

***The team played a pivotal role in organising visits of leading Animal breeding scientists to South Africa (2007/2008) which resulted in workshops / short courses and research collaboration.***

1. Dr AR (Arthur) Gilmour, Australia (May 2007). This joint initiative between the University of the Free State, the University of Stellenbosch and the Institute for Animal Production: Elsenburg (research collaborators) resulted in two workshops on the use of ASREML. Several researchers, MSc and PhD students in Animal Breeding of several Universities and research institutes attended the 2-day workshop at the University of the Free State. Universities that were represented were Univ. of Venda, Univ. of the North, North West Univ., National Univ. of Lesotho, Stellenbosch Univ. and the UFS. Researchers were from: Grootfontein-, Oudsthoorn- and Elsenburg Agricultural Development Institutes, the Agricultural Research Council, Irene and the Department of Agriculture, Limpopo province. A further 25 researchers / post graduate students attended the second 2-day workshop held at Elsenburg, Stellenbosch.

2. Professor Ignacy Misztal, University of Georgia, USA (October, 2007).

The general structure of the one day course was as follows:

- Properties of methods for variance component estimation
- Issues in random regression models
- Threshold models
- Introduction to programs in BLUPF90 family
- Exercises
- Comparison of approaches with example data sets
- Data simulation and estimation with threshold models

3. Mr Brian van Doormaal is well-known in the international dairy industry and a board member of the INTERBULL centre and is currently the General Manager of Canadian Dairy Network in Guelph, Ontario (November 2008)

Another joint initiative between our group, SA Studbook Association and the ARC (Agricultural Research Council) resulted in a one day workshop titled: "Genomics Applied to Dairy Cattle Improvement. Several researchers, MSc and PhD students in Animal Breeding of several Universities and research institutes attended a 1-day workshop presented at SA Studbook, Bloemfontein.

The general structure of the workshop (themes) was as follows:

#### Genetic Evaluation of Dairy Cattle in Canada

- Application of Genomics for Dairy Cattle Improvement
- DNA Sequencing
- SNP = Single Nucleotide Polymorphism
- Genetic Markers and Genes
- Bovine DNA Sequencing Project
- Quantitative Trait Loci for Genes with Major Effect
- The Potential of Genomics
- DNA Genotyping
- Principles of Application of Genomics to Dairy Cattle Improvement
- CRV "60K" SNP Chip
- Clones and Identical Twins
- Incorporation of Genomics
- Include MACE Evaluations for Foreign-Proven Sires
- Compute Direct Genomic Values (DGV)
- Impact of Incorporating Genomics into Canadian Official Genetic Evaluations
- Genetic Improvement Strategies

Getting Started in South Africa It is strongly believed that the visits made a meaningful contribution to the science of animal breeding in South Africa. Their visits also included collaborative work with local researchers involved in several long term research projects.