Imperial College London

Oxford Centre for Nonlinear PDE

Public Lecture

in association with the Oxford Centre for Nonlinear Partial Differential Equations

Professor Pierre-Louis Lions

Analysis, models and simulations

In the Chair: Sir John Ball, FRS, Sedleian Professor of Natural Philosophy at the University of Oxford and Director of the Oxford Centre for Nonlinear PDE

Abstract: In this talk, Professor Lions will first present several examples of numerical simulations of complex industrial systems. All these simulations rely upon some mathematical models involving partial differential equations and he will briefly explain the nature, history and role of such equations. Examples showing the importance of the mathematical analysis (i.e. 'understanding') of those models will be presented, concluding with a few trends and perspectives.

Biography: Pierre-Louis Lions is the son of the famous mathematician Jacques-Louis Lions and has himself become a renowned mathematician, making numerous important contributions to the theory of non-linear partial differential equations. He was awarded a Fields Medal in 1994, in particular for his work with Ron DiPerna giving the first general proof that the Boltzmann equation of the kinetic theory of gases has solutions. Other awards Lions has received include the IBM Prize in 1987 and the Philip Morris Prize in 1991. Currently he holds the position of Chair of Partial Differential Equations and their Applications at the prestigious Collège de France in Paris.

This lecture is given as part of the 7th ISAAC Congress • **www.isaac2009.org**

Clore Lecture Theatre, Huxley Building, Imperial College London,
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RSVP: Attendance is free, but with registration in advance
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