

Computer Science Grantsmanship

Few people realize that over one third of Kansas State University's operating expenses are paid by money from research grants from government and industry. Within the Computing and Information Sciences Department, grant money pays for systems staff, secretarial support, graduate research assistantships, postdoctoral positions, computing equipment, and even library subscriptions. The Department as you know it would cease existence without grant monies.

How does a faculty member obtain a research grant? Although the procedures vary from organization to organization, the system used by the National Science Foundation (NSF), the US government's grant agency for the sciences, is typical: a written application is made, the application is reviewed by experts, and an award is given to a high quality proposal.

An application for a grant is called a *research proposal*. The proposal describes the goals of a proposed project, lists prior results that the proposer has completed in the subject described in the proposal, and suggests a budget for completing the project. A typical proposal describes a project of two years in duration and requests, say, \$180,000 in funds for researchers, staff, and

equipment. About 40% of the requested amount will be given to the University as their "overhead" money for electricity, office space, and paper clips. A quality proposal takes several months of effort to write and is bolstered by years of prior research work in the subject of the proposal.

The proposal is then submitted to the National Science Foundation; six to eight months pass before a decision is returned. During that time, experts in the proposal's subject area study the proposal and submit written reviews. Based on the reviews, NSF decides whether to fund or refuse the proposal. A funded proposal is monitored by the agency; periodic progress reports are required. Upon termination of the project, a final report, listing results, software, patents, and research publications, is required.

During the past three years, faculty in the Computing and Information Sciences Department have received research grants from NSF, the Office of Naval Research, AT&T Laboratories, and the Kansas Technology Commission, for a total of more than one million dollars. Although the energy involved in grant writing, researching, and reporting is significant, the results well repay the efforts.

News From the Job Placement Center

The Job Placement Center on campus has undergone some changes this past year with the retirement of Bruce Laughlin. Jim Akin, a long-time assistant director, is now the Director of the Placement Center. The Center has managed to add several people to help students with their job search. Tracey Fraser has been assigned to work with students in our Department, and she also has responsibility for students in Arts & Sciences and Human Ecology. Tracey did her undergraduate and graduate work here at K-State. Her

BS was in the College of Human Ecology, then she did her Master's work in Counseling and Student Resources in the College of Education. After doing some work on a grant here at Kansas State, Tracy worked at Highland Community College as the coordinator for Continuing Education in Science and Industry. Tracy has a large student population to serve here, but she has been able to give quality, personal service to our students.

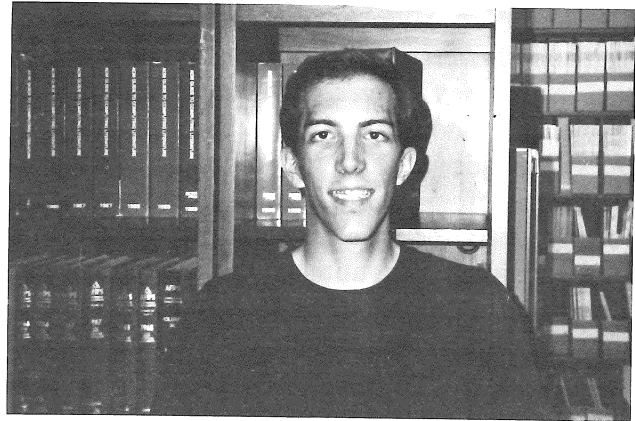
Undergraduate Profile: Greg Haynes

Greg was born and raised in Colorado Springs and has enjoyed the "mountain things", such as skiing, since he was four. Greg had a very successful high school career. He was in a number of honors classes: Data Structures, Calculus, English, and the class yearbook committee. He graduated as valedictorian of his class and was named Most Outstanding Student.

Greg says he chose K-State because of the friendliness of the school and our willingness to recruit out-of-state students. He was also pleased that we want students to start computer science classes as soon as they are qualified, in his case the first semester.

Greg has developed an interest in graphics, micro-computer software development, and programming languages during his time here. He has been busy outside the classroom also - he is currently president of the K-State chapter of Inter-Varsity Christian Fellowship and has become interested in music composition. He has kept busy in the summers back in Colorado Springs doing documentation work for Eagle Picher Industries in 1989 and ARINC Research Corporation in 1990.

After graduation Greg wants to do software design and development, hopefully for large systems, and do some independent programming



for personal computer applications.

Greg thinks the good features of the Department are the consistently high quality of the faculty and our commitment to upgrade our software and systems. He would like to see us improve in the variety of courses we can offer, improved compilers for some languages, and some additional instruction for new students in the use of our utilities.

Greg would like to see the Department work to increase our enrollment and thus be in a position to offer additional electives, for instance a series of graphic classes. Greg feels this sort of variety would allow students to more closely tailor their studies to career goals.

