Faculty/Portfolio:ALES, Agricultural Food & Nutritional Science

Unit: Livestock Gentec

Position Title: Research Associate

Position Type/Job Family: Research Associate

Incumbent Name (if applicable):Click here to enter text.

Date of Completion:Click here to enter a date.

**SIGNATURES:** The signatures below indicate that all parties have read and understand the information in this Position Description.

**INCUMBENT (if applicable)**

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*Name Signature Date*

**PRINCIPAL INVESTIGATOR/SUPERVISOR**

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*Name Signature Date*

**CHAIR/DEAN/VICE-PRESIDENT**

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*Name Signature Date*

**POSITION SUMMARY:** Give a brief summary of the position covering the main responsibilities, the framework within which the position has to operate, and the main contribution to the organization.

The role requires an individual able to provide advanced quantitative genetics, statistics and genomics expertise to enable research at Livestock Gentec (and its partners) to deliver results that can be demonstrated in industry populations and environments. The role requires skills in experimental design and data analysis as well as an ability to provide results in a form easily understood by industry groups. The position will also develop methodologies to optimally incorporate genomic information into animal breeding programs. The successful candidate will incorporate such results into user-friendly software tools that support decision making for industry. The candidate will work closely with researchers, business development and technology transfer personnel at Livestock Gentec as well as with industry partners.

The Research Associate will have the following duties and responsibilities:

* Supporting research development and implementation of phenotypic and genomic data collection and analysis (working with Livestock Gentec researchers).
* Providing guidance in design and analysis through consultation for students, postdoctoral Scientists, Gentec staff and industry.
* Coordinating additional data analysis to move initial genomics R&D results through calibration, validation and demonstration activities in order to provide tools that can be transferred to industry (e.g. DNA marker panels for "marker assisted selection (MAS) or management (MAM), DNA verification of traceability and/or pedigree, or genomic enhanced breeding values (gEBVs)).
* Facilitating the required information flow between the different partners within Gentec (from researchers through technology transfer/translation to industry groups).
* Working with industry researchers, animal breeders or technical personnel in order to develop tailored applications for industry partners.
* Supporting quality assurance of results at the Livestock Gentec Service Laboratory.
* Developing added value results and reports for customers of the Livestock Gentec Service Laboratory (e.g. EBVs).
* Using advanced statistical and modelling knowledge in order to solve complex problems and create user friendly support software.
* Assisting in writing research papers, preparation of presentations and other communication material (including for industry conferences and workshops) under the direction of the lead scientists.
* Assisting with the preparation of research, demonstration, validation and implementation applications including those for third party funding (grants or direct industry support).

**KNOWLEDGE, SKILLS AND ABILITIES:** Provide a list of the most important knowledge, skills and abilities including knowledge about practical procedures, specialized techniques, analytical and conceptual skills, and abilities and skills needed for interaction with others. Specify the level (or type) of post-secondary education that is required.

A minimum PhD degree in quantitative/ population genetics, statistical genomics with a minimum of 5 years research experience in breeding and genetics, statistics or equivalent background in related fields.

Excellent computer programming skills with established competence in statistical tools such as

ASREML, SAS, and R is essential. A solid foundation in statistical theory and applied analysis

methodologies, especially mixed linear models, Bayesian Statistics, QTL analysis, multivariate

techniques, genome wide association studies, genomic selection and advanced visualization of results.

Excellent communication skills (written and oral) and the ability to work collaboratively with

Individuals with different experience and technical backgrounds. Strong ability to organize and manage timelines. Must work as part of a team. Ability to multi-task and manage several different projects at any given time.

Knowledge of current and new statistical concepts and methodologies and the ability to determine appropriate options for analysis. A demonstrated experience in conducting analysis of commercial field data is strongly preferred. Industry experience will be an advantage. A sound publication record and success with the development of research proposals would also be an advantage.

**ORGANIZATION CHART:** An organization chart must be included, indicating supervisor, peers and other positions in the area/unit.