

LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ARNOLD SOMMERFELD

CENTER FOR THEORETICAL PHYSICS



Sommerfeld Theory Colloquium

Prof. J. Yeomans

University of Oxford

Swimming at low Reynolds number

Mesoscopic organisms, such as bacteria and ciliated protozoa, swim in the low Reynolds number regime. This is analogous to humans trying to move in a very viscous liquid like treacle. Inertia is unimportant: once the swimmer ceases to move it stops instantly. The Stokes equations, which govern the zero Reynolds number limit, are invariant under time reversal and this means that to move at all the microswimmer must have a swimming stroke which is non-reciprocal in time. I will describe how simple model swimmers are helping to understand the hydrodynamics of swimming and the interactions that occur between swimmers at low Reynolds number.

number.

Wednesday, 13th May 09, 10:30 h, Room 348 / 349, Theresienstr. 37 / III

Prof. V. Mukhanov