



# Banks of the Boneyard

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## Faculty Spotlight

*("Faculty Spotlight, a regular feature of the ACM Newsletter, attempts to introduce one CS faculty member to our readers. -Ed.)*

Professor Chung Liu did his undergraduate work at Cheng Kung University in Taiwan, and graduated in 1956. He arrived in the United States in 1958, and received his Ph.D in Electrical Engineering at Massachusetts Institute of Technology in 1962.

His main interests are in the area of theoretical computer science and the area of design automation and graphics. In the area of theoretical computer science he is especially interested in algorithm analysis. In the area of design automation and graphics professor Liu is mainly interested in the use of computer aided design (CAD) to aid in the design and testing of very large scale integrated (VLSI) circuits. His research is aided by the National Science Foundation and several corporations.

Professor Liu has written several books and papers, including the text for CS 273 entitled 'Theory of Discrete Mathematics'; and a text coauthored with professor Belford (featured in Volume III Number III) entitled 'Pascal'. Professor Liu is currently teaching CS 273, and has taught at various times CS 373, CS 473, and CS 121. Professor Liu is known to be one of the better lecturers, and is widely appreciated by his students for his ability to clearly communicate difficult concepts, as well as for his great repertoire of jokes.

He advises CS students to develop as broad an education as possible both in and out of computer science. He says that all advances in a field of study are made on a good foundation, and a broad background in mathematics and computer science is necessary for students in the field of CS. Professor Liu also feels that CS students need to develop good communication skills and advises studying a foreign language, history, and literature. "The undergraduate level is too early to specialize", he says, and "There is no reason why a CS student should know less about Shakespeare than an LAS student knows."

## Our Next Meeting

Our next meeting will be on Thursday, February 20 at 4:00 pm in 100 Met & Mining. The speaker will be Emmett Burke of Northrop, and his talk is entitled "Generic Electric Countermeasure Design". This promises to be an intriguing topic, so don't miss it! Refreshments will be served.

## National Conference Report

The Department of Computer Science recently sent several students and faculty to the National ACM Computer Science Conference held February 3 - 6 at the Convention Center in Cincinnati, Ohio. Events included key speakers, seminars, panel discussions, and an employment register.

Topics for discussion during the sessions included logic programming, software engineering, and artificial intelligence. The speakers described some of the latest research related to the topics occurring in business and universities. Special events during the Conference included an opening reception, an exhibit reception, a German Festival, a meeting of the National Student Chapter committee, and a presentation and gathering for Donald Knuth. There was also an exhibit hall with demonstrations from universities and businesses in new and important equipment or software packages.

The local student chapter would like to congratulate Robert Terwilliger, working for Professor Roy Campbell, and Won Lee, working for Professor Sylvian Ray, for being selected to speak at the conference. The honor of being chosen over many others from across the country truly compliments the level of work they and the Department are doing.

Next year's Conference will be held during the first week of February in St. Louis. The ACM executive council has copies of the registration form for anyone interested.

- Rob Ekblaw

## A Simple Theory

'Any simple theory will be worded in the most complicated way' is unfortunately as true as it is humorous. As an example of this I quote from "Surely You're Joking, Mr. Feynman!"; Adventures of a Curious Character" which is a book by Richard P. Feynman. He has won the Nobel prize in Physics and is currently a member of the Presidential panel of inquiry studying the recent Space Shuttle accident.

"There was a sociologist who had written a paper for all of us to read...I started to read the damn thing, and my eyes were coming out: I couldn't make head nor tail of it! I had this uneasy feeling of "I'm not adequate" until finally I said to myself "I'm gonna stop, and read *one sentence* slowly, so I can figure out what the hell it means."

So I stopped--at random--and read the next sentence very carefully. I can't remember it precisely, but it was very close to this: "The individual member of the social community often receives his information via visual, symbolic channels." I went back and forth over it, and translated. You know what it means? "People read." [page 256].

Unfortunately, a lot of material is written this way today. People try to write in the most obtuse fashion so as to impress others with their work. Anyone who has tried to read through the standard User's Manual for a computer system has encountered this kind of poor writing. It doesn't impress anyone, and just makes it more difficult to understand the concepts that the writer is trying to communicate. Perhaps in many cases, papers are written this way in an attempt to conceal the fact that there is very little in the way of actual content. In any case, there is no excuse for it.

A good rule of thumb for writing a paper is to pretend you are writing it to be read by a bright twelve year old. Communicate, don't obfuscate! (Obfuscate: to darken; obscure, hence to confuse, stupify, bewilder). When writing code it doesn't hurt to have more comment lines than lines of actual code. If you think that's silly, try going back to code you wrote more than a year ago and try to understand it. If someone else had to modify it, could they understand it? Now think about the real world where you may write programs that are thousands of lines long. Could someone else understand it? Modify it? Update it? Have you ever read someone else's code and tried to understand it? Try it sometime.

## Open House Approaches

The theme of this year's Engineering Open House, "In Search of Solutions" is especially appropriate for those of us involved in Computer Science at the University. The magnitude of problems that can be solved on computers has increased steadily over the years. Present systems now allow researchers to undertake calculations and projects that would have taken years to accomplish on past computers.

The most famous example of the new technology is the Cray X-MP24 on campus. ACM and the National Center for Supercomputing Applications (NCSA) is inviting everyone to see and learn what this machine can do. A demonstration of recent work done on the Cray will be given which includes simulations of Black Holes, Galaxies and Neutron stars. Also, to enlighten visitors about graphics capabilities, one can take the controls of either a Cessna 150, Boeing 747, or F-16 in a real time flight simulator package. Along with this, many other interesting demonstrations can be seen on Friday, March 7 9am-12pm and 2pm-5pm in room 253 of the Water Resources Building (SW corner of Wright and Springfield).

The main area for Computer Science exhibits will be in DCL and the Woodshop. Information pamphlets will be handed out in the first floor of DCL. Inside, one will be treated to a wide display of computer power. Projects are mainly the work of students here at the University. They include an artificially intelligent Othello game that actually learns and gets better as you play, a chess game, and many graphics projects donated by students in graphics classes here. Also on display will be an amazing CAD/CAM project which will allow the user to first design a shape on a computer screen, then the computer will proceed to control a wire and stepping motors to cut the actual shape out of a block of styrofoam. In room 115 DCL, come witness the edge of technology-- a new light-modulating screen projector by Hughes Aircraft which allows a wide range of computers to have their image enlarged onto a 15 x 15 foot area. Across the street in the Woodshop, tours will be given of our VLSI and logic labs along with some hands-on opportunities.

All in all, this year's Computer Science Open House promises to be an entertaining as well as enlightening experience for all who come to see our Search for Solutions. Thanks for attending!

- Jeff Sawinski