

Project Title	Host Organization	Graduate Level	Openings	Project Description	Ideal dates of assignment	Location (City,Country)
Analyzing Behavioral Risk Factors of Zoonotic Disease Spillover	EcoHealth Alliance	Graduate	2	<p>EcoHealth Alliance (EHA) requests an EcoHealth Net researcher to participate in work modeling the role of human behaviors at the human/animal interface on zoonotic disease spillover risk. The researcher will work with an EHA scientist to identify and evaluate opportunities for behavioral risk interventions based on behavioral, ecological, and epidemiological data collected as part of the PREDICT Emerging Pandemic Threats program. The researcher will participate in this work through data analyses, simulation modeling, literature reviews, and writing policy recommendations. The researcher will be mentored in advanced skills in epidemiological modeling and data science. The researcher will be embedded in a team in a dynamic and multidisciplinary research environment, and be expected to participate in meetings and research discussions.</p> <p>The candidate should have strong data interpretation and writing skills, and have completed graduate-level coursework in statistics, and/or epidemiological or ecological modeling, or behavioral social sciences. The candidate should have experience using the R programming language and knowledge of and interest in infectious diseases.</p>	April-August 2018	New York, NY
Avian Influenza in Alaskan Wildlife	Cummings School of Veterinary Medicine at Tufts University	Graduate/skilled undergraduate	1	<p>An ongoing project on influenza surveillance in Alaska will provide opportunity for sampling gulls in the summer and could be adapted to include other target species in other places. The work will involve both field sampling and molecular and diagnostic laboratory work. A major focus of the funded project is the anthropogenic influence on disease ecology and small projects examining host ecology will contribute to the larger goal.</p> <p>Skills needed: Basic field and lab skills should be adequate</p>	April-August 2018	Cordova, Alaska & Grafton, MA
Blanding's Turtle Conservation Project	Grassroots Wildlife Conservation & Cummings School of Veterinary Medicine at Tufts University	Graduate preferred/ skilled undergraduates considered	1	<p>An intern is needed to conduct an analysis of the food preferences of young Blanding's turtles, particularly previously head-started individuals after their release in the wild. We would like to use this information to help guide us in assessing the quality of wetland habitat where we might release the turtles. The intern would do some feeding preference trials of juvenile Blanding's turtles in outdoor enclosures. She/he would also assess the relative abundance of potential prey items in different wetland habitat and potentially analyze the droppings of juvenile Blanding's turtles to identify, if possible, recent prey items in their diets.</p> <p>Skills needed: Basic field skills, willingness to get dirty and wet and handle fecal samples; good data management and organizational skills</p>	April-August 2018	Suburban Boston Area, MA
Changing patterns in wildlife epidemiology in the United States	The U.S. Geological Survey's National Wildlife Health Center (NWHC)	Graduate	1	<p>The U.S. Geological Survey's National Wildlife Health Center (NWHC) conducts diagnostic investigations of unusual wildlife morbidity and mortality events nationwide to detect the presence of wildlife pathogens and determine the cause of death. This is also an important activity for detecting new, emerging and resurging diseases. The NWHC provides crucial information on the presence of wildlife diseases to natural resource managers to support sound management decisions and has developed a vast network of Federal, State, and Tribal partners. The NWHC has conducted this work for over 40 years and consequently has created the most spatially and temporally comprehensive dataset on the causes, locations and timing of wildlife mortality events in the nation. The data and information generated from these investigations can be used for determining the biological and ecological significance of disease events, detecting disease trends over time and space, as well as detecting significant changes in disease manifestation in the field. Moreover, this information allows us to gain insight into the significance of future wildlife disease events and reveal potential mitigation actions. Due to the increasing number of emerging diseases worldwide, many of which have wildlife origins (e.g., highly pathogenic avian influenza and Ebola virus) and/or are devastating wildlife populations (e.g., white nose syndrome in bats, chytrid fungi in amphibians), this unique collection of historical data is more valuable than ever.</p> <p>The NWHC is proposing an opportunity to host an EcoHealth Alliance student interested in understanding changes in large-scale patterns in wildlife epidemiology in the United States. The specific research questions will be determined by the student and mentor and could include how wildlife mortality patterns have changed over time or vary with biological and environmental conditions. Previous training or experience in data visualization and analysis (statistics or mathematics) are helpful for potential students, but not required. The student will have the opportunity to work with a community of specialists in wildlife disease, including wildlife epidemiologists, microbiologists, pathologists, and quantitative modelers. The student will receive training in wildlife epidemiological principles, data analysis, and data visualization and mapping.</p>	April-August 2018	Madison, WI

