

Fish Health Section



FHS NEWS – October 2021

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

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

Fish Health Section Twitter feed: @AFSFishHealth

People of the Fish Health Section: Commemorating 50 years

Dear Fish Health Section members,

During my year as President, I am highlighting each month the stories of two Section members. For October 2021, I am pleased to present two FHS members on the organizing team for the 9th International Symposium of Aquatic Animal Health, to be held in Santiago, Chile, in September 2022. I look forward to seeing many of you at the meeting.

Submitted by Gary Marty, FHS President.

Hola (hello). My name is **Fernando Mardones**. I am associate professor and undergraduate chair at the School of Veterinary Medicine at the Pontifical Catholic University in Santiago, Chile. I



teach and carry out research in the application of quantitative methods in epidemiology and ecology to study the dynamics of aquaculture infectious diseases. I started my career in a small town in southern Chile, working as a veterinary practitioner in fish health at hatcheries and marine salmon farms. I am devoted to promoting sustainable aquaculture not only in farmed salmon settings but also shrimp and tilapia around the world. Early in my career, I was inspired by UC Davis fish pathologist Dr. **Ron Hedrick** and epidemiologist Dr. **Tim Carpenter**. I was able to capture the best from them to investigate the epidemic of infectious salmon anemia virus affecting farmed salmon in southern Chile. I just recently joined the FHS (early 2021), and I am expecting to extend my network by

interacting with members around the globe. As an organizing chair of the next ISAAH in Santiago (Sept. 2022), I am working with FHS members **Esteban Soto** and **Matt Griffin** to build ISAAH into a global forum for interdisciplinary collaboration and communication.

Hello. I'm **Matt Griffin**, Research Professor with the Mississippi State University College of Veterinary Medicine and housed at the Thad Cochran National Warmwater Aquaculture Center in Stoneville, MS. My research focuses largely on health management of farm-raised catfish. As we all know, research cannot be done in a vacuum. I've been extremely



fortunate to work with many exceptional scientists over the years, namely my graduate advisors Dr. **Linda Pote** and Dr. **David Wise**, as well as several prominent AFS-FHS members, including my original PhD advisor Dr. **Al Camus** and my graduate school roommate Dr. **Esteban Soto**. I joined the AFS-FHS during graduate school and I enjoy the networking opportunities the AFS-FHS provides. I would say the highlight of my career has been the opportunity to work with so many fantastic AFS-FHS members who are not only valued colleagues, but also friends. If pressed, I would say my favorite thing

about AFS-FHS is the meetings/scientific programs. I really enjoy seeing the exceptional work being done by AFS-FHS students. It would seem the future of fish health research is bright.

Call for New Content

Do you have a puzzling diagnostic case? Or do you have a new diagnostic finding that might interest others? How about newly published research? I am starting a new feature to highlight Fish Health Section Members' current conundrums and accomplishments. Think about what you could submit and contact me at stacy.a.strickland@odfw.oregon.gov with your ideas. Limit to be around 1 page including graphs/pictures. Especially during these virtual meeting and conference times, let's share our work and keep our peers up-to-date on what's happening in the world of fish health!

Thanks in advance for your submissions!

Stacy Strickland, AFS-FHS Newsletter Editor

MEETINGS, WORKSHOPS AND COURSES

9th International Symposium on Aquatic Animal Health (ISAAH)

Santiago, Chile

September 4-8, 2022

See attached .pdf for more info.

Call for Special Sessions

The 9th International Symposium on Aquatic Animal Health (9th ISAAH) will be held September 4 – 8, 2022, in Santiago, Chile. The ISAAH is a truly unique event, held every four-years, and hosted in conjunction with the Fish Health Section of the American Fisheries Society. The ISAAH typically attracts 300–400 aquatic animal health professionals from around the world covering all manners of discipline and scientific inquiry. This is an exciting event you won't want to miss!

