

## INTRODUCTION TO THIS ISSUE

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This issue of the Rocky Mountain Journal of Mathematics is devoted to papers arising from the Conference on Deterministic Differential Equations and Stochastic Processes Models for Biological Systems held at the D. H. Lawrence Ranch, San Cristobal, New Mexico from August 1-5, 1977. The conference was sponsored by the Rocky Mountain Mathematics Consortium and funded by the National Science Foundation. Richard Griego and David Sanchez of the University of New Mexico were co-directors of the conference.

The conference featured the following invited lecturers:

1. Two lectures by Joel Cohen of Rockefeller University on graph theoretical models of food webs and on ergodic theorems of population dynamics. The abstracts of Professor Cohen's talks are presented in this issue.

2. Two lectures by Frank Hoppensteadt of the University of Utah on synchronization of cicada emergences and on slow selection analysis of genetics traits. The material of Professor Hoppensteadt's second talk is presented here.

3. Two lectures by Simon Levin of Cornell University on adaptations to heterogeneous environments and on diffusion-reaction type systems in modelling spatially distributed populations.

4. Two lectures by Michael Rosenzweig of the University of Arizona on competitive speciation and the evolution of niche space and on a density dependent theory of habitat selection.

5. A lecture by Fred Brauer of the University of Wisconsin on the harvesting of predator-prey systems. The substance of this talk is presented in this issue.

6. A lecture by Alan Perelson of the Los Alamos Scientific Laboratories on stochastic models for the evolution of multi-gene families. Dr. Perelson's talk is presented in this issue.

7. A lecture by Benjamin White of the California Institute of Technology on interacting species in random environments. This material is presented in this issue.

Dr. Stanislaw Ulam, Professor emeritus of the University of Colorado, presented a special informal after-dinner talk. His remarks on the nature of mathematical inquiry, computers and the future of mathematics were very well received and greatly appreciated. Also, Cleofes Vigil, noted Taos folklorist, presented a delightful sampling of New Mexican songs and folktales after dinner on the last day of the conference.