**Department of Mathematical & Statistical Sciences**

# *COLLOQUIUM*

## *"Multi-Banach spaces and multi-Banach algebras"*


**Prof. Garth Dales**

Department of Pure Mathematics
University of Leeds, England
PIMS Distinguished Visitor for CRG in Geometric and Harmonic Analysis


**Thursday, November 29th, 2007**
**3:30 p.m. in CAB 657**


**Abstract:**

The very extensive theories of Banach spaces and Banach algebras, including algebras of operators on Banach spaces, are the foundation stones of much modern analysis.

For certain reasons M. Polyakov and I were led to introduce a more general notion: that of a multi-Banach space. Roughly we replace a norm on a Banach space E by a sequence of norms on the spaces E^n. Similarly we obtain multi-Banach algebras.

I hope to convince you that this is a useful notion by showing the following: multi-norms give information that distinguishes Banach spaces in an apparently new way; there are lots of examples, especially related to Banach lattices; we generate new examples of algebras of operators on a Banach space; we capture some notions of amenability in a new way.


***For those attending the Colloquium, a reception will be held at 4:30 pm in CAB 649.***