

ICS COLLOQUIUM

ROB SHAW DIFFUSION OF SHAPES

WEDNESDAY

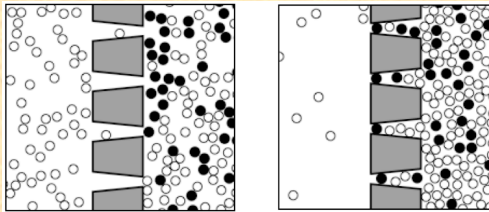
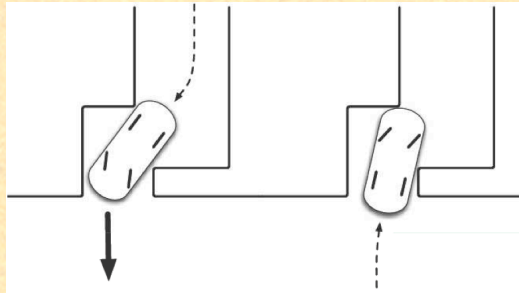
FEB 2



P.O.S.T. 302

1.30 PM

DIFFUSION AND OSMOSIS ARE OF CENTRAL IMPORTANCE IN LIVING SYSTEMS, AND HAVE BEEN ACTIVELY STUDIED FOR 150 YEARS, AT LEAST. THE MOTION OF POINT PARTICLES UNDER SIMPLE DIFFUSION IS NOW WELL-UNDERSTOOD; PARTICLE DENSITY CAN BE CONSIDERED A FIELD, GOVERNED BY THE ORDINARY DIFFUSION EQUATION. HOWEVER, REAL OBJECTS ARE EXTENDED, AND THE INTERACTION OF THEIR SHAPES GIVE RISE TO SOME UNEXPECTED PHENOMENA.



A NUMBER OF SIMULATIONS AND DEMONSTRATIONS WILL BE PRESENTED, ADDRESSING SYSTEMS AS VARIED AS MOVEMENTS IN PARKING LOTS, AND FLOWS OF IONS THROUGH BIOLOGICAL MEMBRANES.

DR. SHAW WAS ONE OF THE PIONEERS OF CHAOS THEORY. FOR THIS WORK, HE WAS AWARDED A MACARTHUR FELLOWSHIP IN 1988. MORE RECENTLY HE HAS BEEN WORKING ON NON-EQUILIBRIUM STATISTICAL MECHANICS, WITH APPLICATIONS TO BIOLOGICAL SYSTEMS.

MANOA SEMINAR SERIES ON MACHINE LEARNING AND COMPUTATIONAL NEUROSCIENCE

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