

PREFACE

The Summer School on “Advanced topics on Cell Model Systems” was held in Rome, Italy, in June 2008 at the research establishment of the Italian National Research Council. The unique characteristic of this school was its multidisciplinary approach. It brought together technical teams from the research establishment – whose focus and backgrounds are on optical techniques, microelectronics & biosensors, developing of model membrane systems, and computational techniques – and multinational invited speakers in themes of the field of modelling predictions, the latter are one of the many inputs into the decision making process in the pharmaceutical industry. The program of the school included specialized up-to-date lectures and laboratory sessions. Emphasis was laid on the new developments in cell model systems, in particular on the lipid vesicles containing biopolymers and the application of stochastic simulation in these studies; on the membrane reconstitution systems for the investigation of peptide-lipid interaction; on the channel proteins dynamic simulations; on the response of protein to the environment.

I would very much like to thank all my colleagues from the research establishment who voluntarily made up the Organizing Committee. Their unflinching support, enthusiasm and efforts permitted the realization of this event. In fact they supported from the beginning my idea of the institution of this annual school. The authors emphasized the importance of cross-fertilization and a cross-disciplinary approach to research. The authors hope they have exposed participants to individuals and to areas of study that will stimulate their creative spirits, and hope readers will find this book interesting.

The authors set ourselves a very high standard regarding the choice of speakers. As a result they were all of an excellent scientific calibre, had an exceptional track record and were able to stimulate a wide audience, as was demonstrated by the questions and discussions that followed each lesson. We have included these in the FAQ section of this book.

The Organizing Committee would very much like to thank Maria Cataldo, Katia Cosentino, Giovanni Longo, Simone Pantalei, Giuliano Pompeo and Emiliano Zampetti for their contribution and for their enthusiasm which ensured, together with the contributions of all the other participants, the success of the inaugural summer school and this 1st edition.