Kirkwood, John Gamble 1907 - 1959

DEGREE: PhD DATE: 1929 PLACE: MIT
TEACHER/RESEARCH ADVISOR: Keyes

studied the physical chemistry of solutions with applications to proteins and other macromolecules, the nature of intermolecular forces, and the relationship between quantum and classical statistics; developed a molecular-distribution-function approach to the equilibrium theory of simple fluids, in which he correlated the thermodynamic properties of matter with the potential of intermolecular force by utilizing statistical mechanics; initiated theoretical studies of dielectric behavior, irreversible processes in solutions of macromolecules, electrolytic and nonelectrolytic solutions, cooperative phenomena, shock and detonation waves, and optical rotation; developed and applied a new method of protein fractionation by differential electrophoresis across a narrow cell combined with convection; investigated the statistical-mechanical theory of transport processes.