

**ESF SCIENTIFIC PROGRAMME: RANDOM DYNAMICS IN
SPATIALLY EXTENDED SYSTEMS (2002-2006)**

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RDSES centres around a number of themes in mathematical statistical physics that are currently going through a phase of rapid development:

- Gibbsian versus non-Gibbsian spin systems
- Polymers and self-interacting random processes
- Interfaces and surface phenomena
- Disordered media
- Relaxation to equilibrium and metastability
- Hydrodynamic behaviour of conservative systems
- Entropy production and fluctuations far from equilibrium
- Granular media and sandpile dynamics

Spatially extended systems, consisting of a large number of mutually interacting components, exhibit intriguing phenomena, many of which are currently beginning to be understood at the mathematical level through the application of powerful probabilistic techniques.

The goal of RDSES is to bring together the core of the reserachers in Europe that are active in this area. The programme is supported by 13 European countries.

The presentation will give an overview of the various activities of RDSES, as well as a brief outline of the main scientific challenges in the targeted themes.