

Fish Health Section



FHS NEWS – October 2022

Fish Health Section website: <https://units.fisheries.org/fhs/>

Fish Health Section Facebook Site: <https://facebook.com/FishHealthSectionAFS>

Fish Health Section Twitter feed: @AFSFishHealth

Would you like your recent open-access publication featured on our Twitter feed? We would like to share one publication per week. Just fill out the form at: <https://forms.gle/NWVXEFOGcdYME6gh8>.

Membership notice: Starting in March 2023, only paid FHS members will receive newsletters and communications from the section. We are giving you several months notice to get your AFS & FHS membership up to date. Please join us and don't miss out on the connection to your peers. We will also be transitioning to a new listserv service so emails will be coming from fhs@afsmembers.simplelists.com soon. Keep an eye on those spam/junk mailboxes!

MEETINGS, WORKSHOPS AND COURSES

Northwest Fish Culture Concepts 71st Annual Meeting December 6-8, 2022 Portland, Oregon

The NW Fish Culture Concepts Executive Committee and the Fish Culture Section of the American Fisheries Society invite you to attend the Northwest Fish Culture Concepts 71st Annual Meeting, December 6-8, 2022. This event will be held at the DoubleTree by Hilton - Portland, Oregon near Lloyd Center (same venue as 2018 meeting).

Northwest Fish Culture Concepts (NWFCC) is an excellent venue for presentation of technical fish culture applications and an excellent opportunity to visit with trade show vendors. Registration for participants and vendors is available online with payment by credit card and check accepted through this link: [https://register.gtrnow.com/71st Northwest Fish Culture Concepts Fresh-](https://register.gtrnow.com/71st_Northwest_Fish_Culture_Concepts_Fresh-)

Early conference registration fee is \$150 through November 4, 2022. After this date, the registration fee increases to \$175. Student/retired fee is \$50.

Trade show exhibitor fee is \$650/booth with opportunity for additional support for enhanced coffee breaks and socials.

A limited number of hotel rooms are blocked off for the NWFCC at the DoubleTree by Hilton - Portland, Oregon near Lloyd Center at or below current government per diem rates. Current rates start at \$139/room. Please reserve through this link:

<https://www.hilton.com/en/book/reservation/deeplink/?ctyhocn=RLLC-DT&groupCode=CDTNWF&arrivaldate=2022-12-05&departuredate=2022-12-09&cid=OM,WW,HILTONLINK,EN,DirectLink&fromId=HILTONLINKDIRECT>

A block of rooms, under "Group Name" of "NW Fish Culture Concepts", has been reserved for December 5, 2022 - December 9, 2022. The special room rate will be available until November 4th or until the group block is sold-out, whichever comes first.

JOBS/GRADUATE ASSISTANTSHIPS

Aquatic Animal Health Biomolecular and eDNA Specialist

Maryland Dept. of Natural Resources

Oxford, MD

Closes 11/9/22

Link:

<https://www.jobapscloud.com/MD/sup/BulPreview.asp?R1=22&R2=001000&R3=0007&Viewer=Admin&Test=Y>

The main purpose of this position is to conduct biological research and monitoring tasks as part of the Cooperative Oxford Laboratory (COL) Aquatic Animal Health Laboratory Project in Oxford, Maryland. This position serves as a lead biologist for the laboratory's biomolecular and eDNA laboratories. The position increases knowledge on diseases affecting the natural aquatic living resources of Maryland and the Chesapeake Bay by developing and performing polymerase chain reaction (PCR) assays for qualitative and quantitative detection of pathogen DNAs in shellfish and finfish tissues, cultured cells, and environmental samples. This position develops and performs immunoassays and in situ DNA probe hybridization (ISH) assays for the detection and identification of pathogens of shellfish and finfish of economic and ecological importance in histological and other samples. The position assists in field collection of samples and other lab projects as needed. This includes drawing blood samples from live shellfish, and dissections or biopsies of both live and dead shellfish and finfish to obtain solid tissue samples. The position extracts, preserves, and analyzes nucleic acids from tissue and cell samples. The position preserves, processes, and stains histological and cytological samples for microscopic analyses, using histochemical stains, antibodies, and DNA probes. The position isolates, propagates, identifies, experimentally manipulates, and cryopreserves pathogen cell cultures in vitro. The position performs microbiological assays on tissue samples and analyzes results. The position maintains and operates sophisticated laboratory equipment, and follows strict safety procedures during common procedures that use hazardous laboratory chemicals and equipment.

