



# PHYSIKALISCHES KOLLOQUIUM

Mittwoch, den 09.12.2009, um 15:30 Uhr

Ort: Reichenhainer Str. 90; Neues Hörsaalgebäude, Raum: 2/N013

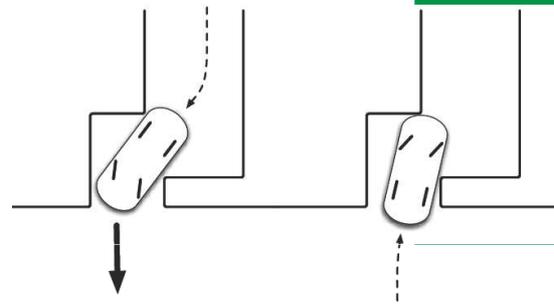


**Rob Shaw**

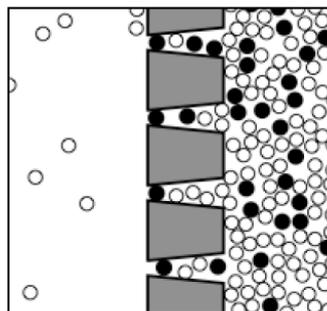
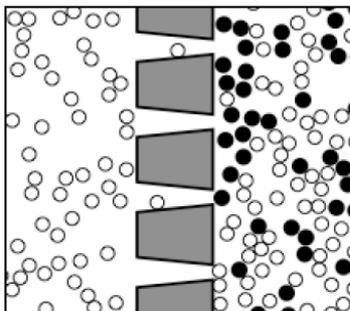
ProtoLife, Inc.

San Francisco, California

## Diffusion, Osmosis, and Parking Problems



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. But as soon as particles become larger than a point, and can interact with each other, or the walls of a narrow channel, new phenomena can occur. In particular, the movement of molecules in tight spaces depends on the shapes of the objects, and their concentration. After a short historical review, we'll discuss how difficulties we might have moving a car in a parking lot can be relevant to the construction of microscopic devices, and perhaps to rectifiers in living cell membranes.



Alle Zuhörer sind ab 15:15 Uhr zum Kaffee vor dem Hörsaal eingeladen.