Scientific Director Ole E. Barndorff–Nielsen

Instructional and Research Workshop on

Multiplicative Processes and Fluid Flows

Thursday 23 - Tuesday 28 August, 2001

Department of Mathematical Sciences, University of Aarhus

The focus of the workshop is the widespread role of multiplicative structure in various models of flows found in geophysical sciences ranging from turbulent fluids, rainfall, and river networks to internet data flows and cash flows found in financial mathematics.

Tutorial Lectures by Edward C. Waymire

Summary: The lectures will include illustrations of modelling hypothesis based on descriptive empirical data and phenomenological scaling arguments leading to rigorous statistical tests and precise mathematical derivations of stochastic multiplicative structure intrinsic to the physical equations of flow. Emphasis will be given to both model formulation as well as to some general mathematical methods and results for the analysis of such multiplicative structures.

Background in basic probability and stochastic processes will be assumed which includes martingales and Markov processes such as Poisson processes, random walk, diffusions, and Galton-Watson branching processes.

Preliminary List of Invited Speakers:

- Rabi N. Bhattacharya, Indiana University: Multiscale diffusion equations
- Martin Greiner, Max-Planck-Institut für Physik Komplexer Systeme: From synthetic towards real fully developed turbulence
- Vijay Gupta, University of Colorado: Multiscale hydrologic analyses on self-similar river networks
- Valerie Isham, University College London: Models and analysis of spatio-temporal processes in hydrology and climate studies
- Mina Ossiander, Oregon State University: Multiplicative random cascades: Recent statistical developments
- Enrique Thomann, Oregon State University: Partial differential equations and multiplicative processes
- Brent Troutman, U.S. Geological Survey: River flow mass exponents with fractal channel networks and rainfall

More Information and Registration

From the web-page `http://www.maphysto.dk/events/MultProc2001/` you may find more information on this event. From there it is also possible to register for the course. You are most welcome to contact us for further information, at any of the below-mentioned addresses.

The deadline for registration is **August 1, 2001**.

MaPhySto
Department of Mathematical Sciences
University of Aarhus, Ny Munkegade
DK–8000 Aarhus C, Denmark

Phone: +45 8942 3515
+45 8942 3521
Fax: +45 8613 1769

Email: maphysto@maphysto.dk
oebn@maphysto.dk
oddbjorg@maphysto.dk
URL: www.maphysto.dk