

**Summary of the XI International Symposium on Ruminant Physiology
September 6-9, 2009, Clermont-Ferrand, France
Attended by Michael Steele**

Over 500 scientists from 49 countries attended the XI International Symposium on Ruminant Physiology (ISRP). The ISRP occurs every four years and is the premier conference for research in ruminant physiology and nutrition. During the four day conference a wide variety of topics in the field of ruminant physiology were discussed including digestion, metabolism, behaviour and reproduction. The conference consisted of a total of 21 invited speakers and over 40 and 300 short oral and poster presentations respectively.

My PhD research is focussed on uncovering how rumen epithelial structure and function adapts during a grain challenge and I presented a poster entitled, “Dramatic shifts in rapidly fermentable carbohydrates influence mRNA expression of IBGBP3, IGFBP5 and IGFBP6 in rumen papillae”. There were also several invited speakers that touched upon topics related to rumen epithelial function. For example, Dr. S. Leonhard-Marek (University of Berlin, Germany) presented an updated model for the transport of cations and anions across the rumen wall. Additionally, the expression of genes in rumen tissue and their relationships with feeding and digestive processes were discussed by Dr. E. Connor (Bovine Functional Genomics Laboratory, USDA). Since I utilize similar techniques to assess gene expression, it was very interesting for me to observe approaches utilized by other labs to test their hypotheses.

Several interesting talks were presented in the field of metagenomics, transcriptomics and proteomics. It became apparent that the integration of “omics” in ruminant physiology is becoming a popular high-throughput method for discovery-based and hypothesis driven research. Dr. Juan Llor (University of Illinois, USA) reviewed how his lab has used functional genomics over the past five years to study liver physiology in dairy cattle at different stages of lactation. Furthermore, the topic of metagenomics for the study of rumen microbial populations was discussed by invited speaker, Dr. K.E. Nelson (The J. Craig Center Institute, USA). Although “omic” studies are in their infancy in the field of ruminant physiology, it was highlighted by all speakers that the ease of conducting such analysis has improved and is becoming less expensive. As well, interpreting data from these high-throughput techniques is

becoming easier with the use of software packages which arrange genomic data into networks and pathways.

Although many of the oral and poster communications were fascinating, the best part of the conference was meeting leading scientists around the world in your specific field. I was able to introduce myself and exchange ideas and proposals with several key researchers studying the rumen epithelium (Dr. Jan Dijkstra, University of Wageningen; Dr. Neils Kristensen, Aarhus University; Dr. Zygmunt Kowalski, University of Krakow; Dr. Masahito Oba, University of Alberta). It is my goal to pursue opportunities for research collaborations with these scientists to enhance the breadth of my PhD research and to establish long-term research partners for future research.

EXPENSES FROM THE XI INTERNATIONAL SYMPOSIUM ON RUMINANT PHYSIOLOGY
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| Item | Total Expense | My Share | Total (CAD): 1€=\$1.596961 |
|------------------|----------------------|-----------------|-----------------------------------|
| Accommodations | 492.00 € | 246.00 € | \$392.85 |
| Travel insurance | | | \$16.00 |
| Taxi | 20.00 € | 20.00 € | \$38.33 |
| Red Car Service | | | \$55.50 |
| Airfare | | | \$1369.90 |
| Registration | 350.00 € | 350.00 € | \$558.94 |
| Meal plan | 100.00 € | 100.00 € | \$159.70 |
| Gala | 80.00 € | 80.00 € | \$127.76 |
| Total | | | \$2718.98 |