Environmental correlates of botulism outbreaks	The U.S. Geological Survey's National Wildlife Health Center (NWHC)	Graduate	1	Avian Botulism, caused by a naturally occurring toxin produced by the bacterium <i>Clostridium botulinum</i> , is a widespread disease affecting waterfowl across the US. Warm temperatures combined with decomposing vegetation and the presence of invertebrates provide ideal conditions for the botulism bacteria to activate and produce toxin. A risk model for Avian Botulism can be developed using data from the NWHC archives as well as peer-reviewed literature, providing a predictive tool for wildlife managers to know when the conditions are right for large-scale botulism outbreaks.	April-August 2018	Madison, WI
Field Studies of common loon health	Loon Preservation Committee-Tufts University	Undergraduate/ Graduate	1	Tufts Wildlife Clinic has been studying common loons ( <i>Gavia immer</i> ) since 1987, identifying and quantifying natural and anthropogenic threats to loon health, trying to target specific conservation concerns, and collaborating with groups all around North America to educate the public about this iconic species and its role in the ecosystem.  Seeking a student who would like to be involved in field studies of common loons in New Hampshire. Involvement will include related research projects such as hematology, threats from emerging parasitic and fungal disease, toxicology, etc. This person will be based primarily at the Loon Preservation Committee headquarters in Moultonboro, NH (< <a href="http://www.loon.org">http://www.loon.org</a> >), but will interact with Tufts Wildlife Clinic and other organizations. Project is 8-10 weeks.	June-August 2018	Moultonboro, NH
Loop-mediated isothermal amplification (LAMP) technology	The U.S. Geological Survey's National Wildlife Health Center (NWHC)	Graduate	1	The Asian fish tapeworm <i>Schyzocotyle acheilognathi</i> (Sa) (syn. <i>Bothriocephalus acheilognathi</i> ) is native to East Asia and has spread to all continents, excluding Antarctica. Rapid and accurate detection of disease agents and invasive species is critical to the success of controlling or ameliorating their impact on wildlife populations and ecosystems. A portable, user friendly assay such as loop-mediated isothermal amplification (LAMP) to detect Sa in environmental samples could reduce the spread of Sa through the movement of bait fish (especially in Great Lakes Basin) and also provide natural resource agencies with a tool to better manage vulnerable native fish populations in the Southwest USA.	April-August 2018	Madison, WI
Modeling Dynamics of Rift Valley Fever in South Africa	EcoHealth Alliance	Graduate	1	EcoHealth Alliance (EHA) requests an EcoHealth Net researcher to participate in work modeling the dynamics of the wildlife-livestock-human Rift Valley Fever (RVF) system in South Africa. The researcher will work with EHA scientists to integrate data from a multi-disciplinary, international collaboration to produce models and predictions RVF outbreaks and understand the drivers of RVF dynamics. They will work with data from monitoring of climate, mosquito populations, livestock and human population health, and/or farmer behavior. The researcher will participate in this work through data analyses, simulation modeling, and literature reviews. The researcher will be mentored in advanced skills in epidemiological modeling and data science. The researcher will be embedded in a team in a dynamic and multidisciplinary research environment, and be expected to participate in meetings and research discussions.  The candidate should have strong data interpretation and writing skills, have completed graduate-level coursework in statistics and/or epidemiological or ecological modeling, and have experience using the R programming knowledge. The candidate should have interest and some knowledge of infectious diseases.	April-August 2018	New York, NY
Modeling Epidemic Spillover and Spread	University of California, Davis	Undergraduate/ Graduate	1	Student will join the EpiCenter for Disease Dynamics team to identify key characteristics of past outbreaks, including initial conditions and metrics associated with spillover and spread for select pathogens, to assist in development of models that can anticipate vulnerabilities in disease recognition and control. Previous knowledge of animal health, wildlife ecology, and infectious disease is desired and students should have a strong interest in epidemiology and analytical modeling. The project is for 8-10 weeks and will take place at the One Health Institute, in the School of Veterinary Medicine, University of California, Davis, California.	April-August 2018	Davis, California

