Konkrete Kahuna Second in National Concrete Canoe Contest

Sac State civil engineering students proved that creative minds can triumph over heavy matter when they placed second against 21 competing teams at the 1995 American Society of Civil Engineers (ASCE) National Concrete Canoe Competition in Washington, D.C., last June 29-July 1.

Barely edged out by winner South Dakota School of Mines, the CSUS "Konkrete Kahuna" team swamped competitors from such powerhouse engineering schools as Michigan State, University of Wisconsin-Madison, and the U.S. Military Academy — besides beating UC Berkeley and 11 other teams in the qualifying '95 Mid-Pacific Region Conference last May. In their quest to turn concrete into lighter, faster and stronger canoes, finalists from all over the U.S. had surpassed nearly 200 teams in regional runoffs. Formidable Cal had won six regionals and five nationals.

Two women and two men from the 15-member CSUS team were chosen to paddle the Konkrete Kahuna at the eighth annual national competition, hosted by The George Washington University on the Potomac: project manager Diane Zuhlike, Joe Hartman, and the husband-wife team of Elizabeth and Charlie Sparkman. The women took first place for both sprints and endurance.

However, the canoe races were secondary in contest scoring, accounting for only 60 of 150 possible points. When all scores were totaled for the races, design paper, oral presentation, display board, and the finished canoe's design, construction and materials, CSUS racked up an impressive 122.98, only 2.41 points behind South Dakota Mines' "Predator."

The CSUS team took a year to design and build the Konkrete Kahuna which, at only 70 pounds, was lighter than all the other vessels. Substituting ground perlite and ceramic spheres for sand and gravel produced a concrete aggregate that was both strong and light. CSUS ranked first in total design points, and second in both the oral presentation and design paper competitions, to West Point and the University of Florida, respectively. Zuhlike and Elizabeth Sparkman attributed their team's edge to "spirit, drive and practice, practice, practice" as well as to the canoe's design and materials.

Often called the "America's Cup of college civil engineering," the competition is intended by the ASCE organizers to give students direct experience in working with concrete — a material important in rebuilding America's aging infrastructure — and to showcase their ingenuity. Sponsor Master Builders, Inc., a manufacturer of chemicals used to improve, protect and repair concrete, provided $9,000 for scholarships for the universities fielding the top three teams. South Dakota Mines received $5,000 and

SAIC Pact will Spur E&CS Research Activity

Under an agreement just signed with Science Applications International Corporation (SAIC), the University will receive support for a variety of applied research activities that will advance the professional development of both students and faculty in the School of Engineering and Computer Science.

SAIC will, in turn, benefit from the wealth of faculty expertise available for research of mutual interest under the newly-formed "Potential Commercial Space Launch Project."

Headquartered in San Diego, SAIC has a worldwide workforce of about 20,000. The company became established in Sacramento about eight years ago and now has contracts worth several million dollars with McClellan Air Force Base and other local organizations.

Dr. John Balachandran of the E&CS Electrical and Electronic Engineering Department has been working with SAIC's Integration Engineering Technology Division on a major, three-year project. See SAIC, page 5

See Konkrete Kahuna, page 4
A Message from the Dean

It is again time to give a progress report for the School of Engineering and Computer Science.

As in most engineering programs across the country, the overall student enrollment in the School dropped by about three percent in the 1995 fall semester. Enrollment in computer engineering and computer science showed a net growth, which did not come as a surprise: All demographic studies indicate that enrollment in engineering and computer science programs will show a strong growth from 1997 through 2002. We educators need to be prepared to accommodate that growth.

As public higher education all over the country is going through the process of semi-privatization due to decreased state and federal funding and increased reliance on industry and private individual cooperation, the School’s faculty and staff are learning to cope and are modifying and developing curricula to be competitive and meet the needs of the next century. Our efforts to increase scholarships and internships for highly-talented students through private and corporate involvement have accelerated. Faculty interest and efforts in securing grants and contracts for applied research have increased sharply. With time, this will provide avenues for professional development for our faculty, staff and students.

Despite many shortcomings, I am very optimistic about the future of our School and the University — the Capital Campus of the California State University System. We will continue to provide a high quality of education, small class sizes, and state-of-the-art laboratories.

As engineers and computer scientists, we have both the opportunity and the responsibility to influence cultural as well as technological change. There are few professions that have such a clear and direct route for impact on the global community of nations. I hope that each of you will take up this challenge as a personal task and help the School move forward.

E&C Offers Web Page Service

Businesses and organizations stranded off the information superhighway can get help with building their own on-ramps at E&C. EEE Lecturer Dennis Dahlquist and his colleagues have started a service to teach them to “bring up” and maintain custom home pages.

Payment of a $1,000 fee entitles a client organization to technical support, staff training and the use of the School’s computing resources while the page is under construction. The client provides Dahlquist the information and graphics that it wishes to have displayed on its page; he will then train the client’s staff in page development, testing, modification and maintenance. The client then brings the page to its own computer system where it can be accessed by Internet users. Dahlquist will offer other services for lesser fees.

The first clients have been state agencies, but Dahlquist hopes to serve private organizations as well.

For further information, Dahlquist can be telephoned at (916) 278-6185, e-mailed at dahlquid@csus.edu, or visited at the E&C Web site: http://gaia.ecs.csus.edu/~ecswebpg/.
TeamWorks Preserves the Past, Changes the Present and Future

"When today's engineering students graduate, they are expected to be able to work effectively in interdisciplinary teams; create innovative solutions to society's complex problems; excel at written, oral and electronic communications; be self-paced, self-managed, and independent learners; provide leadership not only at work but in the profession and in the community; communicate with colleagues and clients who may work in the office next door or halfway around the world; and understand how to navigate a path through the array of new information-age technologies," observed Jeff Pluth, Mechanical Engineering Technology student and project administrator for TeamWorks, a new student organization based in E&CS.