As a global forum for interdisciplinary collaboration and communication, ISAAH aspires to create an environment of fellowship, to learn and share the latest groundbreaking research, with a vision of building a better future for aquatic animal health professionals. The 9th ISAAH will bring together scientists and aquatic animal health specialists from across the globe, to open new avenues of research and help foster international collaborations. This will also be the first time ISAAH is held outside of North America!

The organizing committee is currently taking suggestions for special sessions. If you have a topic for consideration or would like to organize a session of particular interest, please contact Matt Griffin (matt.griffin@msstate.edu) with the subject heading "ISAAH 2022 Special Sessions".

The following topics have already been submitted for consideration:

WAVMA/AAFV (Continuing Education Opportunity)

Zebrafish/lab animal models

Parasite life cycles

Genomic applications in fish health

Immune modulation in fish health management

Microbiomes: Applications in fish health

We look forward to hearing from you and hope to see you in Santiago!

www.isaah9.com

contact: isaah9th@gmail.com

The Organizing Committee

Fernando Mardones, School of Veterinary Medicine, Pontifical Catholic University, Chile
Marilia Salgado Caxito, School of Veterinary Medicine, São Paulo State University, Brazil
Natalia Zimin-Veselkoff, School of Veterinary Medicine, Pontifical Catholic University, Chile
Matt Griffin, College of Veterinary Medicine, Mississippi State University, USA.
Esteban Soto, School of Veterinary Medicine, UC Davis, USA

JOBS/GRADUATE ASSISTANTSHIPS

Director of Fish Health

Syndel

Nanaimo, BC

Link: <https://syndel.bamboohr.com/jobs/view.php?id=42&source=aWQ9NA%3D%3D>

Syndel's Director of Fish Health is a member of the Product Management Team. As part of the team, the Director will assist with and/or lead in all aspects of Product Management, including but not limited to leading the company's technical fish activities, consulting and training the Commercial team members, advising the Regulatory team members and contributing to their regulatory functions, technically supporting our partners and customers, and contributing to product development and strategic planning. This position is a technical administrative position and involves managing proprietary files and projects which may include verbal and written communication with our internal teams, with our customers, strategic partners, state and federal groups, as well as with regulatory agencies (e.g., US Food and Drug Administration (FDA) and Health Canada (HC)), consultants etc.

In addition, this position will include the general administrative management for the Syndel Nanaimo office operations.

Veterinarian of Fish Health

Syndel

Nanaimo, BC

Link: <https://syndel.bamboohr.com/jobs/view.php?id=33&source=aWQ9NA%3D%3D>

Syndel's Veterinarian of Fish Health (DVM) is a member of the Product Management Team. As part of the team, the Specialist will assist with and/or lead in all aspects of Product Management, including but not limited to leading the company's technical fish activities, consulting and training the Commercial team members, advising the Regulatory team members and contributing to their regulatory functions, technically supporting our partners and customers, and contributing to product development and strategic planning. This position is a technical administrative position and involves managing proprietary files and projects which may include verbal and written communication with our internal teams, with our customers, strategic partners, state and federal groups, as well as with regulatory agencies (e.g., US Food and Drug Administration (FDA) and Health Canada (HC)), consultants etc.

Veterinary Medical Officer

USDA-ARS, Aquatic Animal Health Research Unit

Auburn, Alabama

Link: <https://www.usajobs.gov/GetJob/ViewDetails/615565500>

Closes: 11/8/2021

The incumbent is a Research Veterinary Medical Officer with the United States Department of Agriculture, Agricultural Research Service, assigned to the Aquatic Animal Health Research Unit

(AAHRU) in Auburn, AL. The incumbent performs aquatic animal health research within the goals of ARS National Program 106-"Aquaculture" and is a team member on the unit's CRIS Project entitled "Integrated Research to Improve Aquatic Animal Health in Warmwater Aquaculture".

