Alums Help Military Use New Technology

Returning from a European trip to NATO laboratories in Sacramento, Alums Ted Glum and Keith Bergevin find their way back to their high-security offices deep within the confines of McClellan Air Force Base. While most of the base is slowly closing, these two players in the international field of military defense microelectronics find their operation will remain and is more in demand than ever. They are among 90 highly sophisticated engineers, about two dozen of whom are CSUS graduates, who staff the Defense Microelectronics Activity (DMEA) laboratories in Sacramento.

Among the CSUS graduates involved is Glum, who is now director of the operation and son of Donald E. Glum, who taught electrical engineering at CSUS for many years. Bergevin is a senior design engineer — whose work is known worldwide and to whom Glum frequently refers only partially in jest as “a national treasure” — who received his bachelor’s and master’s degrees in electrical and electronic engineering from CSUS. Carolynn Drudik, chief of the reengineering branch, holds her bachelor’s in electrical and electronic engineering and master’s in business administration from CSUS.

“We have built a unique capability here,” says Glum, “bringing highly qualified engineers into one place to create solutions that apply across the field.”

As director, Ted Glum reports directly to the deputy undersecretary of defense. DMEA is a low profile, high security enterprise. Many of the walls are copper lined for security so that no electrical emissions can be tapped from the outside and bank vault doors protect certain areas. It is a place where gamma ray irradiation tests for extreme and hostile environments, including space, are part of the daily routine. There are three electron microscopes because the technology they are producing is not only too small to see with the naked eye, but too small to see with a regular optical microscope. Clean rooms are common. Computers simulate reality before it is created for real. Focused ion beams bore deep into the anatomy chips to unveil their mysteries. This is an operation that easily puts out a $875 million request for proposals to contractors such as Lockheed, Raytheon, General Dynamics, TRW and Rockwell.

“We establish the gold — make that platinum — standard for reverse engineering of microelectronics,” said Glum.

The mission of the labs involves the entire spectrum of microelectronics, particularly keeping technology from becoming obsolete. In the

Campus Work Study Awards Increased

The University’s Federal Work Study program received a $650,000 increase this year, placing it at the top of the CSU system in work study funds available to students.

Linda Joy Clemons, director of financial aid, requested the increase from the U.S. Department of Education, which distributes work study money, including unused funds from the previous year.

Since 1987, CSUS has distributed all of its work study funds. This year, Clemons asked for an additional $1 million to increase the program. In comparison, other CSUS campuses asked for no more than a $64,000 increase.

Federal work study pays 70 percent of a student’s wages for work that is part of each financial aid award. Students are paid from $5.75 to $12.48 an hour at a job either on-campus or off-campus that the University work study office has approved.

According to Patricia Schindler, job location and development coordinator, the job schedules are flexible and more than 800 students have positions, many of which are career related. Several students placed in work study jobs 11 years ago in Sacramento are still with those agencies as management and now call me with job openings they have for a work study student.

For the last two years work study students have not only received benefits, they have also given back to the community through the America Reads Program. As a result of President Clinton’s call for colleges and universities to invest a significant portion of the new work study increase in helping children learn to read, 300 of the jobs are tutoring children in local elementary schools.

Work on New Building To Begin in April

Work on a $12 million, five-story classroom building will begin late this spring and is expected to be completed by the start of the fall 2000 semester. The building will replace the outdated Mariposa Hall, which is being torn down.

It will provide, for the first time, permanent quarters and specialized lab space for the program of design. It will house the department of foreign languages, which is moving out of Eureka Hall as the College of Education expands to meet the state’s increasing need for new teachers. In addition, the department of family and consumer sciences will move into the new building, as will the division of social work and the Dean of the College of Arts and Letters.

The building was designed in the early 1990s, but the long recession delayed construction. “All the planning and effort are finally coming to fruition,” says Howard Harris, associate vice president for facilities management. “This will be especially nice for the programs like design and family and consumer science that were in the old Mariposa Hall.”

In all, the new building will provide classroom seating for more than 500 students as well as 88 faculty offices. There will also be 150 computer stations.