Nichols Nugget: Original Details

Did you know that when the original Nichols Hall was built, it was on the leading edge of construction technology? The main floor was one of the first in the nation to be poured as one

continuous slab. Considering the building was constructed about 1912, that was quite an achievement.

Nichols Nugget: Randy Cohen

(Brawn in CIS)

Hey, we can do more than punch keyboards. Randy Cohen, Senior, Information Systems, won the Independent Living Group Arm-Wrestling title in the heavyweight division for the spring '91 semester. Randy then beat the residence hall champ but lost to the fraternity champ in the All-University finals. Randy said his training regimen consisted of no special exercises for the last

5 years. He said the students were probably a little over-confident considering he was at least 15 years older than any of the competition. In addition, Randy describes his body build as something less than muscular. He said he had a lot of fun in the competition and even surprised himself. Congratulations, Randy!

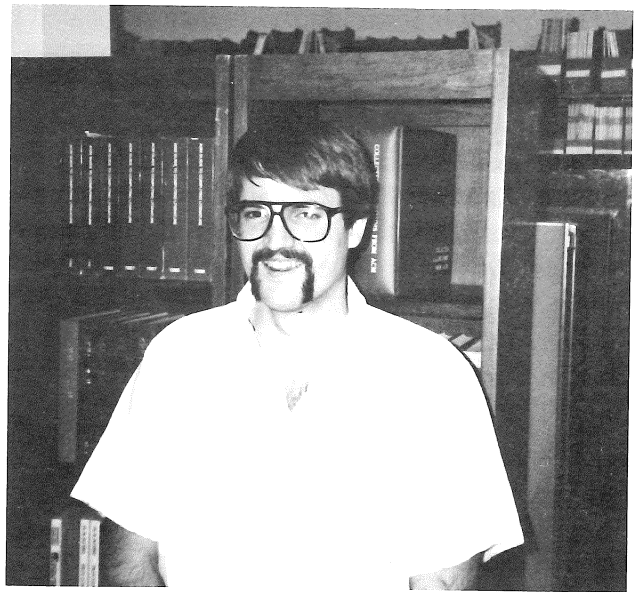
Graduate Student Profile: Clark Sexton

Clark grew up on a dairy farm in the Abilene area and graduated from Chapman High School. He then went to Ft. Hays State University where he earned his BA in Philosophy and was on the wrestling team. After completion of his work at Ft. Hays he was accepted at Kansas State where he completed his MS in computer science, and is currently working toward his doctorate. His doctorate will be in the general area of artificial intelligence, probably in the more specialized area of natural language processing. Clark says he has been in school since he was four years old. We will leave it to you readers to put meaning to that.

Clark selected Kansas State because of recommendations from people he knew and because Dave Schmidt was on the faculty. Fortunately, we were also able to offer Clark a graduate teaching assistantship. Clark has taught a wide variety of courses at Kansas State, including formal logic, beginning Pascal, and data structure courses. In addition to his teaching experience at Kansas State, Clark has taught general logic and bioethics at Ft. Hays State.

After he finishes, Clark might seek a position in research, but he really enjoys the challenge and personal rewards in teaching, so that will be his priority in his job search.

Clark thinks that one of the major strengths of the Department is the friendly and helpful



attitude of the faculty. He likes the general lack of internal politics that we enjoy in the Department. He also thinks the Department has a nice mix of theoretical and practical application interests in the faculty.

As for the future of the Department, Clark would like to see the Department hire more faculty in the artificial intelligence area. He is pleased with the faculty we have been able to hire and the fact that the Department encourages graduate students to give input in the hiring process.

Hacker Tracker Visits Kansas State

Cliff Stoll, professor of planetary science at the Harvard-Smithsonian Center for Astrophysics, gave a very entertaining lecture March 7 titled "Stalking the Wily Hacker." Professor Stoll tracked the West German computer hacker who had managed to break into over forty military computers around the world. He was passing the information to the KGB and his activities

lasted for about a year before Stoll managed to pinpoint his location.

Professor Stoll addressed the techniques used by the hacker and Stoll's method of tracking the criminal. He also explained some of the holes in our current systems and how one might trace another person across international networks.

Nichols Nugget: Original Details

Nichols was first constructed as a ROTC drill hall, hence the "castle" appearance, a popular style at the time for military drill halls. The

original building featured an elevated inside running track, one of the first buildings in the United States to have such an innovation.

Graduate Student Profile: Thenmozhi Arunan

Thenmozhi is from Madras, which is located in the southern part of India. Her native language is Tamil, one of the oldest of languages and one that is very rich in literature.