Merely observing and listening passively while faculty lecture "just isn't going to cut it anymore," Pluth said. "As students we must take responsibility for our own education. That's why some of us got together to create TeamWorks."

TeamWorks, linking students from throughout the University with interdisciplinary project teams from industry and the community, will solve "real-world" problems within projects that will benefit both students and the community. "Projects will focus on integrating traditional educational methods — apprenticeship, learn by doing, hands-on application of classroom theory — with the best of today's 'knowledge age' approaches — computer-aided and distance learning, self-paced 'just-in-time' instruction, and using the teacher as guide and facilitator," explained Pluth.

TeamWorks evolved in response to increasingly numerous requests to Dr. Leo Dabaghian, TeamWorks advisor, to help recruit student teams for product research, design or development projects and to support community service projects.

The first TeamWorks project, "This Old Flatcar — Apprentices Wanted," demonstrates the organization's purpose and philosophy. Participating students will acquire, reverse engineer, restore and document the design and construction of a turn-of-the-century wooden, narrow-gauge flatcar, part of a documentation project preserving traditional car-building skills at the Society for the Preservation of Carter Railroad Resources (SPCRR), a museum in Newark, California. The project attempts to "recapture, stimulate, and record the vanishing skills, hands-on experiences and technologies that railroad engineers, craftsmen and apprentices originated and used at the time, by actually building a piece of railroad rolling stock in 'production time' — two days — not the leisurely pace of most restorations," Dabaghian said.

The student-led team will concurrently recruit faculty and help design the curriculum to teach the skills that students will need to carry out the project, such as manufacturing techniques, foundry practices, engineering analysis, computer-aided drawing, historic documentation and oral history. "The students will disassemble the car to make a complete inventory of all its parts, fully dimensioning each to create complete 'as-built' engineering drawings. Wooden patterns will be created to permit casting all parts using historic as well as 'cutting-edge' technologies. Machine work will prepare parts for assembly into a 'kit' from which the finished car can be effectively built," according to Dabaghian.

In fall 1996, the team will construct the car during a two-day public event at Ardenwood Historic Farm, the SPCRR's museum site. "Students working in costume and in character will take on the persona of Carter Brothers' employees," said Dabaghian. From videotapes, journals, interviews and other documentation techniques, participants will produce a documentary film and other multimedia courseware for use in teaching the next generation of "apprentices" — other college and high school students hoping to pursue careers in engineering, technology, manufacturing or historic preservation.

Engineers, documentary filmmakers, industrial museum staff and volunteers from throughout the U.S. are involved in the flatcar effort, including Randy Hees, SPCRR curator; Bruce MacGregor, education and training director for Hewlett-Packard in Corvallis, Oregon; David Weitzman, author of over 20 books on industrial archaeology; Bob Greene, co-creator of the first microprocessor chip; Andy Fahrenwald, a documentary filmmaker specializing in industrial heritage; and members of the Industrial Living History Consortium, an alliance of individuals, institutions and organizations working to preserve America's industrial heritage. "We will link via e-mail, a list-server and through a Web site the students are developing," said Dabaghian. "All assignments, many classes and most of the drawings will be distributed via the computer."

The flatcar team will evaluate and disseminate their experiences in scholarly journals, at professional conferences, in historical and engineering association publications, through the Internet and other on-line resources, and through the popular press. Students will also present a paper at the next Society for Industrial Archaeology Conference.

See TeamWorks, page 8
New Face at E&CS

Dale Quadros, until last May a 10-year member of PG&E’s human resources staff, will work with the Minority Engineering Program (MEP) while he pursues his M.S. in Counseling. His assignment: helping students in the MEP’s Project Success program achieve academic success and coaching them on professional development.

Students can count on his help to form effective study habits and to master specific techniques such as notetaking in lecture classes. Quadros advises them on career development and helps them devise individual professional plans. He also offers miscellaneous personal counseling, and connects students to resources appropriate for coping with particular situations. During his 15 working hours per week, he manages to meet with each of the 40 Project Success students about every two weeks on a revolving basis.

“We are so fortunate to have a person with actual industry experience,” said Jaime White, director of Project Success. “Dale knows what corporate America expects of high-performance employees. This perspective is enormously helpful in relating students’ academic experiences to the jobs they will hold after graduation. They will be very well prepared to manage future workplace situations successfully.”

Quadros has a long history of involvement with the MEP, dating back to 1988 when he was the founding chair of the MEP Industry Action Council. He has served on the Council ever since.

Quadros earned a B.S. in Business Administration, with a concentration in human resources, at CSU San Francisco. His wife, Marta, is a Sac State alumna, with a B.A. in Child Development and a Bilingual Teaching Credential. Quadros has an adventurous spirit: Besides snowboarding, he and Marta enjoy traveling to exotic places such as Australia’s Great Barrier Reef and the Grand Cayman Islands.

Konkrete Kahuna

Continued from page 1

the CSUS team $2,500, for fellow civil engineering majors.

The team and their faculty advisers — Profs. William Neuman, Hon-Hsieh Su and Ajit Virdee — secured funds for the Washington trip and transportation for the craft from alumni, faculty, staff, emeriti, corporations and the CSUS President’s Office. About 30 faculty, family, friends and team members sporting CSUS logos braved often torrential rain to cheer the paddlers.

“We had a great time and it was good to be there representing Sac State. It felt very collegiate,” said Elizabeth Sparkman. Sparkman and Zuhlike both agreed on the benefits of the hands-on nature of the competition and competing against big-name schools. “This was a chance to be the best in the nation at something. I may never have the chance again at the national level,” said Zuhlike, assessing her personal experience of the event.