Responsibilities

- Develop improved vaccines by developing new vaccine formulations and evaluating host immunity
- Investigate the pathogenicity and transmission dynamics of viruses among fish and shellfish under different conditions, such as naive vs. vaccinated animals, those from disparate genetic backgrounds, or fed different diets
- Characterize the pathogenesis of novel and emerging viral or bacterial strains. Methods utilized by the incumbent include virological, molecular biological, epidemiological and immunological methods.
- Develop better control strategies for pests and pathogens of fish and shellfish.
- Develop more effective means for control of viral, bacterial, and parasitic diseases of cultured fish and shellfish via a combination of biological, immunological, nutritional, and health management methods

Laboratory Manager – Aquatic Health Section

WA Animal Disease Diagnostic Laboratory (WADDL)

Pullman, WA

The Washington Animal Disease Diagnostic Laboratory (WADDL) within the Washington State University (WSU) College of Veterinary Medicine is offering an Aquatic Health Laboratory Manager position. This unique position is fully emersed in an American Association of Veterinary Laboratory Diagnosticians (AAVLD) accredited veterinary laboratory and supervises critical aquatic diagnostic and regulatory testing for both aquaculture (primarily salmon/ trout) producers and wild fish natural resource agencies throughout the Pacific Northwest and western United States. The laboratory manager is a key team member in an Aquatic Health Core that includes the Aquatic Health Section composed of 8.5 staff FTE (microbiologists and one laboratory technician) overseen by the position, three American College of Veterinary Pathologists (ACVP) boarded veterinarian pathologists focused on aquatic animal necropsy and histopathology, and faculty and staff within the WADDL bacteriology/ antimicrobial susceptibility testing and molecular diagnostics/ whole genome sequencing sections. The primary responsibility of the manager is oversight of the Aquatic Health Section operations including scheduling and organizing regulatory and diagnostic sample submission and testing, staffing, laboratory procedures, budget management, quality assurance and short and long-term planning in close collaboration of the Aquatic Health Section head. The Aquatic Health Core is client focused, and the laboratory manager is expected to interact and support producers, veterinarians, and state, federal, and tribal regulatory officials regarding interstate and international movement of fish or fish gametes and the reduction of disease risk in production systems. Growth opportunities Washington Animal Disease Diagnostic Lab, College of Veterinary Medicine for this position include expansion of the WADDL Aquatic Health Section testing to support aquaculture involving other freshwater and marine fish and non-fish species, food safety testing, and enhancing the understanding of pathogen transmission at the interface of wild aquatic populations and aquatic production facilities. The successful applicant is expected to have a strong background in fish health and diagnostic assays with an understanding of laboratory quality assurance.

See attached .pdf for more information.

Fish Health Technician

Riverance Holdings

Hagerman Valley, ID

Link: <https://recruiting.paylocity.com/recruiting/jobs/Details/639470/Riverence-Holdings-LLC/Fish-Health-Technician>

The Riverence group is seeking a Fish Health Technician to support its trout farming operations in Idaho's Hagerman Valley. Riverence Provisions and Riverence Farms—the group's farms and processing operations—are collectively the largest producer of Rainbow Trout and Steelhead in the Americas. Riverence Brood—the group's breeding operation—is a producer of premium Rainbow Trout genetics and the only domestic commercial supplier of Atlantic Salmon and Coho Salmon eggs. The Fish Health Technician will demonstrate a strong commitment to the principles of biosecurity, proactive fish health management, legal and judicious use of therapeutants, and standard diagnostic methods in the identification and resolution of environmental or infectious disease in trout and salmon. Responsibilities include monitoring on-farm conditions that may contribute to fish morbidity/mortality, coordination with Fish Pathologist for preliminary diagnosis of disease, collection and submission of samples for diagnostic testing, cooperating with farm staff regarding implementation of biosecurity and fish health improvement plans.