Thenmozhi explains that most students in India, unlike many in the United States, don't pursue jobs until they have completed at least a bachelor's degree. Thenmozhi completed her Engineering bachelor's degree in 1987 at Anna University, Madras. She then worked for Hindustan Computers Limited (HCL). HCL is India's largest computer company and it also has a branch office in California. The United States operation is principally involved in marketing of HCL systems and in developing software for American companies.

Thenmozhi wanted to pursue her graduate work in a field related to engineering training and decided on computer science because she was interested in system software. Kansas State offered many of the courses in which she was interested, so she decided to pursue her work here.

Thenmozhi is currently working on her MS



degree and expects to complete her work in December 1991. Her major professor is Dr. K. Ravindran and her research area is in high speed packet switching networks. Thenmozhi also has a strong interest in operating systems and computer graphics. After graduation, Thenmozhi plans to work for a company that specializes in computer networks.

Upsilon Pi Epsilon Honor Society

Kansas State's Alpha Chapter of Upsilon Pi Epsilon, the only National Computer Science Honor Society, is well into its fourth year of "re-existence." After several years of dormancy, the first chapter of UPE in Kansas has reorganized, and has been steadily increasing its membership ever since.

During the last few years, UPE has undertaken several projects as a means of fulfilling its obligation of service. One recent effort involves UNIX consulting services for students working in our main computing labs in Nichols. For those students unfamiliar with the UNIX operating system environment, attempting even the simplest of tasks can seem impossible. UPE chapter members offer assistance and answers to those frequently asked questions. UPE has also sponsored a plant trip to NCR in Wichita, and has participated in the Telefund project of the KSU Foundation to raise funds for the Arts & Sciences College and the Department.

This year we are excited about the creation of a Student of the Month award. As an honor society, we look forward to acknowledging those undergraduate and graduate students who lead successful academic and extra-curricular lives. Students may either complete an application for themselves, or they can nominate someone they feel deserves the award. Faculty are encouraged to offer nominations as well.

UPE is also involved with the University Open House activities again this year. We will be sponsoring an information table in Nichols to help introduce UPE to CIS students who are unfamiliar with the society, and plan to arrange several displays and demonstrations in Nichols Hall.

Officers this year are: Charles Black, President; Steve Monical, Vice-President; Jeff Brogden, Secretary/Treasurer; and Troy Anderson, Historian.

Department Job Fairs

This past fall the Student Chapter of the DPMA sponsored "Job-Fair Wednesdays". A different company set up displays in Nichols atrium each Wednesday and spent the day visiting with students on an informal basis. The companies represented last fall were Boeing Computing Services, Conoco Petroleum, Mutual of Omaha, and Southwestern Bell.

Feedback from the companies indicates this is a valuable way to keep the company name in

front of the students.

This fall we have commitments from Cerner Corporation, Conoco Oil, Kemper Services, Payless Shoes, Mutual of Omaha, Santa Fe Railroad, and Southwestern Bell.

Placement of our graduates has been very successful the last several years, and the Department Job Fair is but one more example of our commitment to our students.

The CIS Faculty - A Busy Bunch

According to the statistics Virg collected as part of this year's faculty evaluations, the average faculty member had the following production:

1. published (or had accepted for publication) 3.5 articles and submitted 3.7 articles,
2. wrote 1.5 proposals for extramural funding (resulting in a Department total of approximately \$400,000 of extramural funding, 30% of the total Department budget),
3. taught 3.1 classes (with an average TEVAL score of 3.7 at the 300/400/500 level, 3.61 at the 600/700 level, and 4.0 at the 800/900 level),

4. was a major professor for 5 graduate students,

5. served on 2.5 departmental and university committees, and

6. was involved with at least 20 other activities such as preliminary development and grading, reviews for outside agencies, talks at other universities, professional society service, supervision of GTAs, facilities acquisition, participation in readings classes, guiding graduate seminars and projects, membership on supervisory committees, advising student groups, advising students, and community service.

Nichols Nugget - Sports in Nichols

Nichols has a long and sometimes wacky history of sports, especially in basketball. The building was used for varsity basketball until 1950, when Ahearn was opened for play.

After World War II (the big one), the returning veterans using the GI Bill swelled the ranks of students, and Nichols became extremely packed for the basketball games. So much so in fact, that students were sold different colored tickets, green tickets went on "green nights", red on "red nights", and so forth.

Students were actively demonstrating for a new fieldhouse, and usually carried signs to that effect when attending the games in Nichols. As

a matter of fact, students actually sat in the rafters of Nichols to watch the games.

The protests came to a head in the 1945-46 season at the KU game. This was also "legislators night", and all the Kansas Legislature had been invited. The students dressed a mannequin and put a bottle of catsup in its clothes. While the players were being introduced, the students dropped the mannequin from the rafters to the floor. According to eyewitnesses, the result was dramatic, to say the least. In any case, shortly after that incident, the Kansas Legislature allocated money to build the new facility, Ahearn Field House.