

Announcement one week course 7-11 January 2008

## Multiscale Modeling and Singular Perturbations

Speakers

Henk Broer  
Arjen Doelman  
Tasso Kaper  
Martin Krupa

Singular perturbations arise naturally when the dynamical changes in systems occur at different time scales. These systems are called fast-slow systems or multiscale systems. Numerous examples arise in optics, chemistry, biology neurophysiology, celestial mechanics and pattern formation, to mention a few areas.

**Geometric Singular Perturbation Theory** is the mathematical framework that yields the tools, like the slow manifold and Fenichel's coordinates, to explore the complicated dynamical behaviour of these systems.

In this course there will be expositions of the fundamental mathematical concepts as well as lectures that highlight the various application areas.

There will be seminar talks (particularly on Friday) by the following speakers: Freddy Dumortier, Chris Jones, Floris Takens and Ferdinand Verhulst (all to be confirmed).

Location	University of Twente
Period	January 7-11, 2008
Course fee	400 € This includes lodging and all meals
Subscription	Mrs. Satie Biharie: s.biharie at utwente.nl
Information	Stephan van Gils: s.a.vangils at math.utwente.nl

This course is meant for PhD students and advanced Master students in mathematics and physics with interest in dynamical systems and/or any of the application areas mentioned above. The course will be organized under the auspices of the NWO-cluster 'Nonlinear Dynamics of Natural Systems'.