Epidemiologist 1 – Fish Health Specialist

Washington Dept. of Fish and Wildlife

Ephrata, WA

Link: [https://www.governmentjobs.com/careers/washington/jobs/3449350/epidemiologist-1-fish-health-specialist-permanent-03128-22?department\[0\]=Dept.%20of%20Fish%20and%20Wildlife&sort=PostingDate%7CDescending&pageType=jobOpportunitiesJobs](https://www.governmentjobs.com/careers/washington/jobs/3449350/epidemiologist-1-fish-health-specialist-permanent-03128-22?department[0]=Dept.%20of%20Fish%20and%20Wildlife&sort=PostingDate%7CDescending&pageType=jobOpportunitiesJobs)

Duties:

Clinical Health Monitoring: Provides clinical support to assigned facilities in an effort to protect humans and fish from zoonotic and non-zoonotic disease. With funding, conduct research designed to improve the fish disease diagnostic capacities especially for those with zoonotic potential.

Occasional screening and diagnosis of wild fish. Tasks include:

- Conducts zoonotic and non-zoonotic fish disease investigations for hatchery or wild morbidity and mortality events at designated hatcheries and watersheds within regions 1, 2, & 3. Includes conducting surgical and other pathologist-related procedures.

- Conducts necropsies; collect, process, and submit appropriate specimens; and interpret findings from fish and wildlife morbidity and mortality investigations.
- May be required to euthanize animals using methods approved by the American Veterinary Medical Association.
- Recognizes and detects non-zoonotic and potentially zoonotic fish pathogens, including viral, bacterial, fungal, or parasitic pathogens.
- Recognizes environmental factors, including toxicants, or fish culture practices that may cause or contribute to fish disease.
- Collects the appropriate samples for detection, confirmation, and prevalence testing, ensuring that sampling is consistent with at least the Co-Managers Salmonid Disease Control Policy for regions 1, 2, & 3.
- Trains hatchery staff to correctly obtain samples when this position is unavailable. Directs hatchery staff to maintain compliance with the Policy when carrying out their fish culture duties.
- Ensures that for all stocks samples are taken properly, and they are packaged and labeled correctly for transport to the laboratory.
- When working with Veterinary Feed Directives (VFDs) and prescribed therapeutants, follows directions from VOR (Veterinarian of Record) and advises VOR as to effects of treatments.
- Communicates with hatchery staff and federal or tribal co-managers when regulated or reportable pathogens, as defined by the Policy, are detected and confirmed, and with appropriate state and federal public health agencies, including, but not limited to Washington State Department of Agriculture (WSDA), Washington Department of Health (WDOH), and United States Department of Agriculture – Animal and Plant Health Inspection Service (USDA-APHIS), when known zoonotic pathogens are detected and confirmed.

Microbiologist 2

Washington Dept. of Fish and Wildlife

Olympia, WA

Link: [https://www.governmentjobs.com/careers/washington/jobs/3771088/microbiologist-2-in-training-option-fish-program-permanent-22-15217?department\[0\]=Dept.%20of%20Fish%20and%20Wildlife&sort=PostingDate%7CDescending&pagetype=jobOpportunitiesJobs](https://www.governmentjobs.com/careers/washington/jobs/3771088/microbiologist-2-in-training-option-fish-program-permanent-22-15217?department[0]=Dept.%20of%20Fish%20and%20Wildlife&sort=PostingDate%7CDescending&pagetype=jobOpportunitiesJobs)

Some of what our Microbiologist will do:

- Molecular Genetics: DNA extractions; end point PCR, nested PCR, qPCR methods; protocol development; instrumentation; and interpretation.
- Virology: Sample processing and plating, maintain cell culture and cell lines, microscopy, viral CPE, identification of certifiable aquatic animal pathogens, cryopreservation of viral positives and cell lines, dot blot, maintain records logs.
- Bacteriology: Sample processing, plating, streaking, and culture isolation, use of Gram stain, biochemistry, microscopy, antibiotic sensitivity testing, or API testing for identification of certifiable fish pathogens, ELISA for the identification of bacterial antigens, necropsy diagnostics submissions, maintain records log.
- Standard lab procedures: Media preparation, sample submission and record keeping, stocking and inventory of consumables, supply ordering, data entry and review, report preparation, establish procedures and tests, SOP (Standard Operating Procedure) development and writing, equipment maintenance, special project coordination and development as assigned.

