

James R. Thurmond

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Goal: To use my broad background in the sciences along with my expertise in mathematics and my skill with computers in a career that values innovative, synergistic thinking.

Education: Master of Science in Bioinformatics, expected May 2006
Indiana University, Bloomington, Indiana

50+ hrs of additional graduate credit in mathematics, 1996 – 2000
Western Michigan University, Kalamazoo, Michigan

Master of Science in Mathematics, August 1993
Southwest Texas State University, San Marcos, Texas

30+ hours of coursework in computer science
UT Austin, WMU, and IU

40+ hrs coursework/graduate credit in biology, 1987 – 1989
University of Texas, Austin, Texas

Bachelor of Arts in Physics, May 1985
University of Texas, Austin, Texas

Experience: *Research Assistant* **January 2005 – present**

I am working with Dr. Santiago Schnell in the School of Informatics at IU. My current project (since August 2005) is a web-based tool for analyzing enzyme kinetics data. I have built this project from the ground up, starting with a clean linux/apache server. I wrote all of the HTML and CSS, javascript, Perl scripts and CGI, and some Fortran code, integrating these parts into a working website. Please visit the site at <http://156.56.92.83/BioFitWeb.htm>.

Teacher **1990 – 2004**

I taught mathematics and science for about 15 years in several positions in Texas, Michigan, and Indiana. I have taught mathematics at a wide range of levels from remedial arithmetic through calculus and statistics, primarily to undergraduate students. My science teaching has included earth science, biology, environmental science and physics. My duties have included committee work, new curriculum development, research projects, and management of other teachers. Details of this experience are available upon request.

Laboratory Assistant **1989**

I worked in Dr. Ian Molineux's microbiology laboratory doing research on host-phage interactions between *E. coli* and bacteriophage T7. My research included culturing and plating bacteria and phages, mutating and transfecting with genes of interest, purifying proteins, isolating and sequencing DNA, and analyzing data.

Publications: S. Schnell, J. Thurmond. *The condition for pseudo-first-order kinetics to be valid in receptor-ligand associations is derived using phase-plane analysis.* Publication pending

J. Thurmond. *BioFitWeb: A web-based tool for analysis of enzyme kinetics data.* Publication pending

Skills: *Programming*

Fluent in perl, java, C++, and several other languages. Familiar with Windows, Unix, Linux, and Mac environments. Well-versed with many technical software packages such as Matlab, Systat, Excel, etc.

Web design

Skilled with HTML, javascript, PHP, and CSS. Experience installing and maintaining Apache and Tomcat web server software.

Inter-personal

Excellent communicator, verbally and in writing. Strong collaboration skills. Teach well and learn quickly.

Projects: *BioFitWeb*

Web application for enzyme kinetics data analysis. Integrates fortran code, perl CGI and Gnuplot scripts, javascript forms, and SQL querying capability administrated on a Linux Fedora server running Apache server software.

Sequence Alignment

Perl-CGI web tool for DNA or protein sequence alignment using the Smith-Waterman and Needleman-Wunsch dynamic programming algorithms with a unique weighted scoring system.

Java Application

Towers of Hanoi game implemented with a GUI, full animation of player moves, autoplay and play speed controls.

References: Dr. Santiago Schnell

Assistant Professor, School of Informatics

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