

## FORCES ACTING IN A LIVING CELL

### S u m m a r y

The paper deals with the problem of physical forces acting on the molecular and cellular scale. These forces are of an electromagnetic character, but there are reasons for dividing them into classes of interactions. The idea of the important phenomena of self-assembly guides the reader through the role of forces in liquid lyotropic crystals, ordered liquid lipid phases, lipid membranes, micells, bicontinuous cubic

phases, reversed micelles, microdomains. Forces are also present in such phenomena like adsorption and membrane transport of molecules, ions and particles, interaction between cell surfaces, fusion problems, force generation by molecular motors. For these reasons the adequacy of classical Newtonian description of molecular and cellular events are discussed according to present views of physical forces.