This year’s team, headed by Jessica Jones, is working hard on the latest concrete craft. The wealth of knowledge and experience accumulated by the five returning members — and their buffed-out biceps — will surely help.

E&CS Exhibit Grabs Attention at California State Fair

Over 1,000 visitors flocked to the exhibit hosted by the Electrical and Electronic Engineering Department at the 1995 California State Fair, in the Industrial Technology Education exhibition building on August 18-20. People of all ages were drawn to live demonstrations of laser applications that included a free space optical communication link, a laser beam analyzer, and the use of virtual instrumentation with LABVIEW. Michael Fujita, part-time EEE instructor, coordinated the exhibit, assisted by a group of graduate and undergraduate students. On August 20, the Department’s award-winning IEEE design contest team was on hand to demonstrate “Q: A Voice Recognition System.”

The School presented a World Wide Web demonstration at the same site.
Student Engineers Receive PG&E Donation to Complete Electric Racecar

Thanks to a $2,000 gift from Pacific Gas and Electric, E&CS students have been able to complete their ambitious two-year project — to construct an electric racecar.

Russ Jackson, PG&E Sacramento Division Manager, presented the check to Dean Braja M. Das and delighted students last June 9.

The primary goal of the project is to demonstrate that electric vehicles are useful today. According to team leader H.A. Mergen, the “MC1” is a thoroughbred racecar with a NASCAR-style frame and rollcage, four-wheel independent suspension and four-wheel disk brakes.

The vehicle’s estimated top speed is 130 miles per hour; its estimated range is 50 miles. Total weight, including 24 Interstate batteries, is 2,900 pounds. The vehicle was designed and fabricated by CSUS students and several volunteers.

PG&E joins Sacramento Air Quality Management District, Jerry’s Paint and Supply, Goodyear Tire and Rubber Co., Interstate Battery Systems and Mel Rapton Honda as a major contributor to the project. Many other individuals and businesses contributed funds, parts and time.

Since the project began, Mergen completed both his B.S and M.S. in Mechanical Engineering. He is now pursuing a Ph.D. at UC Davis in ME/Automotive Engineering.

Briefly . . .

The Office of Water Programs is celebrating its 25th anniversary this year; 77,268 individuals participated in and completed Water Programs courses as of Nov. 1, 1995. • Computer Engineering Prof. Ron Becker has been awarded a group of ten 712/80 workstations and 13 ENVIZEKX terminals and software valued at $197,023 under Hewlett-Packard’s University Grants program. • The School will celebrate National Engineers Week on Feb. 23 with an Open House for over 700 high school students; lab tours, exhibits, demonstrations, and contests will be presented by E&CS faculty, student societies and alumni. • The E&CS Women’s Programs Office will have its 2nd Annual Industry Mentor Dessert Tasting Fundraiser, featuring Astronaut Janice Voss, on March 15 in the USU Board Chambers Room; a $25 donation ($2 for students) supports the program and buys unlimited consumption of delicious pastries donated by local chefs (278-7877). • The annual E&CS Career Fair, uniting employers and job-seeking E&CS students and alumni, is set for March 22; Career Services Director Cici Mattiuzzi has information (278-7091). • PG&E has joined the National Science Foundation, SMUD and the University as a sponsor of the ME Department’s Cogeneration Laboratory, contributing $18,813 in July. • BME student Walter Rawlins was selected as a 1995-96 Sally Casanova Pre-Doctoral Scholar, one of 73 chosen from 194 applicants eligible for this CSU system wide competition; the $3,000 award will cover his travel expenses to professional meetings and to doctoral-granting institutions where he may wish to pursue Ph.D. studies, and travel for his faculty sponsor, BME Prof. John Oldenburg. • Upsilon Pi Epsilon, national honor society for the computing sciences, awarded a $500 scholarship to Chris Haviland, one of nine recipients from all over the U.S. • The Sacramento Builders’ Exchange selected four

SAIC

Continued from page 1

to improve superconducting magnetic energy storage (SMES) units. Dean Braja Das and David A. Blottie, Division vice president and newly-appointed member of the School’s Industrial Advisory Board, have worked closely to forge new links between the company and the School.

The present pact grew out of their efforts.

Although precise details were being finalized as this publication went to press, the projects being considered for inclusion under the umbrella agreement will involve faculty from all departments and most programs in E&CS. Das expects support from SAIC to be significant for the next nine to ten years.

“Financial support of this magnitude will offer very exciting possibilities for our faculty and students for many years to come,” Das said. “Accrediting agencies such as ABET (Accreditation Board for Engineering and Technology) are sure to be impressed by the high level of applied research activities engaged in by our faculty. These activities will present new opportunities for professional growth to both students and faculty. Sponsored research will open up many full-time graduate assistant positions—and students will be able to do research related to their area of interest on campus, instead of having to work in fast-food restaurants or other off-campus, dead-end jobs. The extra funds will also be very helpful in alleviating the results of several years of fiscal crisis in the School,” he said.
Carsons and Construction Management: A Family Affair

What drives a very busy family to devote so many of its precious “spare” hours to run an annual golf tournament to benefit a university program? Ask Sacramento builder Eugene Carson, Sr. and it’s clear that personal experience has a lot to do with it.

Carson once wanted to go to medical school and specialize in psychiatry, but turned to construction when his money ran out. Now the president of a successful, family-owned and operated building and development company in Sacramento, Carson established the Carson Family Endowment fund to provide scholarships to Construction Management students at CSU Sacramento because “these kids need help to stay in school.”

He believes in helping others achieve their goals: “You don’t do it by yourself; there’s no such thing as a ‘self-made’ millionaire.” Thus, establishing a scholarship endowment fell naturally within his personal philosophy. So does donating his time as a guest lecturer to bring his expertise to CM students.