				<p>Tufts Wildlife Clinic has been studying common loons (<i>Gavia immer</i>) since 1987, identifying and quantifying natural and anthropogenic threats to loon health, trying to target specific conservation concerns, and collaborating with groups all around North America to educate the public about this iconic species and its role in the ecosystem.</p> <p>Duties will focus on working to perform gross necropsies and diagnostic imaging on cadavers of animals at BioDiversity Research in Portland, Maine as part of regional loon studies. This will include preserving specimens for additional studies (histopathology, toxicology, etc.). The student will also have an opportunity to carry out a specific research project. This project will be for 6-8 weeks.</p>		
Morbidity and mortality of common loons	Cummings School of Veterinary Medicine at Tufts University	Undergraduate/Graduate	1	Candidates should have a sincere interest in pathology, anatomy and/or toxicology and good familiarity with Excel and data analysis. Interest and skills in photography and digital photo processing would be a big advantage.	May-July 2018	Portland, Maine
Sero-prevalance and risk analysis of Brucellosis in human and livestock	Agriculture and Forestry University (AFU), Chitwan Medical College (CMC), Nepal	Undergraduate/Graduate	2	Brucellosis is a chronic infectious disease which has carried zoonotic importance. In the industrialized countries the disease has been successfully managed but many people of developing countries are living at high risk. In this project the serum will be collected from animals and human, their sero-prevalance is tested by different tests using different serological method and PCR.	April-August 2018	Nepal
Sero-surveillance of rat borne zoonotic diseases and their ectoparasites with special reference to potential of Scrub Typhus	Agriculture and Forestry University (AFU), Chitwan Medical College (CMC), Nepal	Graduate	2	Rats carry several zoonotic pathogens. As rats and humans live in close proximity, there exists potential for disease transmission. Scrub typhus is a zoonotic disease transmitted by the blood sucking larva of the arthropod, mite. Research Project will focus on a surveillance of zoonotic pathogens in rat as well as their ecto-parasites. Methodology used will be sample collection, survey, PCR and serology.  Skills needed: Sample Collection, Survey, Laboratory works (mainly PCR and serology)	April-August 2018	Nepal
Significance of Avian Circoviruses in Wild Birds	The U.S. Geological Survey's National Wildlife Health Center (NWHC)	Graduate	1	Circoviruses are regularly detected in birds submitted to the USGS – National Wildlife Health Center. The viruses are believed to cause immunosuppression and are often associated with other pathological processes such as emaciation, aspergillosis, and salmonellosis. The goal of this project is to better characterize the various types of circoviruses that occur in wild North American birds and to better determine their association with secondary infections. The project will involve: 1) laboratory work focused on amplification (i.e., PCR) and sequencing of complete genomes of circoviruses from the NWHC archived collection, and 2) database mining and data analysis to determine the association between circoviruses and other infectious disease agents within a host.	April-August 2018	Madison, WI
Urban Rodent Pathogen Survey	Cummings School of Veterinary Medicine at Tufts University	Graduate/skilled undergraduate	1	An ongoing MRSA study of urban rats is expanding for surveillance of influenza and other pathogens. The work will involve 1) field collection and sampling of urban and peri-urban rodents including those being managed and euthanized by local authorities; and 2) molecular and diagnostic laboratory work including DNA extraction, PCR, etc. 3) Data analysis and interpretation to aid project evolution.  Skills needed: Basic field and lab skills should be adequate.	April-August 2018	Boston, Somerville, Grafton, MA
Viral Discovery in Wildlife	Columbia University	Graduate	1	The student will join a team of molecular virologists at the Center for Infection and Immunity (Columbia University) specializing in zoonotic and emerging infectious diseases. Specifically, the student will work on the discovery and characterization, ecology and epidemiology of viruses found in rodents from Bolivia. Training will be focused on how to use viral discovery as a tool to investigate zoonotic risk. The project will last for 8 weeks and the applicants are expected to have strong laboratory skills already, though training will be given as necessary.	April-August 2018	New York, NY