Program

Title:
Two topics in the theory of reaction-diffusion equations

Speaker: Prof. Alberto Tesei
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Time: 13:00-15:00 4/22,23,28,30,5/5

Venue: Room 1202, Administration Building, 500 Dongchuan Road, Shanghai

Abstract.
This series of lectures deals with some results concerning two different topics in the theory of quasilinear parabolic equations:

(i) existence, multiplicity and support properties of time periodic solutions for a class of degenerate parabolic equations. Here use is made of monotonicity methods (see [1, 2, 6];
(ii) existence of solutions of ill-posed forward-backward parabolic equations, e.g.

\[ u_t = \Delta [\varphi (u)] \]

with non-monotonic \( \varphi \). In view of the non-monotonicity of \( \varphi \), solutions are defined as limiting points of some suitable regularization, and are meant in the sense of Young measures. Moreover, depending on the behaviour of \( \varphi \) at infinity, Radon measure-valued solutions must be defined and investigated (see [3, 4, 5, 7, 8, 9, 10]).

References


