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The Journal of Mathematical Biology publishes papers in which mathematics leads to a better understanding of biological phenomena, mathematical papers inspired by biological research and papers which yield new experimental data bearing on mathematical models. The scope is broad, both mathematically and biologically and extends to relevant interfaces with medicine, chemistry, physics, and sociology. The editors aim to reach an audience of both mathematicians and biologists.

A selection of articles published:
A. Hastings: Multiple Limit Cycles in Predator-Prey Models
R. E. Plant: Bifurcation and Resonance in a Model for Bursting Nerve Cells
G. Bard Ermentrout, J. Rinzel: Waves in a Simple, Excitable or Oscillatory, Reaction-Diffusion Model
M. Brill, G. West: Contributions to the Theory of Invariance of Color Under the Condition of Varying Illumination
J. P. Keener: On Cardiac Arrhythmias: AV Conduction Block
B. Türke: Analysis of Pattern Recognition by Man using Detection Experiments
R. M. Miura: Accurate Computation of the Stable Solitary Wave for the Fritz Hugh-Nagumo Equations

Subscription information and sample copy upon request
The widespread appearance of periodic patterns in nature reveals that many living organisms are communities of biological clocks. This landmark text investigates, and explains in mathematical terms, periodic processes in living systems and in their non-living analogues. Its lively presentation (including many drawings), timely perspective and unique bibliography will make it rewarding reading for students and researchers in many disciplines.

This graduate level monograph considers the mathematical theory of population genetics, emphasizing aspects relevant to evolutionary studies. It contains a definitive and comprehensive discussion of relevant areas with references to the essential literature. The sound presentation and excellent exposition make this book a standard for population geneticists interested in the mathematical foundations of their subject as well as for mathematicians involved with genetic evolutionary processes.

This is the first comprehensive book on mathematical models of diffusion in an ecological context. Directed towards applied mathematicians, physicists and biologists, it gives a sound, biologically oriented treatment of the mathematics and physics of diffusion.