

FEZ, MOROCCO
APRIL 28–30, 2010

Soft Matter is a generic name for materials as liquid crystals, colloids, polymers, surfactants, foams, gels, adhesives, granular materials, and a number of biological materials (cells, biomembranes, ADNs, ARNs, etc.). The common feature of these materials is that, they are easily deformed under mechanical stresses or thermal fluctuations. Comparatively to conventional systems, most of the physical behaviours of soft materials occur at an energy scale of the order of the thermal energy at room temperatures.

The “soft matter” designation is attributed to Professor Pierre-Gilles de Gennes, who has received the Nobel Prize in physics in 1991, for discovering an analogy between traditional critical systems exhibiting a second order phase transition and soft materials, like liquid crystals, polymers and others. More precisely, he had shown that critical soft materials belong to special universality classes, in Critical Phenomena. Very often, the physical behaviour of soft systems cannot be predicted directly from their atomic or molecular constituents. The reason is that, soft matter often self-organizes into mesoscopic structures, which are much larger than the microscopic scale (the arrangement of atoms and molecules), but much smaller than the macroscopic scale of the material. Soft materials occupy a privileged place in modern technology and nanotechnology. Indeed, they are used in various domains, as foams, adhesives, detergents, cosmetics, paints, food additives, lubricants, rubber, plastic materials, composites and nanocomposites, medicine (prostheses), liquid crystals (materials in display devices), waters treatment, etc. On the other hand, a number of biological materials, as blood, muscle, milk and yogurt are classifiable as soft matter.

The Second International Workshop on Soft Condensed Matter Physics and Biological Systems has taken place in Fez, one of the oldest imperial cities in Morocco. The aim was to keep researchers working on Soft Condensed Matter Physics and Biological Systems, updated with the most recent advances in the field. Participants have followed conferences of a very high level animated by eminent researchers and specialized seminars. The topics covered by the workshop are natural and synthetic polymers, biopolymers, gels, colloidal solutions, liquid-crystals, surfactants, interfaces, wetting, adhesion, biomembranes, vesicles and liposomes, fundamental functions of cell life, living systems, nanosystems among others. This scientific meeting brought together theoretical as well as experimental physicists working on Biological Physics, Statistical Physics and Soft Condensed Matter.

More than eighty researchers, including twenty from abroad have taken part at this symposium. We are pleasantly surprised by the large number of requests, and are grateful to all persons and participants who made this meeting successful. Finally, this scientific event is dedicated to the Memory of Professor Pierre-Gilles de Gennes who is considered as the “soft matter” father.

Mabrouk Benhamou
LPPPC, Physics Department
Ben M'sik Sciences Faculty
P.O. 7955
Casablanca
Morocco
benhamou.mabrouk@gmail.com

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