

*Science with Sushi*  
*Seminar Series*

## Ruminant nutrition research within the Animal Nutrition Group at Wageningen University

**Presented by:** Dr Wilbert Pellikaan  
Animal Nutrition Group  
Wageningen University

**When:** Tuesday 16 September, 12 noon

**Where:** ATSIP Seminar Room  
Building 145, JCU Townsville  
JCU Cairns Connection: E1.112 Health & Sciences

### Abstract:

Agriculture and especially animal related agriculture undergoes a dynamic era that currently brings many challenges and opportunities. Next to the debate on animal agriculture contributing to the emission of greenhouse gasses, the general public also becomes increasingly aware of other issues like animal health and welfare, competition between human food and animal feed resources, the pressure on available nutrients (e.g. protein) and its consequent search for alternative resources, and nutrient use efficiency.

Animal nutrition forms one of the key areas of interest to answer the questions and considerations raised by the general public. With the advances in research and technology seen over the past decade or two, one could argue that the area of animal nutrition is more dynamic and interesting as it has ever been.

In this presentation Dr Pellikaan will give an introduction of the Animal Nutrition Group at Wageningen University in Wageningen, The Netherlands.

Within the Animal Nutrition Group the animal species that has our interest range from production animals like poultry, pigs and dairy cows to pets (dogs and cats). One of the major research areas within the group focusses on ruminant nutrition and more specifically that of the dairy cow. In the talk he will give a flavour of the ruminant research topics the group is involved in.

A main area of interest is into mechanistic modelling. These models use mathematical equations to describe and understand the physiological response of an animals to a given dietary conditions, and its response to nutritional interventions and/or changes in metabolic demands. Mechanistic animal models do require input from in vivo observation for further development, validation and formulation of research questions. To achieve this, the group has facilities to conduct in vivo experiments allowing the study of nutrient utilization by the animal as well as to answer specific questions on metabolic functioning. These techniques have been integrated with the stable isotope technique allowing us to follow the fate of nutrients through metabolic processes. During the talk various applications of these techniques will be given.

### Biography:

*See next page for Biography*

*This event is free of charge. No RSVP required.*

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### Biography:

Wilbert Pellikaan is assistant professor at the Animal Nutrition Group of Wageningen University.

He completed his PhD in 2004 studying digesta passage through the digestive tract of ruminant by use of stable isotope technique. This work was extended with a two year post-doctoral position.

In a second post-doctoral period he participated in an EU funded cooperative project 'Feed for Pig Health' studying relation between nutrition and gut health in weaning pigs.

In 2007 he obtained his current position within the Animal Nutrition Group with half of his time dedicated to lecturing subjects in general animal nutrition and animal nutrition physiology, and supervising undergraduate and graduate students.

His main area of research is ruminant nutrition with a special interest in using novel tanniniferous fodder legumes in dairy cow nutrition to reduce enteric methane emissions. In 2007 he participated as a workpackage leader in an EU funded research training network 'HealthyHay', focussing on the effect of sainfoin tannins on methane production. This project was successfully continued in a subsequent EU funded initial training network 'LegumePlus' ([www.legumeplus.eu](http://www.legumeplus.eu)) in which he currently is team leader of the animal nutrition section.

In addition, current research projects include the use of stable isotopes to assess botanical composition in diets of free ranging ruminants, and further developments to obtain information on nutrient specific retention times in different compartments of the gastro intestinal tract of dairy cows.

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