

Preface

This volume contains invited papers presented at an international research workshop, “Waves and Patterns in Biological and Chemical Excitable Media,” held in Pushchino, USSR, in May 1990. The workshop was organized by the USSR Academy of Sciences, the Biological Research Center, Institute of Biological Physics of the USSR Academy of Sciences, and the Center for Nonlinear Dynamics of the University of Texas at Austin, USA.

Pushchino is a small town near Moscow, where the Biological Research Center of the USSR Academy of Sciences is situated. It was a great pleasure for us to be able to welcome there most of the pioneers of this field. A previous symposium on the same topic was held in Pushchino in 1983. Proceedings of that symposium were published in “Self-Organization, Autowaves and Structures Far from Equilibrium”, V.I. Krinsky, ed., *Synergetics*, Vol. 28 (Springer, Berlin, Heidelberg, New York, 1984).

Experiments in this field are difficult, and theorists dominate. However, much of the theoretical work has been motivated by experiments, and in recent years digital imaging techniques and new reactor designs have led to the discovery of phenomena that were not anticipated theoretically. Also numerical simulations of reaction–diffusion systems have become more realistic as large fast computers become widely available. At this workshop we succeeded in having a good mix of theorists, experimentalists, and numericists from diverse disciplines, including chemistry, biology, physics, applied mathematics, and physiology.

The organisation of this workshop would not have been possible without the generous support of the sponsoring organizations: Dyna Electronics FRG–USSR; several institutes of the USSR Academy of Sciences – Institute of Applied Physics, Moscow Radio-technical Research Institute, Institute of Radio-electronics, Institute of Applied Mathematics, and the Physical Research Institute; the Institute of Atomic Energy; the Engineering Center for Physico-Chemical Biology; and the Physical Society of the USSR. Such unusually broad support reflects the interdisciplinary nature of the field.

Finally, we wish to thank the members of the Autowave Laboratory of the Institute of Biological Physics in Pushchino for their flawless organization of this meeting.

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