Physical Aspects of the Origin of Life Problem II

Albert Libchaber

Laboratory of Experimental Condensed Matter Physics, The Rockefeller University, New York, NY 10021, U.S.A.

Encapsulation of cells in a membrane is another step in this puzzle. Building an **artificial cell** based on gene expression inside vesicles reveal the physical constraints to overcome: energy exchange, osmotic pressure, sources and sinks for protein production. This cell an sustain protein production for about one week. Self reproduction will be the next step.