In June of each of the past four years, the family has opened its private golf course for the invitational “Carson Classic Scramble Golf Tournament.” The list of invitees reads like a “who’s who” of the regional construction industry. Funds generated by tournament participation fees are deposited into the endowment.

The Carson endowment now exceeds all others benefiting E&CS. With over $42,000 accumulated, the interest funds well over $2,000 in scholarships per year. These are presented each spring at a gala dinner honoring all CM scholarship winners and donors. Several Carsons attend, getting acquainted with the students selected to receive the Carson scholarships.

“It is evident during the tournament itself that the Carson family has assembled a much larger extended business family because of its forthright business practices and recognition of the interdependent nature of the industry,” commented Prof. Keith Bisharat, who heads the CM program.

Carson Sr. founded the company in the Southern California town of Arcadia in 1953 after completing his military service, naming it “Kit” after his GI nickname. Carson estimates that Kit Contractors, Inc. has since built approximately 1,400 homes and 900 apartment units in nearly 30 communities in Northern and Southern California and in Reno. Locally, the company has built housing in Sacramento, Placer and El Dorado counties. Wife and secretary-treasurer Hannalore oversees business operations; Eugene Carson, Jr. is vice president. Son Mervin left Kit last year to start his own company, M.J. Carson Homes.

Several family members are Sac State alumni, including three of the eight Carson children: Mary Johnson and twin sons Mervin and Mike (Civil Engineering). It was Mervin, a CM graduate, who “guided” the family to focus its philanthropy on Sac State instead of on Whittier College, the alma mater of Eugene Sr., and also of Eugene Jr. and his wife Stefanie. Mervin takes the lead in organizing the tournament, according to other family members.

“That scholarship endowment is a vote of confidence in our Construction Management students and in the CM program. Despite the most severe housing recession in years, this family, through its warmth and generosity, has succeeded in developing the largest endowment in the program’s history,” said Bisharat.

Profile of a Builder with Pride

Steven E. Grossman, recognized at the Alumni Honors Luncheon on October 23 as the Construction Management Program’s 1995 honoree, made the perfect career choice for a bright, articulate, hard-working, compassionate — and philosophical — person.

Grossman, senior estimator with C. C. Myers, Inc., enjoys the construction industry because it is “one where we still think in terms of people. It’s still a world where a person’s word is their bond,” despite its size and importance in the U.S. “You still meet rugged individualists, dedicated professionals and hard-working tradespeople. There is also the constant competition with the elements, time and past achievements.”

Like many CM alumni, Grossman began civil engineering studies at a community college as a returning student. He had worked for See Grossman, page 7
Grossman
Continued from page 6
about 10 years as a checker and drafts-person following an earlier false start at Cal Poly, where he changed his mind about architecture. Finding that the advent of CAD “took the individuality and artistry out of technical drawings,” he decided to go back to school. When he was ready to transfer from American River College, friends enticed him to consider the CM major at CSUS, promising that “CM is a great field — the money is decent but the hours are crappy. And there is a great deal of self-satisfaction.” He graduated with honors from CSUS in 1987. A veteran of 18 years in the industry, he still keeps his CM class notes in his office, referring to concepts in engineering, construction, estimating, and business law.

Following graduation, C. C. Myers, Inc. hired Grossman as an estimator; he has since worked there on contracts totaling nearly $4 billion. C. C. Myers, who has achieved legendary status for completing earthquake repairs to bridges in record time, has an extensive building and real estate development empire. Current major construction projects are in Los Angeles, Santa Barbara, San Francisco, Roseville and Davis. According to Grossman, Myers keeps him on his toes, expecting all staff to have a command of detail so that he can focus on the overview. Grossman credits Myers, who left formal education at age 14, with a very solid understanding of engineering concepts.

See Grossman, page 11

To our honored donors . . .
The Capital Campus Challenge campaign to raise $50 million in honor of the University’s 50th Anniversary has reached the $29 million mark. That $50 million goal includes E&CS’s own target of $5.475 million for student support (recruitment, retention, scholarships, tutoring); laboratory and computing equipment; software; and facilities upgrades. We thank all who have contributed so generously to E&CS since the campaign’s initiation in 1991. Your collective generosity has exceeded $3 million in cash and in-kind gifts. Space limitations enable us to recognize only the very largest donors in this publication; however, every gift has added value to our educational programs. Your support and encouragement are vital to maintaining quality despite diminished state support. Our special thanks to alumni/ae who have given to our Annual Fund drives and to other appeals in the past; we hope to count on you again this spring.

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Ronald Ernst

We apologize for any inadvertent omissions or errors. Please do not hesitate to bring them to our attention.—Editor (278-6629)
Employment Outlook Positive for Engineering Grads

“Engineering is a great place to be in 1996,” according to Cici Mattiuzzi, E&CS Career Services director. “The recession is over and the defense cutbacks are having less of an impact with the growth in the computer and electronics industries.”

While the demand for engineering graduates is reaching “frenzied proportions,” the supply will continue to decrease to the end of the 1990s as the total college-age population declines and higher education continues to feel the results of the recession. Fewer individuals were able to afford the escalating costs of college for themselves or for their children during the recession.

Computer science, computer engineering and electronics engineering are in extremely high demand right now in Northern California, Mattiuzzi reports. Technical companies such as Intel, Hewlett-Packard, NEC, Packard Bell, OSI, TRW, Level One, and Microsoft are all powering up along with most others in the region, and are “vacuuming the area” for technical professionals as they try to fill high consumer and commercial demand for technical products and services. Some large employers are paying their current employees a bonus for any new engineers or computer scientists hired as a result of their recruiting efforts.

