Assistive Device Center Receives Federal Grant

The Assistive Device Center, one of the outreach programs of the School of Engineering and Computer Science, has been awarded a $296,000, three-year grant from the U.S. Department of Education. The grant, which began September 1, 1984 is titled "Augmentative Communication Training Modules: ACTion Modules."

With this grant, the staff of the Assistive Device Center will develop training materials for speech pathologists, physical and occupational therapists, and other professionals who work with multiply- and severely-handicapped children. Recent legislation has provided services for non-speaking, non-writing individuals, who now number about 581,600 in the United States, and has changed the types of services that professionals need to deliver. To make educational and vocational facilities accessible to these children, augmentative communication systems are needed. The ACTion Modules project will provide high quality materials for the additional preparation needed by those who work with such severely handicapped children.

The training materials will be designed to be used either as part of a formal continuing education course or as self-help materials. They will be modularized so that portions may be purchased as needed to supplement existing knowledge or materials at particular training centers.

Six modules are projected: "Introduction and Overview", "Determining Goals, Needs, and Basic Skills", "Cognitive/Language Assessment", "Physical/Sensory Evaluation for Selection of Interfaces", "Matching Augmentative Communication Device Characteristics to Clients' Goals and Skills", and "Training System Use". Each module will consist of a twenty-minute videotape to demonstrate principles and practices and a syllabus to provide written material on each topic. Some modules will also include computer software to demonstrate assessment and training principles and practices.

Children with disabilities will participate in this project and will have an opportunity to be actors in the videotapes. The grant also provides for graduate students in engineering, computer science, and speech pathology to participate as research assistants.

The Assistive Device Center has been a part of the School of Engineering and Computer Science since 1978. During that time the Center has served more than 200 clients with disabilities who need help with communication, educational or job access, mobility, or environmental control. The clients are of all ages and come from Northern California and Nevada. The majority of clients are cerebral palsied; others have disabling conditions such as head trauma, stroke, and neurological diseases.

The Center also provides information nationally and internationally regarding the uses of technology for individuals with disabilities. During the 1983-84 academic year, over 1000 people visited the Center and attended presentations given by Center staff. During the same period the Center corresponded with 258 individuals and agencies around the world to exchange information about the uses of technology for individuals with disabilities. The Resource Center, which is part of the Assistive Device Center, responds to an average of 20 requests for information per month.

In addition to client services, information sharing, and research projects, the Center staff offers teaching and observation opportunities for CSUS students in a variety of engineering and health-related disciplines. Workshops are also offered in association with the CSUS Office of Extended Learning Programs.

One of the Center's recent workshops was called "Using the Apple Computer with Severely Disabled Children and Adults." It consisted of two one-day sessions, three months apart, so that participants could try out the concepts learned in the first session before building on these concepts. The workshop emphasized the use of the Apple series microcomputers by the disabled in classroom and therapeutic settings. Through lectures, demonstrations, and hands-on experiences, participants discovered ways to implement these systems for physically and/or cognitively impaired individuals. Participants studied the use of the Apple II with adapted inputs and outputs, such as alternate keyboards, graphics, and voice synthesis. Special software also was discussed and used.

Another two-day workshop, "Matching Assistive Devices to Skills and Needs of Individuals with Disabilities," was held on November 14-15, 1984. It provided an in-depth study of electronic systems available to assist persons with disabilities to overcome problems in communication, educational access, employment, and independent living. Emphasis was placed on choosing systems to meet specific goals and

Continued on p. 3

Assistive Device Center staff and students discuss human factors considerations in the design of assistive devices.
_message_from_the_dean_co-op_is_coming_to_CSUS

The School of Engineering and Computer Science is embarking on a new venture-establishment of a Cooperative Education (Co-op) Program. The Co-op concept, developed at the University of Cincinnati in 1906, places undergraduate students in paid work experiences directly related to their majors. The idea is to apply what they have learned in the classroom in a real world setting. Co-op jobs give students the opportunity to meet and work with professional engineers and computer scientists and to earn substantial salaries while learning on the job. Employers get the services of young, enthusiastic engineering and computer science students and, at the same time, a chance to "look them over" as potential permanent employees.

Larry Hill, who has fifteen years of experience in Cooperative Education, has joined our staff as Assistant Dean. He will spearhead the development of our Co-op Program. An article on Larry's background and plans appears elsewhere in this issue of E & CS NEWS. Currently, Larry is working out a detailed implementation plan and is developing support for the program on campus and in the community. Employers and students alike have responded enthusiastically to the idea of Co-op at CSUS. We expect to get the program underway during the 1985-86 academic year.

We of CSUS' School of Engineering and Computer Science take pride in our strong relations with local industry. We look forward to strengthening our ties to the community through the Cooperative Education Program.

