CEA-Direction des Sciences de la Matière

Institut de Physique Théorique

Unité de recherche associée au CNRS

Cours de Physique Théorique de l'IPhT, année 2012-2013

Organisé en collaboration avec

Ecole Doctorale de Physique de la Région Parisienne - ED 107

Reaction-diffusion and propagation in non-homogeneous media

Henri Berestycki

CAMS, EHESS

Les vendredis 8/2/2013, 15/2, 22/2, 1/3 à ***10h30***

Diffusion phenomena in heterogeneous media bring about new mathematical questions that arise in a variety of modelling contexts. Non-homogeneous features indeed play essential roles in the propagation of flames, epidemics, biological invasions, in ecology and medicine and even in contagions of ideas. Much progress has been achieved recently in the understanding of these questions. This series of lectures aims at reviewing some of the most recent ideas, methods and applications in this field.

The course will be organized in four parts:

1.Reaction-diffusion equations, classical results.

2. Periodic media: travelling fronts and invasions speeds.

3. Models in biology and medicine and the effect of geometry on propagation.

4. The effect of a line with fast diffusion on Fisher-KPP propagation.

Lieu *: IPhT, CEA Saclay, Orme des Merisiers, Bât. 774, p.1A Salle C. Itzykson.*
Accès *: Par lignes de bus publics (269.02 et 91.06).*
Renseignements *:* ***http://ipht.cea.fr*** *ou* ***ipht-lectures@cea.fr***

(Mise à jour affiche: 2013-01-23