Although engineering majors constitute only about 9 percent of the graduates nationwide, they now receive almost 50 percent of the offers, according to the College Placement Council. Starting salaries for engineers with the bachelor’s degree average about $34,000 — over $10,000 above graduates from most other majors. Among computer professionals, computer scientist and systems analyst will be the fastest-growing occupations for some time to come, Mattiuzzi predicts. Salaries for computer science graduates start at about $32,000. Salaries should remain high: As both international and domestic competition increase, organizations are faced with growing pressure to use technological advances such as office automation, telecommunications technology and scientific research to reduce labor and production costs.

Mattiuzzi notes that since technical professionals are more difficult to recruit and more costly to train than other types of workers, most companies are less likely to lay them off than other types of workers if they downsize. But, she cautions, “You will be expected to do it all! Companies that hire technical professionals expect more and more from their employees. To be competitive, you will need to be able to do planning, research, design, development, problem solving, troubleshooting, documentation, manuals, correspondence, programming, software, customer service, services to international clients, and on and on.”

To keep abreast of job listings and upcoming career-related workshops, classes and events, Mattiuzzi invites alumni to visit the Career/Placement Services’ new home page at http://hera.ecs.csus.edu:80/career. Services to employers are also described on the page.

CSUS Hosts International Heat Transfer and Fluid Mechanics Conference

Engineers from California, Maryland, Massachusetts, Pennsylvania and South Africa gathered at CSUS on June 1-2 for the 34th meeting of the Heat Transfer and Fluid Mechanics Institute (HTFMI).

CSUS Mechanical Engineering Professor Frederick H. Reardon served as the general chair of the conference, where participants presented and discussed papers on various aspects of heat transfer and fluid mechanics.

The HTFMI was originally organized by a group of West Coast universities in 1948. Since then, the Institute has evolved from a regional meeting to an international forum. The papers presented at each meeting are published in a bound volume of Proceedings, which is distributed throughout the world.

This 34th Institute carried on the HTFMI tradition of variety in both approach and subject matter. The meeting opened with a review of liquid droplet combustion at high pressure by Professor Vigor Yang, a Visiting Scholar from Pennsylvania State University. Topics in the following sessions included fluid flow over a three-dimensional object in a pipe; heat transfer in wavy channels; hydraulic modeling of a pump station; dam-break inundation analysis guidelines; a thermal analysis of a gas turbine for biogas power generation; and a nonlinear dynamics model of a pulsating combustion system. Computer modeling techniques were central to nearly half of the presentations; experimental results were presented in another four papers.

The Institutes, held biennially, were rotated among the sponsoring universities until 1982, when CSUS began to host them. CSUS also publishes the Proceedings, which are edited by Professors Reardon and Ngo Thinh of the Mechanical Engineering Department.

TeamWorks

Continued from page 3

Other projects under discussion by TeamWorks members include assisting two entrepreneurs with designing and producing their products; a preservation and Web site project with the Sacramento Old City Association; and structural repair and restoration of the venerable McClatchy Library.

TeamWorks has already generated much enthusiasm and excitement. Students and faculty seeking information can contact Dr. Dabaghi at (916) 278-6308 or 456-4930, or at dabaghi@gaia.ecs.csus.edu, or connect with Jeff Pluth by visiting the TeamWorks Web site on the E&CS home page.
Alumni Notes

BRAD ARONSON, BSCM’88, started his own company, Pacific Program Management, based in Morgan Hill and Sacramento, which performs program/construction management services in the public and private sectors. He earned an M.S. in Civil Engineering from Stanford in 1990.

BILL BOZYM, MSCS’89, is architecture and technical manager at Pacific Telesis Video Services, building digital interactive television applications.

DAVID M. CHASE, BSC’80, is the general manager for the San Francisco office of Ogden Environmental and Energy Services, headquartered in Fairfax, VA; he oversees business, marketing and administrative activities and a staff of 45, servicing clients in the Western U.S. and beyond.

THOMAS HILL, BSME’82, who received his M.S. in Biomedical Engineering last year, is pursuing the Ph.D. at the University of North Carolina.

Capt. PAUL HINZ, BSEE’90, has returned from his tour of duty in Turkey, where he headed a $15-million updating of that nation’s military telecommunications and data communications infrastructures for the U.S. Air Force. The project, which included 22 military divisions, spanned all of Turkey. Capt. Hinz received the Air Force’s 1993 Air Force Communications Officer of the Year award.

KUN HU, MSCS’93, is a computer technical consultant with American Management Systems.

DANIEL A. MCNAIR, BSME’84, made a lateral transfer from naval aviation to the Civil Engineer Corps in October 1994. Now a deputy technical area head administering construction contracts, he supervises 16 engineers.

LAURENCE H. NEUMAN, BSEC’86, MSCE’92, swam the 1-1/2 mile Alcatraz Island-San Francisco “Sharkfest” in only 28:21 minutes, placing third in a field of nearly 500 swimmers. Neuman, a California-licensed civil and traffic engineer, studies at McGeorge School of Law. His proud father is ECS CS Prof. WILLIAM R. NEUMAN.

JAMES H. OATES, BSME’89, MSMSE’72, a consulting engineer for GE Nuclear Energy in San Jose, CA, was one of six engineers selected as fellows under the Technology Enhancement Program of the company’s Nuclear Services and Projects Department. Nominated by their peers for demonstrated leadership in their disciplines (Oates’ for mechanical design), fellows will devote part of their work time over two years to enhancing the department’s technical excellence, including helping other employees to develop their technical careers.

JAMES G. SEQUIERA, MSCE’75, is Director of Utilities for the City of Sacramento.

FRANK J. TANTONE, P.E., BSEE’74, has been named a partner of the national engineering firm of Grewley and Hansen. Based in Phoenix, he is working on water supply and treatment projects in Arizona and New Mexico.