Postdoc Research Fellowship in Immunology

USDA-ARS Fish Health Unit at the National Center for Cool and Cold Water Aquaculture (NCCCWA)

Leetown, WV

Application Deadline:10/31/21

The mission of the NCCCWA is to enhance the nation's aquaculture production by developing improved germplasm and technologies that increase farm efficiency, product quality, and environmental sustainability. Research focuses primarily on rainbow trout and encompasses genetics, genomics, physiology, aquatic animal health, and aquaculture engineering.

The selected participant will conduct immunological research evaluating genetic lines of disease resistant and susceptible rainbow trout. This will include determining mechanisms of innate immunity and the impact of selective breeding on commensal microbiota and vaccine response. The project will also include identifying how reuse water affects immunological function and identifying precision interventions to enhance health during grow-out.

See attached .pdf for more information.

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:

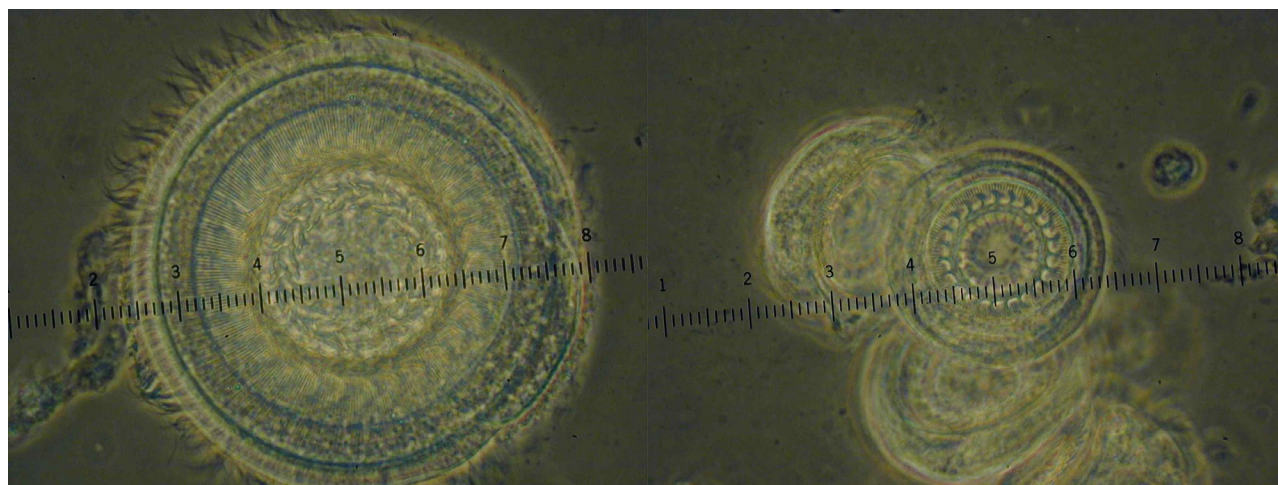
https://www.fws.gov/fisheries/AADAP/aadap_update.html

AFS Job Board changes

Check out the new AFS [Career Center](#) with new and improved features for both job seekers and employers. Job hunters now benefit from improved search functions and email alerts. While employers can peruse candidate applications and submit jobs more quickly and easily through an online submission form with a credit card payment system. Individual AFS members can still

advertise for assistants and internship positions at no charge. See the AFS member employer [pricing options](#).

EDITOR'S RANDOM PICS



Two sizes of *Trichodina* sp. found in Western WA, phase objective at 400x, photos by Craig Olson.