Computer Science Spring Seminar Series:

Dr. Richard H. Thayer, Seminar Coordinator, has announced the following schedule of Computer Science Seminars for the Spring Semester:

March 4 "Where Did All the Time Go?" by Eli Seagraves, System Analyst, QUEUE Systems, Inc., Sacramento

March 11 "A Fantasy for the Future about a Software Productivity Environment" by Winston W. Royce, Director, Software Technology Center, Lockheed Missiles & Space Co., Austin, Texas

March 18 "Consortium-the R&D Organizations of the Future" by Jerry L. Dillon, Department of Computer Science, CSUS

March 25 "Functional Testing of VLS Devices" by Roger C. Wood, Associate Dean for Academic Affairs, School of Engineering, University of California, Santa Barbara

April 8 "Verification and Validation" by Roger Fuji, Logicon, Inc., San Pedro, CA

April 15 "Managing Office Automation in a Corporate Environment" by Thomas J. Buckholz, Pacific Gas & Electric Co., San Francisco, CA

April 22 "Requirement Specifications Languages" by C.V. Ramamoorthy, Chair, Computer Science Division, Department of Electrical Engineering and Computer Science, University of California, Berkeley and Editor-in-Chief, IEEE Transactions on Software Engineering

1985 Engineer's Week Events at CSUS

Engineer's Week was celebrated at CSUS in February with several events sponsored for the second year by the student chapter of the Society of Women Engineers. An informal "Coffee Break" each morning brought representatives of thirteen local companies together with students interested in career information. While enjoying coffee and doughnuts in a relaxed atmosphere, students visited with engineers in industry about job prospects in their technical specialties.

The "Paper Airplane" contest required students to construct planes by folding only, without the use of glue, tape, or clips. Prizes were donated by the Hornet Bookstore and the Mountain Wolf Sports Cooperative.

An "Egg Drop" contest required participants to use both skill and creativity. Each student who entered designed a carrier to protect a raw egg from breaking when dropped six stories from the roof of the Psychology Building. Of the 15 entrants, 7 eggs survived the drop without breaking. Prizes were donated by Golden State Business Systems, the Sacramento Inn Theatre, and Mountain Wolf Sports.

Egg Drop Contest Winners Lewis Moeller, James Tussey, and Joe Guerro are pictured with SWE officers Gwen Burgard and Linda Scruggs and Deans Gillott and Reardon.

April 9 "Secure Networks" by a speaker from Systems Development Corporation, Camarillo, CA

May 6 "The Use of High Resolution Radar and Ultrasound Technology with Application to Archeology in Egypt" by Robert Cribbs, President, Folsom Research, Folsom, CA

May 13 "Software Testing" by Arthur B. Pyster, Digital Sound, Inc., Santa Barbara, CA

This seminar series is co-sponsored by the CSUS Student Section of the IEEE Computer Society and the Department of Computer Science. All of the seminars are open to the public and begin at 11:15 a.m. Most of them will be held in the Senate Chambers, University Union. For confirmation of the speaker and location, call (916) 454-6834.

E & CS NEWS is published four times during the academic year to inform our alumni and friends about student, faculty, and alumni activities; curricular developments; research results, and other items of interest. We invite your comments and suggestions. Please address all communications to the Editor:

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Assistive Device Center from p.1

to maximize device effectiveness. Through a combination of lecture and laboratory demonstrations, participants obtained the necessary background and experience with a variety of assistive devices.

The Center is a non-profit organization and is an affiliate of United Way. Support for its ongoing activities comes from interested individuals and organizations. Pacific Bell, the sponsor of this issue of E & CS NEWS, has made a grant of $1000 toward the support of the Center in 1985.

To find out more about the Assistive Device Center, call 454-6422. The Center is located in temporary building 0E on the CSUS campus, across Jed Smith Drive from the University Union.

Dean Gillott explains the operation of the Center for Computer-Aided Design to Professor Chen Bo Shi of the Shanghai University of Technology. Prof. Chen was one of several Chinese educators who visited CSUS in December. An agreement formalizing student and faculty exchanges between the two universities was signed during this visit.

Richard Cashdollar, Division Electric Superintendent, presents Pacific Gas & Electric Company’s donation of $400 to the scholarship fund of the CSUS Chapter of the Society of Women Engineers. SWE Vice-President Gwen Burgard accepts the check as Dean Gillott, Janet Wong, SWE Treasurer, and Ben Bendell, also of P G & E, look on.

Another P G & E contribution was made to the Capital Center of the MESA (Mathematics, Engineering, Science Achievement) program, which currently guides, assists, and encourages more than 500 minority high school students toward careers in science and engineering.

