SEMINARIO DI MATEMATICA

Martedì 12 giugno 2018
ore 11:00

Scuola Normale Superiore
Pisa
Aula Mancini

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(Heriot-Watt University, Edinburgh, Scotland)

terrà un seminario dal titolo:

"Random walk, transport equation and macroscopic models for biological movement"

Abstract:

Biological movement is crucial in many processes, from invasion of cancer cells to animal migrations. I will talk about a range of mathematical models that we use to model biological movement processes occurring over different spatial scales, from individual (agent) based models formulated on velocity jump random walks to macroscopic PDE equations of drift-diffusion type. In particular, I will describe how scaling techniques are used to generate the macroscopic equation from the underlying random walk, hence allowing us to formulate analytically convenient models that are nevertheless founded on individual-level movement data. I will conclude with some applications in two disparate biological problems: brain tumour growth and turtle navigation.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze Matematiche e Naturali