Key Account Manager

AQUA – East Coast

Kirkland, Quebec or Halifax, Nova Scotia

Link: <https://msd.wd5.myworkdayjobs.com/SearchJobs/job/CAN---Quebec---Kirkland-16750-Transcanada/Chef-de-compte-stratgique-d-aquaculture---cte-est---Key-Account-Manager---Aqua--East-Coast- R203119>

The Aqua Key Account Manager is a dual-function position that will provide sales and technical support to members and customers of our Company's Animal Health Aqua Business Unit. Our Company has an important and growing biopharma and technology product portfolio. Products include the latest the Passive Integrated Transponders tag technology, gas infusion technology and related monitoring equipment and services, pumps, graders, and pharmaceutical products available for fisheries, wildlife conservation and the aquaculture industry.

The Aqua Key Account Manager will be a key member of the field sales team and plays a critical role in supporting our Company's customer centric business model reporting to the Fisheries and Aquaculture Team Lead and will work closely with others in the Conservation Team. The Key Account Manager position will work in Canada to understand and identify corporate customer account needs by selling our Company's Animal Health products while providing technology and services that support the customer's strategies.

Graduate Assistanship (MS)

University of Idaho

Moscow, ID

We are seeking a graduate student to work on a new USDA-NIFA project to determine the efficacy of oral administration of probiotic (C6-6) in the management of Cold water disease (CWD), columnaris disease and their related co-infections, and immunomodulatory properties of C6-6, effect on pathogenic load following challenge, and determine microbiome composition.

We are open to candidates seeking MS degree, the position will be based in the Department of Fish and Wildlife Sciences at the University of Idaho. The candidate will be supervised by Drs. Ken Cain and Jie (Jessie) Ma and work together with other graduate students in the area of fish health/immunology.

See attached .pdf for more information.

Postdoctoral Fellow

University of Idaho

Moscow, ID

This Postdoc position will require direct work with State, Federal, Tribal, and/or Private Aquaculture facilities, and laboratory work in the area of fish health/immunology. The candidate will work on one or more projects related to the management and control of fish diseases with a primary focus on vaccine development and commercialization. This will include protocol development, experimental design, and participation in Field/Lab Safety and Efficacy trials. The ideal candidate will have completed Ph.D. studies in a relevant biological discipline with relevant Fish Health Lab experience and hands-on Aquaculture experience in Public or Private Hatcheries in the US. The individual must have excellent verbal, written, and technical skills. The successful applicant will be expected to produce research reports as required and publish research results in appropriate high-quality journals. It is expected that the candidate will work with the Fish Health team to develop grant proposals and pursue outside funding support for new and ongoing projects. This position is agency and industry-supported and offered as a one-year contract contingent upon further funding.

Work will support an ongoing project involving regulatory approval and commercialization of a *Flavobacterium psychrophilum* vaccine to protect fish against coldwater disease. This position requires aquaculture and fish health/disease experience. The candidate should have demonstrated

field/hatchery experience, proficiency in all aspects of molecular and immunological methods, laboratory disease challenges, and techniques such as SDS-PAGE, Western blotting, 2-D PAGE, histology, ELISA, PCR, etc.

See attached .pdf for more information.

Research Associate (2)

Auburn University – College of Agriculture

Auburn, AL

Link: <https://www.auemployment.com/postings/31726>

Essential functions include, but are not limited to the following:

Conduct screening and diagnosis of fish pathogens on hatchery or wild fish; perform necropsies and collect samples to detect viral, bacterial, fungal, or parasitic fish pathogens; maintain bacterial agars and virological medias; isolate and plate bacteria and viruses; manage and maintain lab equipment and inventory; conduct research and write papers and submit for peer review and publication if appropriate; write case reports to deliver results to state, federal, or private producers; and perform other duties assigned by supervisor.

