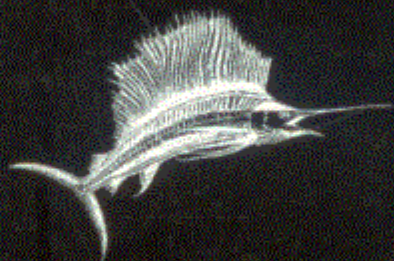


*Mathematical Models of Biological Systems* provides a practical introduction to basic mathematical modelling methodology and analysis. It covers a variety of biological applications and uses these topics in turn to highlight key components in the art of modelling. Its primary aim is to give students the tools to translate simple, real-world biological problems into rigorous mathematical models. A secondary aim is to teach the reader how to critically assess the modelling components in the primary life science literature.

The book covers deterministic as well as stochastic dynamics, continuous-time as well as discrete-time dynamics, partial differential equations, dimensional analysis, and curve fitting/parameter estimation. It contains numerous case studies, graded from elementary examples to more complicated problems, as well as a general treatment of good modelling practice. Although the book assumes a basic background in mathematics, specifically beginning calculus and elementary statistics, all requisite material is included in a series of appendices.

This accessible textbook is suitable for senior undergraduates, graduate students, and professional researchers in the life sciences (biology, medicine, and biochemistry) as well as the applied mathematical sciences (mathematics, statistics, physics, engineering, and computer sciences).



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