

## CONTENTS

Preface	v
List of contributors	ix
Mathematico–statistical analysis of the cyclic recurrence in the droplet infections of communicable diseases	
S. Bachev and E. Petkova	1
Medico-social control mechanisms	
N. T. J. Bailey	9
On reconstructing recessive information in homogeneous biological systems	
G. Hempel	13
Mathematical models in cell cycle kinetics	
B. Jansson	21
Evolution and control of a biochemical system	
J. P. Kernevez	41
Reflections on some algorithms for the solution of the inverse problem (identification or adjustment) for linear compartmental models	
C. Monot and J. Martin	49
Resistance of crops to diseases: a game-theory model	
J. Pešek	71
The information content of kinetic data	
J. G. Reich and I. Zinke	77
A mathematical model of cellular differentiation	
Bl. Sendov and R. Tsanev	81
A mathematical scheme for morphogenesis: structural stability and catastrophes	
R. Thom	93
Models of the dependence of hospital utilization upon medico-social factors	
I. Väänänen, G. Bäckman, A. S. Härö, J. Perälä and O. Vauhkonen	97
A method of computer simulation used to study some sublethal effects of irradiation on cell kinetics	
A.-J. Valleron	111

**PANEL DISCUSSION**

<b>Qualitative and quantitative models</b>	
R. Thom	135
<b>Adaptive model building and computer assisted analysis of biomedical data</b>	
T. Groth	137
<b>Modelling</b>	
N. T. J. Bailey	141
<b>Pragmatic justification of the “model” in medicine</b>	
J. Martin and C. Monot	143
<b>Author index</b>	151