

Research Associate – Characterization of Haplotypic Diversity in Holstein Cattle

The Animal Quantitative Genetics group at Michigan State University is seeking a postdoctoral research associate to work on characterization of allelic and haplotypic variation in Holstein cattle using very large datasets (sequence, RNAseq and genotypes). This position is initially for one year renewable annually contingent on performance and availability of funding. The starting date is flexible but preferably before March 2019. Review of applications will start immediately, and the position will remain open until a suitable candidate has been found. Salary is commensurate with experience plus benefits.

The successful candidate will work on assembly, phasing and imputation of large datasets up to sequence level; variant calling, haplotype identification and functional annotation. He/she will also develop and test efficient methods to evaluate accuracy and validate results. The work also includes genomic prediction with haplotypes, identification of putative causal variants and testing their value for prediction purposes. The emphasis of the project is on dairy cattle, but method developed should be extensible to other species as well.

We are looking for a motivated scientist in the field of bioinformatics, statistical genetics and genomics, animal genetics and large-scale genomic data analysis. The specific duties of this position include:

- Independently plan and conduct analyses of very large genomic datasets.
- Publish research outcomes in peer-reviewed articles in high impact journals.
- Discuss and communicate research ideas with colleagues and industry.
- Develop methods and computer programs to perform the analyses.
- Undertake data analysis and other modeling exercises relevant to the project
- Assist with supervision of graduate students

Minimum Qualifications:

Appropriate qualifications and research training relevant to the duties, including completion of a PhD degree in bioinformatics, animal genetics or a related area and some academic work experience.

Desired Qualifications:

1. In depth knowledge of high-throughput genomic technologies and relevant analytical tools
2. Extensive experience with genomic datasets, particularly assembly, variant calling, phasing, imputation and functional analyses.
3. Experience in computer programming, particularly R and C++, with the ability to communicate with databases and to handle extremely large data files.
4. A strong record of research achievement as demonstrated by journal publications.
5. Strong communication skills with the ability to liaise with industry.
6. High level understanding of quantitative genetics and its role in animal breeding programs.

How to apply:

Interested candidates need to apply electronically at <http://careers.msu.edu/cw/en-us/job/500681/research-associatefixed-term> and include:

- Cover letter explaining their background and a description of relevant experience
- Most recent CV
- Contact information for three referees

Questions about the position should be directed to Prof. Cedric Gondro (gondroce@msu.edu), Department of Animal Science, Michigan State University.

MSU is an affirmative-action, equal-opportunity employer. MSU is committed to achieving excellence through cultural diversity. The university actively encourages applications and/or nominations of women, persons of color, veterans and persons with disabilities.