It will be notable for a one-story circular extension on one side that will serve as a large lecture hall for as many as 150 students.

As a whole, the building will most closely resemble Mendocino Hall. It will have large sections of colored glass and concrete in interesting shapes, which has become the standard architectural approach to campus buildings during the last couple decades. An outdoor stairwell will lead over the main entrance and to the top floors.

A groundbreaking ceremony is scheduled for 2 p.m., April 23, and will be free and open to the public.

President Addresses Faculty Salary Issue

The CSU Board of Trustees met March 17 and passed a resolution which implemented faculty salary increases as well as other terms and conditions of employment based on the last best offer made by the CSU. Additional information is available at www.calstate.edu.

A letter from President Donald C. Gerth and information from Chancellor Charles Reed on the Board’s action can be found on the CSUS web pages at www.csus.edu/news/letter_from_president_gerth.htm.
Building Groundbreaking Scheduled for April 23

Continued from page one

During construction, the area between Kadema and Eureka halls will be fenced off. There will be some noise from the work, but efforts will be made to minimize disruptions.

The new building is funded through a school bond approved by voters in November 1993, which will ultimately provide the University with $50 million for construction.

In addition to the new classroom building, the bond provides funding for a $25.2 million technology-based addition to the University Library, as well as $13.5 million for infrastructure support to existing buildings, telecommunications expansion and continued implementation of technology.

The 100,000 square foot building, known as the Academic Information Resource Center, is envisioned as ideal for using information technology in support of academics. It would house at least 500 computer stations, and space for both University Computing and Communications Services and University Telecommunications Services. Work on it could begin as early as 2002, pending various approvals.

The Center is needed because, in coming years, student computing needs will increase and even more faculty will use information technology in their courses. The campus’ enrollment may grow from the current 24,000 to as high as 35,000 in the next 15 years. More information is available by contacting facilities management at 276-6421.

His wife NELIDA Gonzales and their two young daughters also wanted to return to California, making the timing of the CSUS opening perfect.

Diaz says the most enjoyable and important aspect of outreach work is answering questions as a campus representative. The big challenge, he says, is integrating the multiple campus messages and activities in a coordinated effort to identify prospective students and encourage them to follow through with applying and enrolling.

In addition to outreach positions, Diaz has worked in higher education in retention, educational equity and pre-collegiate programs. He spent one year as an administrative intern at the Harvard Graduate School of Education.

Diaz has also taught occasional college courses. He taught Chicano/ Latino in contemporary society at CSU Chico and an introductory Chicano American course at Butte Community College.

The results of the Faculty Senate election concluded on March 12 were:

- CSU Academic Senator, 1999-2002: Louise Timmer (nursing)
- CSUS Senator Representing Temporary Faculty, 1999-2001: Matt McCormick (philosophy)
- Judicial Review Board Members, 1999-2002: Larry Chase (communication studies); Smide Dube (economics); and Brenda Hanson-Smith (nursing)
Illness Inspired Award-Winning Student Artist

As a youngster, Carol van Ravenswaay made jewelry and ceramics. After graduating from high school, she began painting. At one point she even moved to Europe to study French and explore a career in art restoration, only to discover the trade required more knowledge of chemistry than skill with a brush. But it took a serious illness that forced her into the hospital for van Ravenswaay to get serious about art.

“One day I’m well, the next day I’m being taken to the emergency room,” she recalls. “It really had an effect on me. I found that I had been very complacent about my art, and I didn’t want to be anymore.”

So the woman who had earned a bachelor’s degree in French, a master’s degree in English, but had never studied art at the university-level began focusing on her painting. That was eight years ago.

She entered the master’s in art program in 1996 and expects to gradu- ate this spring. And recently, she was one of two CSUS graduate students honored at the art department’s Student Awards Show, winning the Increase Robinson Memorial Scholarship of $1,000.

She will have a solo show at the Witt Gallery beginning March 23 and closing with a reception on April 10.

Like many CSUS art students, van Ravenswaay paints in an abstract style, often working out of her home in Lassen County.