THOMAS A. VANDENBERG, BSEC’78, who received MS (‘81) and JD (‘86) degrees from UC Davis, is on the legal staff of Lockheed Martin in Bethesda, MD.

DAVID VANSICKLE, MSBME’94, is pursuing the Ph.D. in Rehabilitation Engineering at the University of Pittsburgh.

STEVE WELTER, BSEE’89, received his MSEE last June from Santa Clara University, specializing in RF/microwave design. He is now working at GTE Government Systems Group’s RF Engineering Department in Mountain View, CA after six years at Lockheed Missiles & Space in Sunnyvale, CA.

Alumni Honors Luncheon

ECS honorees at the CSUS Alumni Association’s annual Honors Luncheon on October 23 were: ORIN BENNETT, JOHN CLEVENGER, STEVEN GROSSMAN, CRAIG NORMAN, and MAJID RAHIMIAN. The University’s academic departments recognize outstanding alumni at the luncheon.

The name of Orin N. Bennett, P.E., BSEC’71, appears often in E&CS News as a contributing writer and due to his service on the E&CS Industrial Advisory Board, E&CS Chapter Board, and CSUS Alumni Association Board. After working at CH2M Hill and Psomas and Associates, he opened Bennett Engineering Consultants in Roseville in 1993. He has served as president of the Sierra Chapter of the Civil Engineers and Land Surveyors of California and of the Sacramento chapters of the American Public Works Association and the California Society of Professional Engineers. A full-time E&CS Computer Science faculty member since 1978, Prof. John L. Clevenger, BSCS’75, earned M.S. and Ph.D. degrees in Computer Science at UC Davis. The recipient of numerous teaching awards, he also has earned an international reputation for developing PCF, the software system used to run the ACM International Collegiate Programming Contest. He is working under a Microsoft Corporation grant to develop the next-generation contest environment.

After his graduation, Majid I. Rahimian, MSEE’87 (4.0 GPA), founded Motion Control Engineering, a small business dedicated to the design, construction and marketing of DC motor drives for controlling elevators; annual sales now total tens of millions of dollars. Employing hundreds of electrical and computer engineers (mostly CSUS graduates) the company also thrives in the international market. The company’s R&D department is designing a motor drive intended to supplant the DC drive.

Craig A. Norman, BSCE’88, received a Hewlett-Packard Award for scholastic achievement as an undergraduate. He joined Norberg Engineering Co. in 1988 as a junior electrical designer and drafter. Now a mechanical designer there, he is responsible for mechanical and plumbing systems for commercial and industrial facilities, project compliance with plumbing, mechanical and building codes, and site investigations. He will soon complete his M.S. in ME at CSUS.

Steven Grossman, BSCM’87, is profiled on page 6.

Briefly continued from page 5

Construction Management students to receive its 1995 scholarship awards ranging from $500 to $1,500: Jerri Borow, Adam Villacara, Christine Acrea and Derrick Gutierrez; the organization also awarded $2,000 to Prof. Keith Bisharat for equipment acquisition. • Three students each received $1,000 Environmental and Water Resources Graduate Engineering scholarships: Elizabeth Sparkman, Damone Supica and Michael Harrison; the scholarships are financed from industry and individual contributions • The E&CS team took second place (850.15 mpg) to Sierra College (1,240.65 mpg) in the M85 category (85% methanol and 15% alcohol blend) at the West Coast SuperMileage Competition at the CHP test facility in West Sacramento last June; teams from 12 universities and colleges competed in the annual event, sponsored by the California State Automobile Association and the Society of Automotive Engineers. • At a recognition luncheon last Sept. 29, MEP Director Madeleine Fish accepted $400 from California Energy Commission staff for scholarships, noting that this was the first time that employees of an organization had raised cash to benefit the MEP. • President Donald R. Gerth presented Senior Achievement Awards to two E&CS students, Chris Haviland (CPE) and Arthur Webb (BSEE’95), at a ceremony last May; the annual award recognizes outstanding scholarship, leadership qualities and positive contributions to campus life.
Faculty/Staff News

JEAN-PIERRE BAYARD (EE) presented a "A Microwave System for Tracking Automated Shadow Vehicles" at the Oct. 5 CSUS Chicagos and Astronomy Fall Colloquium Series '95.

CE professors JOAN AL-KAZILY, KENNETH KERRI and RAMZI MAHMOOD have compiled a $28,000 project with the California Department of Transportation (Caltrans) to study monitoring and permitting needs for storm water runoff from state highways. This team, representing both transportation and water quality interests, will continue to work with Caltrans next year under a contract which is currently being developed.

JOHN BALACHANDRA (EE) received a $42,752 grant from the Air Force for a project, "Optimization of remote monitoring capabilities for the PCCIE World Wide Power Quality Equipment Organization,", expected to be completed by Feb. 1996. He is continuing his three-year subcontracts to conduct research on SMES (superconducting magnetic energy storage). He received a gift of five power harmonics analyzers from the Fluke Corp. for use in the new Power Electronics Lab course (EE 196P), offered for the first time in the Fall 1995 semester.

JEAN-PIERRE BAYARD (EE) received a 1995 Summer Fellowship Award for his project, "ENG 17 on CD ROM."

FRANCOIS CHEONG-SIAT-MOY (CE) presented a paper, "Misconceptions Regarding the K-Factor," at the International Conference on Structural Stabilty and Design, in Sydney, Australia, Oct. 30-Nov. 1. His analyses of steel structural stability have influenced code content in the U.S., Canada and Australia.