**Laboratory Manager:
Aquatic Health Section
Washington Animal Disease Diagnostic Laboratory (WADDL)**

Title: Laboratory Manager

Location: The position is located on the Pullman Campus of Washington State University

Appointment: The appointment is permanent, 12-month, Administrative Professional (AP)

FTE: 1.0 Full-time equivalency

Salary: Commensurate with training and experience

Screening Begins: September 15, 2021

Position Available: October 15, 2021

The Washington Animal Disease Diagnostic Laboratory (WADDL) within the Washington State University (WSU) College of Veterinary Medicine is offering an Aquatic Health Laboratory Manager position. This unique position is fully immersed in an American Association of Veterinary Laboratory Diagnosticians (AAVLD) accredited veterinary laboratory and supervises critical aquatic diagnostic and regulatory testing for both aquaculture (primarily salmon/ trout) producers and wild fish natural resource agencies throughout the Pacific Northwest and western United States. The laboratory manager is a key team member in an Aquatic Health Core that includes the Aquatic Health Section composed of 8.5 staff FTE (microbiologists and one laboratory technician) overseen by the position, three American College of Veterinary Pathologists (ACVP) boarded veterinarian pathologists focused on aquatic animal necropsy and histopathology, and faculty and staff within the WADDL bacteriology/ antimicrobial susceptibility testing and molecular diagnostics/ whole genome sequencing sections. The primary responsibility of the manager is oversight of the Aquatic Health Section operations including scheduling and organizing regulatory and diagnostic sample submission and testing, staffing, laboratory procedures, budget management, quality assurance and short and long-term planning in close collaboration of the Aquatic Health Section head. The Aquatic Health Core is client focused, and the laboratory manager is expected to interact and support producers, veterinarians, and state, federal, and tribal regulatory officials regarding interstate and international movement of fish or fish gametes and the reduction of disease risk in production systems. Growth opportunities

for this position include expansion of the WADDL Aquatic Health Section testing to support aquaculture involving other freshwater and marine fish and non-fish species, food safety testing, and enhancing the understanding of pathogen transmission at the interface of wild aquatic populations and aquatic production facilities. The successful applicant is expected to have a strong background in fish health and diagnostic assays with an understanding of laboratory quality assurance.

WADDL is a fully accredited (AAVLD), full service veterinary diagnostic laboratory within College of Veterinary Medicine at Washington State University, Pullman, WA. Divisions of the laboratory include aquatic health, bacteriology, histopathology (including immunohistochemistry), molecular diagnostics, necropsy, parasitology, serology, toxicology and mammalian virology. The Aquatic Health Core performs over 44,000 assays per year including viral culture, bacteriology, ELISA, PCR testing, whole genome sequencing and necropsy/ histopathology.

Minimum Qualifications: Master's degree in an appropriate related scientific discipline and four (4) years of progressively responsible professional experience involving fish health which has included at least two (2) years of supervisory experience or equivalent education and experience. Certification as an American Fisheries Society, Fish Health Inspector would be expected within 6 months of employment.

Preferred Qualifications: Advanced degree in microbiological/ biological sciences such as a DVM and/or PhD. Experience in an aquatic diagnostic laboratory. Familiarity with laboratory procedures and QA/QC required for official health inspection of aquatic animals. Interest in continuing education in the field of aquatic animal health and diagnostic assay development.

For more information, contact:

Kevin Snekvik, DVM, PhD, Diplomate ACVP
Director of Operations, Washington Animal Disease Diagnostic Laboratory
Professor, Department of Veterinary Microbiology and Pathology
e-mail - ksnek@wsu.edu
Phone - (509) 335-6331
FAX – 509-335-7424



PONTIFICIA
UNIVERSIDAD
CATÓLICA
DE CHILE



Greetings, Fish Health Section members and colleagues worldwide!

We are pleased to announce the 9th International Symposium on Aquatic Animal Health (9th ISAAH) will be held 4 – 8 September 2022, in Santiago, Chile. The ISAAH is a truly unique event hosted by the Fish Health Section of the [American Fisheries Society](#) and held every four years. The ISAAH typically attracts 300–400 fish health professionals from around the world. This will be the first time ISAAH is hosted outside North America!

As a global forum for interdisciplinary collaboration and communication, ISAAH aspires to create an environment of fellowship, to learn and share the latest groundbreaking research, with a vision of building a better future for aquatic animal health professionals. The 9th ISAAH will bring together scientists from across the globe to open new avenues of research and help foster international collaborations.

