

Short Term Placement - Inco Country Report

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October 8, 2009

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During the the periods 03/23–04/17 and 04/20–05/15 I visited, respectively, Roslin Institute under supervising of Dr Dirk Jan de Koning and Institute for Pig Genetics (IPG) under supervising of Dr Egbert Knoll. What follows is a brief description of my activities and studies in those places.

1 Roslin Institute

At my first week at Roslin Institute I studied the basics of the theory of QTL mapping. The objective was to gain knowledge to get a better understanding of the association studies using SNPs. For this task I used some classical literature.

In my second week I effectively started to study association techniques using SNPs markers. Dr. de Koning brought to my attention some methodologies as variance components and GRAMMAR. I had nice talks with graduated students working there, who had good understanding and experience with those methodologies.

At my third week, I had contact with the GenAbel Software, which is used to run association analyses. I got some experience with this software (which is actually a R package) and also with association analyses running some simulated SNP data.

In the time remaining, I started to study genomic selection theory. Similarly as I did in my studies with association techniques, I used some classical literature to get the fundamental knowledge in this area. During my studies, I also have nice talks and valuable aid from Ricardo Pong-Wong and Hans Daetwyler (a post-doc student of Dr. John Woolians).

In the weekend, I departed to Holland in order to stay some more weeks at IPG.

2 IPG

First week: Dr. Egbert Knoll gave me a general view of the objectives of IPG and their interested and effort with boar taint trait. I have access to their SNPs database, which I tried to become familiar as quick as possible.

Second week: I spent some more time in this week “looking” at the database and trying to get familiar with the software they use to map Qtls. Naomi Duijvesteijn had always close contact with me and helped to clarify some points and understand some analyses.

I spent all my remaining time involved in developing a R script which extract data from the SNP database formatting them to match the requirements of the software used for mapping Qtls. The development of the script helped me to understand some of the problems I read in my theoretical studies at Roslin Institute.

Finally, I had the opportunity to attend a Dalland seminar, which had as objectives to give to new employees and visitors a general view of the company and provide some basic procedures in several areas, including animal breeding. It was a very nice experience, since I could see how the company understand the genomics and how they intend to use it. I also met with clever people in animal breeding area, who I had the opportunity to talk and improve some of my ideas about genomics and animal breeding.

3 Conclusion

My experience in Europe was fruitful, since I acquire some valuable knowledge in genomics area which will allow me to help the development of some routines to the data simulator that Federal University of Vicosa is developing as its efforts to SABRE project.