



Fish Health Section



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

FHS NEWS

NEW WEBSITE!!!: www.afs-fhs.org

2012 AFS-FHS annual meeting July 31-August 3 in La Crosse WI

Too busy busy busy?????

Stop for a minute and register for the 53rd AFS-FHS meeting, 18th Aquaculture Drug Approval Workshop, the Veterinary Workshop on Fish Regulatory Medicine and Aquaculture Biosecurity/AIS-HACCP Workshop (new meeting addition)!

For AFS-FHS and ADAW, early registration and hotel reservation deadlines are **June 1**. Abstracts need to be submitted by **June 15**. Note that abstracts can be annotated with images, graphs, etc. and will be posted on the meeting website (can be downloaded), with long term archival on the FHS website.

All can be done electronically:

<http://www.uwlax.edu/conted/fish/index.htm>

or by paper if you prefer to mail your registration form and payment (see the website for how to do this)

And remember to sign up for a Mississippi River cruise August 2, complete with scenic beauty, delectable local food and beverages, and joie de vivre.



And the August 3 CE Course:

Molecular Diagnostic Tests for Aquatic Animal Pathogens: Regulatory Perspectives, Current Methods and Emerging Technologies

See the attached abstract – microbiologists, administrators and managers are all invited to attend this pivotal training. Six CE credits will be provided through the FHS and we are applying for RACE approval for veterinarians.

And lastly, bring your favorite “science as art” images for the first ever FHS gallery.

More details on the website!

Molecular Diagnostic Tests for Aquatic Animal Pathogens: Regulatory Perspectives, Current Methods and Emerging Technologies

Molecular diagnostic assays typically represent highly sensitive and specific means for detecting the nucleic acids of pathogens. Methods such as real-time PCR have been widely adopted for aquatic animal pathogen surveillance because of the speed and robustness of the technology. Molecular typing of pathogen strains have become critical epidemiological tools for fisheries management and risk analysis. Next-generation sequencing and other emerging technologies represent powerful new approaches for pathogen discovery, as well as other applications in aquatic animal health. However, the increasing use of molecular tests for aquatic animal pathogen surveillance has raised concerns, particularly when the results cannot be confirmed by non-molecular methods or if a true or false positive test result indicates presence of a pathogen in a new species or geographical range. On Friday August 3, a continuing education course will be offered that addresses the technical aspects and regulatory concerns surrounding the use of molecular methods for aquatic animal pathogen testing.

Session I / Roundtable Discussion (2 hrs; 8:00 a.m. – 10:00 a.m.)—an assembled panel will address regulatory and political concerns associated with wide-spread use of molecular methods for aquatic animal pathogen detection. The panel will be selected to represent the diverse perspectives of private aquaculture and tribal, state and federal agencies that regulate agriculture and/or protect natural resources. Each panel member will provide a short 10 minute presentation followed by an open forum that engages the audience in the discussion.

Session II / Current Methods and Emerging Technologies (6 hrs; 10:15 a.m. – 4:30 p.m.; lunch provided)—this session will focus on basic principles underlying widely used molecular techniques including PCR, nested PCR, real-time PCR, sequence analysis. The module will also address fundamental practices that ensure the validity of diagnostic test results, including validation and quality assurance. Finally, we will explore emerging technologies such as environmental DNA detection, next-generation sequencing and high throughput typing methodologies with potential diagnostic applications. By the end of the course, students will be able to:

- Appreciate the potential regulatory and political implications of a true- or false-positive result obtained with a molecular diagnostic test
- Understand the basic principles of common molecular diagnostic tests including PCR and DNA sequencing
- Be familiar with free software tools for sequence analysis and PCR primer design
- Recognize the importance of analytical /diagnostic validation and quality assurance
- Be familiar with emerging applications such as PCR detection of environmental DNA and metagenomic approaches

Session I Molecular Diagnostic Tests: Roundtable Discussion		
Time	Topic	Instructor (s)
8:00 a.m. – 8:15 a.m.	Opening remarks	Marcquenski and Purcell
8:15 a.m. – 9:15 a.m.	Panel presentation on regulatory implications of wide-spread use of molecular diagnostic tests for the detection of aquatic animal pathogens	Panel: Peter Vanderloo, Andy Goodwin, Paul McGraw, Tom Waltzek, Janet Whaley, and Chris Wilson (10 minutes per speaker)
9:15 a.m. – 10:00 a.m.	Panel and audience discussion time	
10:00 a.m. 10:15 a.m.	<i>Coffee Break</i>	

Session II Molecular Diagnostic Tests: Current Methods and Emerging Technologies		
Time	Topic	Instructor (s)
10:15 a.m. – 10:45 a.m.	General principles of PCR-based diagnostics	Purcell
10:45 a.m. – 11:30 a.m.	General principles of sequencing and sequence analysis	Hoffman
11:30 a.m.- 12:15 p.m.	General principles of PCR assay design	Hoffman and Getchell
12:15 p.m. – 1:00 p.m.	<i>Lunch with optional break-out sessions*</i>	
1:00 p.m. – 1:30 p.m.	General principles of real-time PCR assay verification	Jobe
1:30 p.m. – 2:00 p.m.	Implementation and QA/QC of real-time PCR assays in the diagnostic laboratory	Jobe
2:00 p.m. – 2:15 p.m.	Potential hurdles of PCR-based diagnostics: examples from fish health	Purcell
2:15 p.m. – 2:45 p.m.	PCR and environmental DNA	Getchell
2:45 p.m. – 3:00 p.m.	<i>Coffee break</i>	
3:00 p.m. – 3:30 p.m.	Metagenomic approaches to pathogen discovery	Hoffman
3:30 p.m. – 3:45 p.m.	Emerging technologies in human clinical diagnostics	Hoffman and Jobe
3:45 p.m. – 4:15 p.m.	Power and pitfalls of emerging technologies: examples from fish health	Purcell and Getchell
4:00 p.m. – 4:30 p.m.	Questions and session round-up [§]	All instructors
4:30 p.m.	Adjourn	

*Each instructor will be available to lead a small lunchtime *optional* break-out group. The small group settings will allow students time to ask questions or discuss topics in a more casual atmosphere.

§The session will end with a discussion of insights gained from the CE course. We propose to write an article on this topic for the AFS Fisheries Magazine or similar outlet (main authors: Purcell, Getchell and Marcquenski).

WESTERN FISH HEALTH WORKSHOP

The deadline for hotel reservations at the reduce rate is 12 June 2012. The hotel is sold out otherwise and will take the WFDW rooms over on Sunday and sell those at a much higher rate. Please mention Western Fish Disease Workshop or you might be told they are full (has already happened). .