DENNIS DAHLQUIST (EE) has been teaching Engineering License Exam review courses through the Professional Engineering Institute; he is writing and editing a correspondence review course for the Fundamentals of Engineering exam, to be published by PEI next year. He was a judge for the Electronics Division of the Industrial and Technology Education statewide pre-college (grades 7-12) competition at the 1995 California State Fair. A past president and director of the Sacramento Valley Chapter of the California Society of Professional Engineers, he has been appointed to CSPE's state advisory board.

Dean BRAJA M. DAS was appointed by President Donald R. Gerth to the Mission McClellan Executive Advisory Committee, a group of education, business and political leaders working toward successful privatization of McClellan AFB.

CYNTHIA DESMOND (EE) will present (with colleagues from the Naval Research Lab) "Electronic Characterization of Vacuum-bonded P-N Wafers" at the Materials Research Society's spring meeting in San Francisco, April 1996. She received a faculty fellowship from Lawrence Livermore National Labs to analyze bonded silicon wafers for applications to micro-electromechanical systems (MEMS), Jan.-July, 1995.

MEP Director MADELEINE FISH received a Los Maestros del Año (Teachers of the Year) award from the U.S. National Latina Graduation Committee for her leadership and support, last May 28.

MAHLON HELLER (EE) was awarded a $64,205 contract by Caltrans to continue his development work on a Prototype Shadow Vehicle through Dec. 1995.

CE Prof. and Director of Water Programs KENNETH D. KERRI was among the eight CSUS faculty who received the 1994-95 CSUS Outstanding Teaching Award. Among important criteria are teaching effectiveness over the last five years and evidence of impact on the lives and careers of their students. Kerri published "The Financial Problems of Developing Countries," in New Water World, 1995, pp. 12-15. He gave two talks, "Transferring Technology" and "Program of Certification for Operators," to the Working Group on Operation and Maintenance, World Health Organization, Geneva, Switzerland, last May 29 and 30. He was site coordinator for the AWWA Teleconference on Source Protection of Watersheds at CSUS, Aug. 3, and then conducted two workshops, "Process Control for Water Treatment" and "Activated Sludge Process," at the Leadville Operators' Conference, sponsored by the Colorado Operators Association on Aug. 7 and 8. He gave the keynote luncheon speech, "Taking Pride in Your Profession," and spoke on "Evolution of Operator Training and Certification," at the California Water Environment Association's Northern Regional Training Conference, Burlingame, CA, Sept. 8.


B.P. LATHI (EE) chaired the awards committee of the Text and Academic Authors Association for 1995; the committee oversees the nomination and judging of textbooks for excellence in eight disciplinary categories.


MEILIU LU (CSC) refereed papers submitted for presentation at the 12th International Conference on Data Engineering, and articles submitted for publication in IEEE Transactions on Knowledge and Data Engineering. She received a 1995 Summer Fellowship for "Adaptive Architecture for Case-Based Advisory Systems."

E EE Prof. and Dept. Chair S. K. RAMESH has been elected president for 1995-96 of the campus Omicron chapter of Phi Delta Theta, the Honor Society for International Scholars. He received a gift from Tektronix of the 2500 Series test lab equipment valued at $10,000, for use in the Optical Engineering Lab.

JAMES G. SIMES (EE) received a CSUS Mini-grant providing three units of assigned time for work on his project "Conversion of Computer Controlled Instrumentation Laboratory from Basic to "C" and to implement changes in the Electronics Laboratory in ECS 3017.

Administrative Operations Analyst GWEN SMITH received the 1995 E&C Employee-of-the-Year Award; criteria were initiative, ingenuity, attitude, reliability, and involvement.

WARREN D. SMITH (BME) served on an advisory panel to review proposals for the National Science Foundation in the biomedical engineering area, Arlington, VA, April 26-28.

CE Department Chair AJIT S. VIRDEE co-authored (with Gregg E. Brandow and Gary C. Hart) Design of Reinforced Masonry Structures, a textbook being used by design professionals as well as graduate students at major universities. He participated in the Structural Engineers Association of California's Vision 2000 Committee to prepare "Performance Based Seismic Engineering of Buildings," a document that will serve as a basis for the next generation of seismic design codes. On Sept. 21, the Association honored Virdee's contributions to both the Association and the profession with the award of Fellow—one of the first 15 elected to this new grade. He also participated in the Association's Seismology Committee in preparing the 1997 Strength Design Seismic Code.

CSC Prof. DU ZHANG's paper, "Software Component Search" (with J. A. Goguen, D. Nguyen, J. Meseguer, Lugli, and V. Berzins), will be published in Journal of System Integrations. He presented, and published in Proceedings, "A Tool for Animating Object-oriented Formal Specification" (with K. Czarneckie and K. Lan), at the Monterey Workshop on Specification-based Software Architectures, Monterey, CA, Sept. 1995; and "Formal Analysis of Inconsistency and Redundancy in Knowledge Bases" (with Lugli) at the IJCAI-95 Workshop on Validation and Verification of Knowledge-Based Systems, Montreal, Aug. 1995. He served on the program committee for the 12th IEEE International Conference on Data Engineering. During his 1994-95 sabbatical, he was a visiting professor in the Computer Science Dept. of the University of Minnesota, Minneapolis, and in the Computer Science Dept. of the Naval Postgraduate School, Monterey, CA.

Milestones

Prof. CYNTHIA DESMOND (EE) gave birth to her fourth son, Michael Paul Desmond (9 lbs. 15 oz.), on June 30.

MEP Director MADELEINE FISH shot a 135-yard hole-in-one at the Campus Commons Golf Course last August 13.

Prof. and former E&CS Associate Dean JOHN HESTER retired after 26 years on the ME faculty. Hester was associate dean for eight of those years.
Grossman
Continued from page 7
particularly of how structural members react under stress, based on his solid experience and a keen intuitive sense.

