

# **NCAR Advanced Study Program Thompson Lecture Series**

## **Michael Ghil**

**Ecole Normale Supérieure, Paris, and  
University of California, Los Angeles**

### **Data Assimilation for the atmosphere, ocean and climate: Some recent results**

**Data assimilation has become a rapid-growth industry, with an increasing number of novel ideas and methods, as well as of new areas of application. I will sample a bit from both these interrelated areas of development. Among the topics discussed will be (i) a novel, general framework for the understanding and further study of data assimilation in the context of dynamical systems theory, via the Lyapunov exponents of the forecast-assimilation cycle; (ii) parameter estimation in coupled ocean-atmosphere models for the simulation and prediction of seasonal-to-interannual climate variability; and, if time permits, (iii) state and parameter estimation in radiation-belt models of Earth's space environment.**

**Wednesday 30 May 2007, 11 a.m.  
Foothills Lab Building 2, Room 1022 (Main Auditorium)**