

Report of Activities of Sabbatical Leave
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The purpose of my sabbatical leave stated in my proposal was to begin revision of my textbook, *Computer Simulation in Biology: A BASIC Introduction*. I indicated my intent to work on this revision at Arizona State University.

I was appointed to a position of Visiting Scholar in the Division of Environmental Sciences at The Biodesign Institute of Arizona State, and took up residence there in September 2005. My host was Dr. Bruce Rittmann, head of that division.

I made good progress on the revision of the book, redrafting most of the current sections of the book, and outlining three new chapters. I worked about 15 hours per week in the Arizona State libraries finding the necessary references for updating the text.

I discovered and worked extensively with a new and simpler computer language, "Just Basic". This language works in the common Microsoft Windows operating system, and is suitable for students beginning to learn techniques of biological simulation. I used this language to rewrite the four computer programs that are included as appendices in the text. Since the end of the sabbatical, these programs were used successfully and without revision in my course, BL4430 Biological Simulation Techniques, at Michigan Tech. In addition, they have been used by faculty at CSIRO in Australia and at Penn State as part of individual research programs.

Besides working on the textbook, I participated in the activities of the Environmental Sciences division, including their seminar program. I helped some of the post-doctoral researchers in the division with some of their computer programming difficulties. I participated in the seminar activities of the mathematical biology group on the Arizona State campus, learning several useful approaches for revising some of the textbook chapters. Dr. Rittmann worked directly with me on some of the chemostat and bio-film simulations that have been part of his research.

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19 May 2006