Many of her oil and watercolors are inspired by nature, particularly water. She uses compact, circular marks and curving brush strokes to help blur the lines between objects and space. She says she is especially influenced by Vermeer and the Dutch landscape painters of the early 18th century. van Ravenswaay says she didn’t enroll at CSUS to study under a particular professor, and has enjoyed working with diverse faculty artists.

“What has so been nice about studying here is that everybody gives you feedback, and they all have different styles and philosophies,” van Ravenswaay says. “You aren’t limited by one or two points of view.”

After graduating, van Ravenswaay hopes to volunteer more teaching art in elementary schools. She has previously served on the Amador County School District Arts Curriculum Committee and on the county’s Arts Council. She also plans to continue working at the Amador-Tuolome Community Action Agency, a public non-profit group which coordinates low income programs.

— Frank Whittach

News Digest

Insurance Career Fair March 23

Drawings for ten $100 educational prizes will highlight the upcoming Insurance and Risk Management Career Fair which is 9 a.m. to 2 p.m. March 23 in the University Union Redwood Room.

Numerous employers will be offering job and internship opportuni- ties in areas such as accounting, auditing, claims, finance, human resources, risk analysis and sales. It will also be a good opportunity for networking.

The fair is sponsored by the California Insurance Education Foundation and presented by Gamma Iota Sigma, a co-educational profes- sional fraternity. It is free and all majors are welcome. More information is available at 966-8678.

Staff Awards Day April 5

The annual Staff Recognition Day Awards Ceremony and Luncheon will be held from 11:30 a.m. to 1 p.m., April 6 in the University Union Ballroom.

CSUS staff and administrators, as well as employees of Associated Students and the CSUS Foundation will be recognized for 10, 15, 20, 25 or 30 years of service to the University.

The menu features chicken or vegetarian caserole, green salad, fresh fruit, chips and salsa, fudge brownie with raspberry sauce and iced tea. Tickets are $6 per person and are available from the following staff members (followed by their telephone extensions): Barbara Bradley, 6421; Kathy Harris, 7001; Barbara Oseto, 5684; Gail Peters, 6127; Kru Watson, 7430; Phyllis Donovan, 6487; Lillie Jones, 5680; Andrea Perez, 7012; Shirley Vican, 6923; Sarah Whyte, 7450.

Tickets should be purchased early because the event typically sells out.

Five-digit Calling Begins April 17

To allow for growth and accommoda- tion additional fax lines, cell phones, pagers and telephone extensions on campus, a new telephone dialing system will go into effect on April 17.

The availability of phone numbers with the 278 prefix is running short, therefore the campus will move from four-digit extensions to five-digit extensions.

To use campus telephones after April 17, callers will need to dial an 8 followed by the current four-digit extension. For example, the public affairs office will be 8-6156 instead of the current 6156. For further information call 278-7707.

Reentry Scholarships Are Available

The Reentry Office offers a variety of scholarships available for the next academic year.

No appointment is necessary to review them in Lassen Hall 1013 and most have deadlines in April. Com- pleted applications should be submitted to the Admissions and Records front counter in Lassen Hall.

Phi Beta Delta Omicron Initiates New Members

The Omicron Chapter of Phi Beta Delta, the honor society for international scholars, recently held its winter initiation ceremony.

The new members are: Mary Brabant, professor of nursing; Eileen Brault, a student in business administra- tion and Spanish; Margaret Carol Brown, professor of Spanish; Yong Hynn Cho, research scholar at CSUS from Kunmoh National University of Technology in Korea; John Clark, professor of management; Robert Dufy, a student in Spanish, Toyoyuki Fuku, a student in ethnic studies; Johanna Jarmar, a student in family and consumer sciences; Heidi Krautschick, a student in German and communication studies; Philip Lee, a student in business administration; Christine Samovilie, a student in communication studies; Cathy Lien Tran, a graduate student in interna- tional affairs; and Naim Triki, a graduate student in mechanical engineering.

Nominations are now being ac- cepted for the next initiation ceremony, which will be held on May 5. Call Monica or Janis at 278-6686 for more information.

