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SYMPOSIUM REPORT

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1st International Symposium on

"Self-assembly of amphiphilic systems"

Dresden, Germany, 13–16 September 1998

This four-day symposium organized by the "Kolloid-Gesettschaft" safe schatt" and Tu Dresden is the first in the series of conferences geard directly toward the problems of structures and properties of amphiphilic substances in multicomponent systems. International experts have provided essential information on the latest developments and trends on these problems world-wide, with projections for the future. Four sections have been composed of 8 "Keynote lectures", 24 "lectures", 84 "Short talks" and 67 poster presentations. All presentations were given in English, the official language of the symposium.

Some words to the goal of this symposium: Over the course of the past (one to two decades) the study of amphiphilic substances and systems has been profoundly transformed by the dramatic infusion of new ideas and techniques from Chemistry, Physics, Biophysics and Material Science. Consequently, many otherwise intractable conceptual and methodical problems arising in the self-assembly area have now become feasible to study. The symposium has given a contribution to discuss such problems as the self-assembly of surfactants, membrane lipids, polymers, biopolymers, and vesicles in multicomponent systems. The objects were the monolayers, multilayers (LB-layers), micelles, lyotropic mesophases (liquid crystals), model membranes, biomembranes, vesicles, and microemulsions. Structural and dynamic aspects were the focus of interest. Structural methods such as Small-Angle Scattering, X-ray diffraction, Light and Neutron Scattering, Gracing Incidence X-ray Diffraction, Scanning Tunnelling Microscopy, Brewster Angle Microscopy, NMR- and Fluorescence Spectroscopy, Fourier Transform Infrared Studies – were essential tools to investigate and describe the structures and phase behaviour of amphiphilic systems.

During the symposium following topics were discussed:

– Phase behaviour of surfactants in multicomponent mixtures

– Phase diagrams of surfactants, lipids and phospholipids

– Aggregation phenomena and polymorphism especially in binary, ternary and quaternary systems

– Mixing and demixing phenomena in amphiphilic systems

– Structures, properties and applications of vesicles and microemulsions

– Micelle growth and polymorphism in dilute surfactant solutions

– Structures and phase transitions in monolayers at the water/air interface

– New methodical developments to investigate monomolecular layers

– Properties of LB-layers

– Molecuar structures and dynamics in model membranes

– Structures and properties of membrane lipids

– Structures and properties of biomembranes and components of biomembranes

The 1st Symposium in Dresden about "Self-Assembly of Amphiphilic Systems" impressed by the wide field of scientific topics and the high quality of "Keynote lectures", "Lectures", "Short talks" and poster presentations. The problems of self-assembly of surfactant systems are also in future an interesting topic in Colloid Science and Biophysics.

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