elena V. Millard, Ashley M. Bourke, Scott E. LaPatra, Travis O. Brenden, Scott D. Fitzgerald & Mohamed Faisal*

**In Memoriam (p. 57-58)**

*Diane Elliott & Jim Winton*

**Journal of Aquatic Animal Health (p. 59-65)**

*Guide for Authors*