To set the final asking price, estimators calculate overhead and margin and evaluate risk. They must have current knowledge of materials prices, equipment costs and prevailing wage rates for various specialties, and shrewdly evaluate subcontractors’ capabilities. Estimators must also be expert at coordinating and scheduling portions of the job with subcontractors, who number every once in a while the typical job. Grossman especially enjoys the challenge of staying relaxed, focused and organized during the tumultuous bidding process. With huge sums at stake, he finds bidding day the most exciting part of his job. This past fiscal year, the company’s bids exceeded one billion dollars.

Grossman has found time to build a family: He and wife Tawny (B.A., Psychology, CSUS) have two daughters, Amanda, 8, and Justine, 4.

Grossman places great value on the CSUS CM program, to which he has contributed as a guest lecturer on highway construction and the bidding process. He takes pride in his work and in his profession, quoting a message about builders presented to him at his graduation: “[Builders] see ourselves in our buildings, our roads, our dams and bridges. [Who else builds only] the prototypes and work[s] constantly to put themselves out of work? We gather products from around the world and assemble them with people who may only work for us for days or weeks. Out of all these diversities, we develop unity. We build organizations and teams of people that astound the world and ourselves. It’s amazing when you consider it. [And] we got our start in one of the most respected construction programs in this industry!”

Message to New Alumni

There were 173 E&CS graduating seniors eligible to receive B.S. degrees in summer or fall 1995; M.S. candidates numbered 60. Graduates who participated in Winter Commencement 1995 at Arco Arena on December 16 each received a gift from the E&CS Chapter of the CSUS Alumni Association. These new alumni found this meaningful message tucked in their packages:

You have just completed an education that will propel you into your life’s work. California State University, Sacramento will become a part of your professional personality. People will often recognize your abilities by the strength of your education. You will be, and should be, proud of the preparation provided to you by your Alma Mater. You will not only be able to compete, but will often find yourself more adequately prepared than others educated at more widely known institutions.

As you move through your professional career, it will become important to you for your colleagues to respect the institution that provided your education. The CSUS Alumni Association is about providing that respect. You will want to become an active member of the Association and assist in spreading the word that your University provides one of the best Engineering and Computer Science educations this Nation has to offer.

Employers who have hired your fellow alumni know...Let’s tell everyone else.

This message was signed by Orin N. Bennett, P.E. (BSCE’71), CSUS Alumni Board and E&CS Chapter president; and by Dr. Braja M. Das, Dean, School of E&CS.

You Are News! What are you doing now? What articles would you like to see? If you’d like to share some information with your former classmates and us, just fill out this form. Please let us know when you move, so you can get the News faster and save us postage. Thanks for your help — and we appreciate your donation of a stamp and envelope!

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Comments:

Yes, I want to be involved in the CSUS Alumni Association Engineering and Computer Science Chapter!

Categories of membership (check one):

- $35 Annual Individual
- $350 Life Individual
- $40 Annual Friend Individual
- $45 Annual Joint Spouse
- $400 Life Joint Spouse
- $50 Annual Friend Joint Spouse

Make check payable to CSUS Alumni Association. Thanks for your membership!

Please send correspondence and/or membership dues to:

Barbara Casetto, Director of Development
CSUS School of Engineering and Computer Science
6000 J Street
Sacramento, CA 95819-6023
(916) 278-6629 FAX: (916) 278-5949
New Associate Dean is Sac State Alumnus

Dr. James Kho, new associate dean of E&CS, is a man of many talents — and he is sure to need them all.

He has replaced two part-time associate deans, Drs. John Hester and John Oldenburg. "I am a workaholic. Lots of things need to be done and I think I can contribute," he said shortly after his July 1 appointment.

Kho regards the tight budgets expected for the next few years as the School's biggest challenge: "We can no longer count on the state for everything that we would like to do." He noted that in the near future the School will have to obtain up to 30 percent of its income from external sources. He suggested that industry and individuals can generate some of these much-needed revenues through fees for contracted services such as specialized professional training, workshops and cooperative research, conducted by faculty on campus or at industry sites.

To help counter declining enrollment trends in both E&CS and the University, Kho is playing an active role in outreach and recruitment efforts directed at both community colleges and high schools. He works closely with the newly-formed E&CS Recruiting Committee and with staff of the Minority Engineering Pro-

gram and the University to identify prospective students and facilitate their admission to CSUS.

The former chair of the E&CS Computer Science Dept. (1977-87) earned Ph.D. and M.S. degrees in computer science from the University of Wisconsin at Madison, an M.B.A. from CSUS ('76), and a B.S. in mathematics from the University of the Philippines.

Kho came to CSUS in 1973 as the fourth faculty member of a fledgling Computer Science Department, leaving a teaching position at Wayne State in Detroit. He knew Northern California well: While working on his Ph.D., he spent three summers in San Francisco as a volunteer in a computer center and with community groups that served senior citizens in Chinatown and Japantown. "I always wanted to come West when I was a student," he said.

High-performance computing is his current research specialty. He has used the Cray and other supercomputers at the San Diego Supercomputer Center. This interest grew out of earlier work in parallel processing, using hypercubic parallel machines.

Kho, who has published and presented widely, has received numerous grants for research and equipment, and awards for professional activities and achievements. He has served industry and academia locally and abroad as a consultant and educator, traveling to Mexico and to the Philippines, China, Singapore and other Pacific Rim nations. He has attended international professional meetings in Asia and in Europe, where he has exercised his considerable linguistic abilities. Besides English, he speaks Mandarin, Hokien, Tagalog, and some Spanish and German.

Hester, a longtime member of the Mechanical Engineering Department, retired in August. Oldenburg will return full-time to teaching and research in the Biomedical Engineering program after completing his fall 1995 sabbatical.