The 9th ISAAH will be held at the [Extension Center](#) of the [Pontifical Catholic University \(PUC\)](#). Founded in 1888, the PUC is one of Chile's oldest universities and one of the most well-respected educational institutions in Latin America. Chile is a key player in global aquaculture and salmon farming as well as aquatic ecosystem resource management. [Chile](#) has many diverse habitats, from the Andes Mountains to the Pacific Ocean, from the desert in the extreme north to the Patagonia region in the south. Enjoying more than 5,000 km of coastline and an extensive network of aquatic ecosystems amidst numerous drainage basins, rivers and lakes, Chile is an appealing destination for aquatic animal health researchers.

[Santiago](#) is a bustling, vibrant city with diverse cultural roots, exquisite museums and top-tier restaurants, bars and cafes. We hope you will join us in Santiago for a truly inspiring event.

See you in Santiago!

The Organizing Committee

Matt Griffin, College of Veterinary Medicine, Mississippi State University, USA.

Fernando Mardones, School of Veterinary Medicine, Pontifical Catholic University, Chile.

Esteban Soto, School of Veterinary Medicine, University of California - Davis, USA.

Natalia Zimin-Veselkoff, School of Veterinary Medicine, Pontifical Catholic University, Chile.

9th International Symposium on Aquatic Animal Health
September 4 - 8, 2022
Santiago, Chile

Opportunity Title: USDA-ARS Postdoctoral Research Fellowship in Immunology

Opportunity Reference Code: USDA-ARS-2021-0181



Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2021-0181

How to Apply *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

Application Deadline 10/31/2021 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis and this posting could close before the deadline.

ARS Office/Lab and Location: A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), National Center for Cool and Cold Water Aquaculture (NCCCWA), Fish Health Unit located in Leetown, West Virginia. The mission of the NCCCWA is to enhance the nation's aquaculture production by developing improved germplasm and technologies that increase farm efficiency, product quality, and environmental sustainability. Research focuses primarily on rainbow trout and encompasses genetics, genomics, physiology, aquatic animal health, and aquaculture engineering.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: The selected participant will conduct immunological research evaluating genetic lines of disease resistant and susceptible rainbow trout. This will include determining mechanisms of innate immunity and the impact of selective breeding on commensal microbiota and vaccine response. The project will also include identifying how reuse water affects immunological function and identifying precision interventions to enhance health during grow-out.

Learning Objectives: The participant will gain useful experience designing and conducting experiments in collaboration with a team of immunologists, microbiologists, and veterinarians. The participant will be trained in an array of methodologies and technologies to fulfil the objectives of the project including molecular immunology, single cell sequencing, computational biology, machine learning, microbial genomics, and metagenomics. The fellow will have an opportunity to present their data in published manuscripts and at national and international meetings.

Mentor(s): The mentor for this opportunity is Greg Wiens (greg.wiens@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Fall 2021. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Opportunity Title: USDA-ARS Postdoctoral Research Fellowship in Immunology

Opportunity Reference Code: USDA-ARS-2021-0181

Citizenship Requirements: This opportunity is available to U.S. citizens only.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email USDA-ARS@orau.org and include the reference code for this opportunity.








Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields or are currently pursuing the degree and will reach completion by the start date of the appointment. Degree must have been received within five years of the appointment start date.

Knowledge, skills, and experience in one or more of the following areas is preferred: fish health, immunology, computational biology, genomics, and metagenomics.

This is an equal opportunity program open to all qualified individuals without regard to race, color, age, sex, religion, national origin, mental or physical disability, genetic information, sexual orientation, or covered veteran's status.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (3 )
 - **Engineering** (5 )
 - **Environmental and Marine Sciences** (10 )
 - **Life Health and Medical Sciences** (29 )
 - **Mathematics and Statistics** (1 )
 - **Nanotechnology** (1 )
 - **Other Physical Sciences** (1 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).