PhD Student Opening for Fall 2018 in
WILDLIFE POPULATION GENOMICS,
CONSERVATION GENETICS, and DISEASE ECOLOGY

PhD student position is available for research and training in wildlife population genomics, conservation genetics, and disease ecology at the University of Wyoming (UW) in Laramie. The position will be primarily lab-based within the Ernest Wildlife Genomics and Disease Ecology Laboratory in the Department of Veterinary Sciences with course work and PhD degree granted in the UW Graduate Program in Ecology (PiE; http://www.uwyo.edu/pie/). Research will use genomic and other genetic tools to study wildlife populations in the Rocky Mountain West and/or California, especially mammal species, and with intersections with disease ecology.

The Ernest Wildlife Genomics and Disease Ecology Laboratory is a dynamic and highly collaborative lab at UW with University of California affiliation and works with other academic institutions, as well as state, federal, and non-governmental agencies. There are many opportunities to work with recognized leaders who apply excellence in science toward wildlife conservation and management. There are opportunities for an added academic minor in Environment and Natural Resources through our Haub School affiliation: http://www.uwyo.edu/haub/. In addition to to research and course work, responsibilities will include teaching (TA-ing), lab maintenance tasks, and mentoring other students. Quality mentorship of trainees of all educational levels, including grad student positions, is a priority for the laboratory. University of Wyoming hosts excellent wildlife and ecology science and a collegial academic atmosphere. Laramie is a wonderful college town of ~ 30,000 and offers easy access to the Rocky Mountains and outdoor activities including skiing, hiking, climbing, birding, and fishing & hunting.

To apply for this position please submit an electronic application via email [email all as a single pdf file by email to holly.ernest@uwyo.edu with subject line including “Wildlife Genomics PhD student application for Fall 2018”](http://wildlifegenetichealth.org/). Include a cover letter stating your research and education interests and specifically list how each of the “required” and any of the “preferred” qualifications are met. Also include your C.V., transcripts and GPA for all undergrad and MS graduate work, GRE scores (exam taken within 5 years as of Jan 2018) including both percentiles and raw scores, and the contact information (name, position, email, phone, institutional affiliation, and research area) for at least three research/academic-related references including MS adviser(s) to Dr. Holly Ernest, Professor Wildlife Genomics and Disease Ecology; Wyoming Excellence Chair. Start date is for Fall 2018 semester (August 2018). Applications reviews will begin as soon as received, preferably by November 30 2017, and probably no later than January 1, 2018, position may remain open until filled. Feel free to email Dr. Ernest with inquiries – look forward to your application!

Selected candidate(s) will next need to separately apply to U.Wyoming (PhD students: VetSci Program and Ecology program – I’ll guide the selected applicant(s)) and for all available scholarships before the deadline of January 31, 2018. Highly recommended: apply federal/state/agency scholarships/fellowships for grad students; those who receive them will have an advantage. This position is not funded (not available) for an international student.

*Over to next page for required qualifications*
Qualifications: The successful PhD student candidate will have—please include details in your application:

1) **An MS degree** in wildlife biology, ecology, genetics, genomics, bioinformatics, GIS, or related field with research experience involving laboratory data generation and population-level data analysis. MS may have involved wildlife, domestic animals, plants, or humans. Population genetics course work and research experience are highly desirable.

2) **Good grades** (GPA above 3.3 desirable) **and GRE scores** (preferably >75%ile). GRE required taken within past 5 years (as of January 2018).

3) **Demonstrated experience** in the following areas: sample handling and archiving, research laboratory skills, and skills with organization of files and data in a research setting.

4) **Quantitative skills** as demonstrated through documented experience with R software environment, and software such as for population genetic analysis and large genomic and GIS data sets.

5) **Passion for applied conservation-oriented research in wildlife** genetics, population genomics, and ecology of wildlife and their pathogens.

6) **Track record of collegiality and interpersonal skills**, effective communication, creative leadership, and problem-solving abilities that promote a positive team atmosphere. **Ability to work well both independently and in teams**, and ability to respond and adjust to difficult situations.

7) **Evidence of conference research presentations and peer-review science publication** (in press, submitted are desirable as well) in population genetics.

8) **Demonstrated ability to conduct occasional field work** that may involve harsh environmental conditions (cold, hot, windy, steep, rocky, etc.), sampling wildlife (blood, tissues, feces, potential for exposure to disease organisms that can cause illness in people, etc.), and hiking over rough terrain with heavy gear. The work also includes reading and interpreting small print such as in data readouts, occasional lifting of objects up to 30 pounds.

9) **Ability to work or travel** occasionally for short periods of time (such as a few days or up to a week) and including weekends, holidays, and evenings; a valid driver’s license.

10) Willingness to get vaccinated for rabies and/or blood test for adequate rabies titer if rabies-vaccinated prior. Funding for vaccination and blood test will be provided if necessary for student’s work after starting the position.

Desirable skills, knowledge, and abilities include any of the following—please include details in your application:

1. Next Generation Sequencing DNA library preparation techniques and equipment (such as RADseq, or similar techniques for SNPs or whole genome sequencing and equipment.

2. Bioinformatics for genomics: Linux-based computing and bash programing; RADseq analytic programs such as STACKS and others; programming language used in genetic and/or genomic data analysis (such as Python, Perl).

3. Geographic Information Systems (GIS) including ESRI Inc. programs such as ArcGIS and/or other geospatial analysis packages in R; data analysis, map and publication-quality figure creation using GIS.

4. Experience with wildlife field work involving repeated handling of free-ranging wildlife animals in challenging environmental conditions.

5. Wild mammalian mark-recapture study design, field work, telemetry data analysis, tracking, and/or non-invasive DNA analysis.

6. Quantitative skills in mark-recapture analysis (such as MARK, SECR, and/or CAPWIRE and similar programs), statistics, and computational modeling.

7. Demonstrated knowledge, skills, and abilities in any of the following areas: Quantitative (real time) and/or digital PCR, laboratory and computational analysis of genotypic DNA data, immunogenetics, non-invasive (fecal, hair, etc.) DNA laboratory techniques, and/or construction and maintenance of SQL/relational databases for large data sets.

8. Knowledge of ecological modeling, including Bayesian approaches.