Travel may be required to hatcheries or field areas, meetings, site visits, and workshops throughout the year.

Contact Dr. Ash Bullard at sab0019@auburn.edu with questions.

Zebrafish Related Job Announcements

<https://wiki.zfin.org/display/jobs/Zebrafish-Related+Job+Announcements>

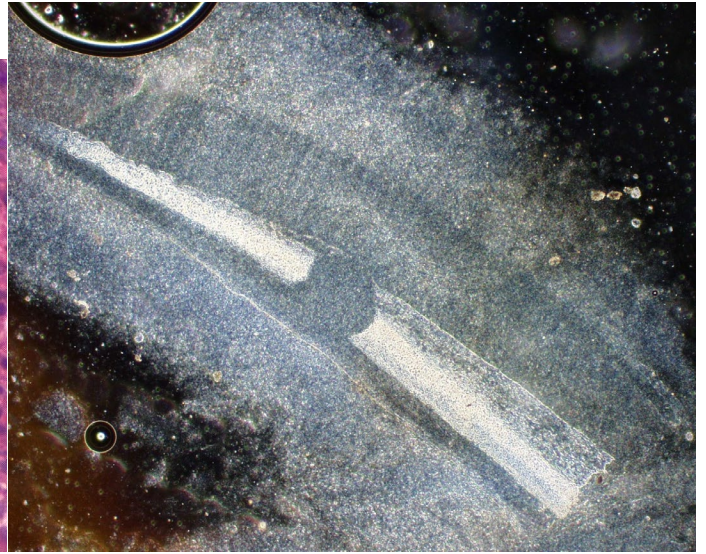
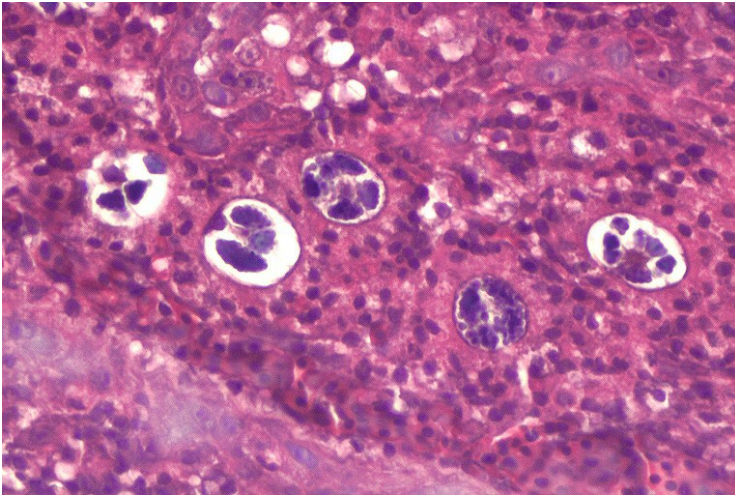
RESOURCES/NEWS

Aquatic Animal Drug Approval Partnership (AADAP) Updates are now available online (new link): <https://www.fws.gov/library/collections/aquatic-animal-drug-approval-partnership-update>

Editor's Random Pics

Courtesy of Andy Goodwin, US Fish and Wildlife Service





Scroll down for photo descriptions.

“Hamburger gill disease” – Proliferative gill disease – in channel catfish caused by the myxozoan *Henneguya ictalurid*. Gross view of gills, histology of trophozoites surrounded by neutrophils, and lesion and hyperplasia in a gill filament wet mount.

Graduate Assistantship (Fish Health) – University of Idaho

We are seeking a graduate student to work on a new USDA-NIFA project to determine the efficacy of oral administration of probiotic (C6-6) in the management of Cold water disease (CWD), columnaris disease and their related co-infections, and immunomodulatory properties of C6-6, effect on pathogenic load following challenge, and determine microbiome composition.

We are open to candidates seeking MS degree, the position will be based in the Department of Fish and Wildlife Sciences at the University of Idaho. The candidate will be supervised by Drs. Ken Cain and Jie (Jessie) Ma and work together with other graduate students in the area of fish health/immunology.

