Research Associate – Statistical Genetics and Artificial Intelligence

High quality applications are sought for two research associate (postdoctoral) positions in the area of Statistical Genetics and Artificial Intelligence to work with the Animal Quantitative Genetics group at Michigan State University. The successful candidate is expected to independently develop AI methodology applied to genomic prediction and further knowledge in this research area, including methods for genomic prediction, population genetics and genomic analysis.

The position is initially for one year, renewable annually subject to funding and satisfactory performance. Applicants must have completed a PhD degree in animal genetics, statistical genetics, bioinformatics, Artificial Intelligence or a related area. Applicants with a Computer Science background will also work with the Department of Computer Science and Engineering at MSU. They should demonstrate high research productivity, have experience with genetic data analysis, proficiency in computer programming, particularly R and C++, and have excellent skills in analytical and creative thinking. Specific and relevant research experience in one of the targeted research areas is highly desirable. The specific duties of this position include:

- Undertake independent whole genome analysis of data including genomic prediction.
- Adapt existing programming code or develop new code for programs to assist in such analysis.
- Develop and test new methods for genomic prediction, primarily using Artificial Intelligence methodology.
- Develop methods to make use of biological knowledge for genomic prediction.
- Develop and apply methods and software for effective use of sequence data in genomic prediction.
- Report on results in peer reviewed journal papers.
- Write grant proposals in the area.
- Assist with some undergraduate and graduate teaching, assistance with supervision of graduate students

**Qualifications: Minimum Requirements**

- Appropriate qualifications and research training relevant to the duties, including completion of a PhD degree in animal genetics, artificial intelligence, statistical genetics or bioinformatics.
- A strong record of research achievement and publication, relative to opportunity
- The ability to take initiatives and independently develop research proposals

**Qualifications: Desired**

- Experience with statistical methods used for genomic analysis
- Experience with Artificial Intelligence methods and parallel programming techniques
- Experience in computer programming, particularly R and C++ or FORTRAN. Programming for mobile platforms and GPUs is a plus.
- Ability to communicate research outcomes and research ideas
- Some work experience in the relevant field of study
- Experience with population genetics analysis
- Experience in working with public databases (NCBI, EMBL...)
- High level understanding of quantitative genetics and its role in animal breeding programs.
How to apply: Application materials must be submitted electronically at http://careers.msu.edu/ci/en-us/job/498891/research-associatefixed-term and include:

• Cover letter explaining your background and career plans
• Most recent CV
• A description of relevant experience

Questions about the position should be directed to Prof. Cedric Gondro (gondroce@msu.edu), Department of Animal Science, MSU or Prof Wolfgang Banzhaf (banzhafw@cse.msu.edu), Department of Computer Science and Engineering, MSU.