



## Statistics Seminar Series

Session 2, 2009



**Gab Abramowitz**

The University of New South Wales

### **Model space, model independence and techniques for identifying model structure weakness in climate research**

There are good reasons to assume that the collection of climate models we use for projection do not represent independent estimates of the climate change problem. Research groups share literature, parametrisations, data sets and even model code. This would imply that the best weighting for a collection of models for a prediction would not necessarily be the ensemble average, even if they all perform equally well. How then can we define model independence? The first part of this talk introduces the idea of the model space: the space of all possible models for a particular prediction problem. It briefly outlines an attempt to develop a distance measure between models - a metric for the model space - and investigates whether this metric might be a reasonable proxy for model independence. The second part examines several techniques that help us to identify which parts of a model's structure might be responsible for poor performance and implicitly which parts are responsible for the main behavioural differences between models.

**About the speaker:** Dr Gab Abramowitz is Lecturer at the Climate Change Research Center, UNSW. He is interested in theoretical problems in climate and environmental modelling. Specific research areas include: measures of model independence; performance and model-space metrics; identification and quantification of model bias; stochastic performance measures and likelihoods; as well as issues surrounding statistically based versus physically based modelling of climate change scenarios.

**Time:** 4pm, Friday, 7th August

**Location:** Room RC4082

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