Minimum Qualifications: Bachelor's degree in Fish Health/Aquaculture, Microbiology, Molecular biology, or closely related field, a strong interest in Fish Health/Aquaculture research, a good work ethic, and solid communication and quantitative skills.

Additional Desirable Qualifications: Aquaculture experience, Lab competencies in molecular biology, knowledge of bioinformatics.

The salary, fringe benefits, and appointment terms (2 yrs.) are consistent with the current rules for M.S. degree students at University of Idaho (UI). Ideally, the student will begin coursework and research in January 2023 or Summer 2023. Review of applications will begin on October 10, 2022. Application materials should be e-mailed to kcain@uidaho.edu and jiema@uidaho.edu and include the following:

1, A cover letter motivating the application (background, interests, goals); 2. CV; 3, Names of 3 professional references; 4. Unofficial transcripts.

If selected for this position, the candidate would then need to formally apply through the UI Graduate School.

For additional information please contact Dr. Jessie (Jie) Ma (see below).

Jie (Jessie) Ma
Department of Fish and Wildlife Sciences, University of Idaho
875 Perimeter Dr MS1136
Moscow, ID 83844-1136
email: jiema@uidaho.edu

Postdoctoral Fellow (Fish Health): University of Idaho, USA

This Postdoc position will require direct work with State, Federal, Tribal, and/or Private Aquaculture facilities, and laboratory work in the area of fish health/immunology. The candidate will work on one or more projects related to the management and control of fish diseases with a primary focus on vaccine development and commercialization. This will include protocol development, experimental design, and participation in Field/Lab Safety and Efficacy trials. The ideal candidate will have completed Ph.D. studies in a relevant biological discipline with relevant Fish Health Lab experience and hands-on Aquaculture experience in Public or Private Hatcheries in the US. The individual must have excellent verbal, written, and technical skills. The successful applicant will be expected to produce research reports as required and publish research results in appropriate high-quality journals. It is expected that the candidate will work with the Fish Health team to develop grant proposals and pursue outside funding support for new and ongoing projects. This position is agency and industry-supported and offered as a one-year contract contingent upon further funding.

Work will support an ongoing project involving regulatory approval and commercialization of a *Flavobacterium psychrophilum* vaccine to protect fish against coldwater disease. This position requires aquaculture and fish health/disease experience. The candidate should have demonstrated field/hatchery experience, proficiency in all aspects of molecular and immunological methods, laboratory disease challenges, and techniques such as SDS-PAGE, Western blotting, 2-D PAGE, histology, ELISA, PCR, etc.

RESPONSIBILITIES:

The candidate will spend the majority of his/her time conducting research aimed at licensing fish vaccines for use to prevent or control disease in aquaculture. This position requires experience in bacteriology, virology microbiology, molecular biology and immunology. The successful candidate will work closely with private and public sector partners and be expected to coordinate the production and testing of fish health products and coordinate field safety trials. The position will require both *in vivo* fish care and *in vitro* experimentation to evaluate vaccine preparations.

The candidate will be expected to present research results in a variety of settings including Regional, National, and International conferences. The candidate will also provide periodic presentations updating research progress to the industry and the public.

The candidate will be expected to assist in training of graduate and undergraduate students and staff on laboratory techniques.

This position will require some travel plus indirect and direct supervision of students in the laboratory.

MINIMUM QUALIFICATIONS:

Education: Ph.D. degree in Fish Health/Aquaculture, Microbiology, Molecular biology, or closely related field

Demonstrated oral and written communication skills

Demonstrated ability to work independently and with a group

Hands-on salmonid hatchery or aquaculture experience

ADDITIONAL DESIRABLE QUALIFICATIONS:

- Experience with USDA licensing processes
- Demonstrated publication record
- Grant/proposal writing skills
- Proven record of acquiring outside/external research funding
- Previous postdoc experience

Closing date: Open until filled

For additional information please contact Ken Cain (see below).

If interested, please forward a copy of your current CV, a letter of interest, and a list of at least 3 references and their contact information to:

Ken Cain

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