Larry Hill named Assistant Dean

After a nationwide search, Larry A. Hill has been named to the new position of Assistant Dean of the School of Engineering and Computer Science. He began his duties in mid-January, 1985. Hill comes to CSUS after 15 years at the University of the Pacific, where he was Assistant Dean of Engineering and Director of Cooperative Education. He joined the School of Engineering at UOP the same year that the cooperative education program was started. He took on increasing responsibility in that program, ultimately being appointed Director. Larry served on the steering committee which established the California Cooperative Education Association, one of the largest and most active statewide Co-op organizations in the nation. In 1982 the Co-op program at the University of the Pacific was selected by the American Electronics Association as one of two model University-Industry programs in the United States, sharing this honor with the Massachusetts Institute of Technology.

Larry earned his B.A. and M.A. degrees in Political Science at the University of the Pacific. In 1975, he and his wife, Liz, spent a year in graduate study in Stockholm, Sweden. Liz was a Fulbright scholar at the Royal Institute of Technology while Larry was at the University of Stockholm’s International Graduate School. They worked together translating a Swedish report, “Safety During Special Transportation Trips”, into English for the Urban Mass Transportation Administration of the U.S. Department of Transportation.

As Assistant Dean, one of Larry’s major responsibilities will be the development of a cooperative education program in the Sacramento area. Although it extends the B.S. degree program to five years, a co-op program gives upper division students practical, on-the-job experience in their areas of specialization. Such a program is mutually advantageous to both employers and students. The students have the opportunity to put their academic experience to practical use, to obtain professional experience, and to make contacts within the job market, while earning a regular salary. Employers benefit since they are furnished with highly motivated workers without going through the normal recruiting process. Although there is no commitment beyond the co-op term, most co-op students choose to work for the company of their co-op assignment after they graduate.

The details of the CSUS co-op program are now being worked out. Larry is beginning to contact local companies to invite their participation. He expects to place the first student in the program by the spring of 1986.

Larry’s duties also include working with alumni and student groups. He has been working with the officers of the E & CS Chapter of the Alumni Association on the arrangements for the annual Alumni Banquet and is coordinating the activities of the School’s academic departments and student professional organizations for the River City Days Open House on April 26 and 27.

Among Larry’s hobbies are chess, tennis, piano, guitar, computers, bridge, and travel. He and Liz share their lives with lively, three-year-old Erik.
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Alumni Notes

George M. McHugh, Jr., Electrical & Electronic Engineering '65, is currently Deputy Manager of Nuclear Engineering at Boston Edison. This department, with its 80 engineers, is responsible for operating the Pilgrim Nuclear Power Station. He has been with Boston Edison for more than 12 years and has been active in IEEE, serving on the Nuclear Power Engineering Committee, chairing a subcommittee on safety related systems, and co-authoring a prize-winning paper. He lives in Nashua, New Hampshire with his wife and two teenage children.

Randy Glaconazzi, Civil Engineering '71, has been employed in the construction field since graduation. He has been involved in building nuclear and coal power plants, bridges, railroads, dams, and now a $45 million condominium/resort at Lake Tahoe. A registered civil engineer in California, Oregon, and Washington, Randy lives in Glenbrook, Nevada. He says that his education at CSUS "has always served me well."

Eberhard B. Neumann, Construction Engineering Technology '76, is a planning engineer with Pacific Bell in Napa. His job includes maintaining existing and designing new telephone plants in Napa, Sonoma, and Solano counties. He writes, "Keep the newsletters coming. I appreciate the chance to keep up with the events and changes taking place in and around my favorite university."

Faculty Activities

Kenneth D. Kerri, Civil Engineering, was recognized in an editorial in Operation Forum (a Water Pollution Control Federation publication for operations personnel) for his effective and dedicated leadership since 1981 as Chair of the Wastewater Collection Systems Committee. At the 64th Annual Meeting of the Transportation Research Board in January, Dr. Kerri presented a paper describing a mathematical technique for estimating pollutant loads in runoff from highways.

John Gwynn, Computer Science, chaired a session and presented two papers at the Sixth National Conference on Gambling and Risk Taking in Atlantic City. The papers were titled "How Good Can a Pocket Blackjack Computer Be?" and "Pay Gow Revisited---A Significant Positive Expectation."

Warren D. Smith, Electrical & Electronic Engineering, presented a paper, "Monitoring the Electroencephalogram During Anesthesia by Spectral Parameter Analysis", at the Third International Symposium: Computing in Anesthesia 85, held in Santa Monica in February, 1985. His work, done in collaboration with Dennis Fung and Henry Bennett of the U.C. Davis Medical School, compared a promising new method with existing methods of analyzing the EEG to predict a patient's level of awareness during surgery with existing methods. The Symposium abstract was published in the January 1985 issue of Journal of Clinical Monitoring.

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