LEIBNIZ INSTITUTE
FOR FARM ANIMAL BIOLOGY

Dummerstorf, November 2016

The Leibniz Institute for Farm Animal Biology (FBN) based in Dummerstorf near Rostock (Germany) is a foundation under public law and member of the scientific community Gottfried-Wilhelm Leibniz. Assignment of the institute with about 300 employees is basic and applied research in the field of the biology of agriculturally important farm animal species. The Institute of Genetics and Biometry (Biomathematics/Bioinformatics Unit) is offering the position (male/female) of a

Scientist (Postdoc)

starting as soon as possible, fixed term for 36 months. The salary will be remunerated at TV-L E 13.

Reference number: **2016-31**

Task Description:

In animal breeding, molecular data (e.g. single nucleotide polymorphisms; SNPs) are incorporated as predictor variables in statistical models to reach an improved genomic evaluation of animals or to elucidate the genetic architecture of selected traits. The precision of effect estimates can often only be approximated with time-consuming computational methods; it is not given in an analytical formula for situations where the number of SNPs exceeds the number of individuals. As precision of estimates influences the outcome of testing for significance, the reliable identification of causative variants is complicated. This DFG-funded project aims at theoretically determining the standard error of SNP-effect estimates and the power of testing their significance. The candidate will investigate how a minimum required sample size can be determined prior to any genomic evaluation to ensure sufficiently large power of testing the SNP effects. The theory will be developed for typical livestock populations with family stratification and validated with simulated and empirical data, which are publicly available. Criteria for an optimal experimental design will be concluded by taking into account trait- and population-specific parameters (e.g. recombination rate and linkage disequilibrium between SNPs).

Requirements:

We are looking for a candidate with a PhD/doctoral degree in biomathematics, biostatistics or agricultural science (main subject animal or plant breeding and with strong statistical focus). The successful candidate has a deep knowledge about the theory of linear and mixed models, intensive experience with modelling of high-dimensional data and should be familiar with molecular-genetical data (e.g. SNPs) and their application in statistical modelling. Programming skills (e.g. R, MATLAB, C, Fortran) are essential. Good skills in oral and written communication in English and the ability to work in a diverse group of researchers are required.

The Leibniz Institute for Farm Animal Biology (FBN) in Dummerstorf provides an interdisciplinary research environment and excellent experimental and analytical facilities. Dummerstorf is located near the city of Rostock in the north-east of Germany (2 h drive from Berlin). We are an internationally oriented research institute. The compatibility of career and family is one of our central aims. The Leibniz Institute for Farm Animal Biology (FBN) is committed to increase the proportion of women in areas where they are underrepresented. Suitably qualified women are invited to apply. Handicapped applicants will be given preference in the case of equal qualification and capability. We explicitly encourage international applications.

We apologize that traveling expenses related to the application cannot be reimbursed.

For further information please contact Dr. Dörte Wittenburg (wittenburg@fbn-dummerstorf.de).

Your application should include the reference number, a motivation letter, curriculum vitae, addresses of two referees, publication list and copies of relevant documents. The selection process is starting now and will be continued until the position is filled. We welcome your application to:

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Verwaltung (St.Nr: 2016-31)
Wilhelm-Stahl-Allee 2
18196 Dummerstorf
Germany   or per e-mail to: personal@fbn-dummerstorf.de

www.fbn-dummerstorf.de.

Zertifikat seit 2014
audit berufundfamilie