**Dr Olena Kravchuk, University of Adelaide**

**Title**: Repeated measures analysis of small-sample satiety trials

**Abstract:** Industrial and population health interest in satiation properties of foods is growing in Australia. Controlled satiety trials are often performed within larger research projects to differentiate between food products and select the winners for further in-depth digestion studies. Satiety trials are typically designed as small-sample repeated measures crossover studies with several baseline measurements and various covariates. The response is a self-reported degree of hunger or fullness over two to four hours from the ingestion of the food. To the best of my knowledge, there is no standard statistical methodology set for the design and analysis of such trials except for the general recommendations that (1) products order should be balanced to allow for carry-over effect, (2) baseline measurements should be included as covariates and (3) appropriate summary statistics (area under the curve (AUC), time to return to the baseline, etc.) should be carefully selected [1].
The current prevalence of the summary statistics approach hinders the influence of the underlying correlation between repeated measures on the efficiency of design. In this talk, I discuss several possible stochastic processes for changes in fullness scores, their resulting correlation structures of repeated measures and the corresponding efficiencies of typical summary measures.
This research is being conducted in collaboration with the Centre for Nutrition and Food Sciences at the University of Queensland. An outline of this work has recently been presented at the Australasian Applied Statistics Conference, Palm Cove, Qld.

1. Schuring, E., Quadt, J., Kovacs, E., Wiseman, S., Hadderman, E., Mela, D. (2008) Statistical design and analysis of satiety trials comparing foods and food ingredients, International Journal of Obesity, 32: S197

**Speaker Info:**  c has recently joined the School of Agriculture, Food and Wine in the University of Adelaide after finishing her 8-year appointment in the School of Agriculture and Food Sciences in the University of Queensland. Olena is an accredited statistician with the Statistical Society of Australia Inc. She has a PhD in Mathematical Statistics from the University of Queensland, and also holds a Master of Applied Mathematics from the University of South Australia and a Master of Engineering from the National Technical University of Ukraine.
Olena has broad experience in biometrical consulting. She specialises in planning, designing and analysing controlled experiments and field trials in Food/Agricultural/Medical Sciences; her research in the methodology of Statistics is in the area of distribution-free methods. Recently Olena has developed a strong interest in Sensometrics, applying Statistics to Food Sensory problems. Olena is an active researcher and has published more than 40 papers in Statistics and other journals. She is supervising 5 HDR students at present.
Olena is a full-time teaching and research academic in Applied Statistics in the University of Adelaide. She teaches Statistics and research methods at the undergraduate and postgraduate levels, and coordinates statistics workshops and consulting for HDR students and researchers.