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## **Application of computational genomics in poultry and ruminant health improvement**

*Friday, 2 December 2022 12:00 (30 minutes)*

Our research team focuses primarily on improving animal health through the combination of experimental and computational genomics. These include the experimental characterization of genes and antigens from field samples for pathogen detection, immunoinformatics analysis of antigens from proteomes, and genomes of coccidian parasites available in public databases for vaccine development. The second focus of our research group is to understand and manipulate the rumen microbiome with probiotics using metagenomics with the intent of addressing antimicrobial resistance emanating from animal production. Our research group heavily depends on the Centre for High Performance Computing facilities, especially for the analysis of huge datasets we often work with in order to answer important biological questions relevant to our focus areas. Findings from our research have applications in the control and development of molecular diagnostic tools for coccidian parasites in animals. In addition, our results on metagenomics showed lowered rumen pathogenic bacterial population following manipulation with probiotics.

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