CSU International Programs Resident Director Positions

Each year CSU International Programs recruits faculty to serve as resident directors in six study abroad programs. The positions present an excellent opportunity to work, live and travel for an academic year within one of six countries: France, Italy, Japan, Mexico, Spain or Zimbabwe.

Nominations on the qualifications for and benefits of the positions are available from Kenneth Luk, the CSUS representative to the Academic Council for International Programs, at 278- 6300, or Monica Freeman, Interna- tional Programs, at 278-6686. Applications should be available in late April.

No Bulletin Next Week

The CSUS Bulletin will not be published March 29 because of spring break. The deadline for the April 5 issue is 10 a.m., March 31. The final Bulletin for the spring semester will be May 24. Call Renée Hayes at 278-6156 for more information.

SWAT Teams Will Train on Campus

During spring break, the Sacramento Police Department’s Special Weapons and Tactics (SWAT) team will be on campus, utilizing Yosemte Hall, Solano Hall and the Library for training in building searches.

The training is to help the team prepare to assist the University Police in the event of a crisis situation on campus. More information is available at 278-6851.

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microchip industry obsolescence is a problem as the technology is dynamic and significant changes occur about every 18 months. While microelectronics is changing rapidly, tanks, fighters, missiles, carriers, submarines, and helicopters, have long production cycles with the military.

For example, Glum said, the B-52 will survive for three generations of pilots, from development in 1946 to 20140, when it is scheduled to go out of production. While there have been major modifications, many of the parts that were used in its early years are no longer manufactured or appropriate.

"The military wants the old chips for its equipment, but the semiconductor industry can’t profit continuing to make old technology. We break the logjam, we develop new solutions that solve the problems and profit the industry," said Glum. Even with new equipment the technology changes more rapidly than production. For example, the F-22 fighter has yet to develop chip solutions, often through reverse-engineering, that balance correctly in the old planes.

What DMEA actually does is quite complex. They have developed chip solutions, often through reverse-engineering, that can be applied across the board to a number of problems. If one chip that was widely used by the military goes out of production, DMEA comes up with a smarter, more cost effective solution. When one Navy chip that was widely used became obsolete, DMEA engineered a solution that helped the Navy save $22 million, plus the chip was usable in other applications.

"While our first priority is military application, there are other uses as well such as a FAA radar, or NASA projects like the space shuttles," said Glum. To meet government needs, DMEA has developed an arsenal of technical solutions to obsolescence in the microelectronics industry, including a generic chip which allows engineers to "connect the dots" to produce a customized solution that is technically correct. It is also a solution that produces profitability within the industry and a solution for current defense products.

It starts by reverse-engineering old chips to determine exactly what they do and how they work. This includes a probing station which probes every circuit, every diode, every transistor and extracts the precise value of each device, as well as the speed of circuit. Old information is then reanalyzed, through computer simulations into a new device that can take over the function of the old technology. A prototype is developed and tested on site before it becomes available for production by defense contractors.

The DMEA engineers are highly skilled and employable. When base closure and the future of DMEA was under discussion, 20 percent of them left. Most simply changed commute patterns and went to work for other high technology companies in this region. Thus the decision was made leave the remaining engineers where they were and allow DMEA to prosper in Sacramento, where they will continue to hire CSUS engineers.

CSUS Events

Monday, March 22

National Nutrition Month exhibit in Mendocino Hall, 2nd floor foyer.

Week of March 22-26, Popular Diets: Fads and Fallacies.

Jamie Anderson concert, noon, University Union Auditorium. A Woman’s History Month event.

"The Role of Focusing Events in Setting Public Policy,” by Tom Birkland, of the State University of New York, Albany. 4 p.m., University Union Oak Room.

Piano Series master class presented by Anne Koscienly. 2 p.m., MUS 151.

Thirteenth annual Distinguished Service Awards Banquet with keynote speaker Major General Joseph Johnson. 6:30 p.m., University Ballroom. Tickets are $45 per person; call 278-6295 for reservations.

"An Introduction to Buddhism,” presented by Bhante Seelavimala and Rev. Rin Kohba. In celebration of the 100th anniversary of the Buddhist Church of Sacramento. 7 p.m., Mendocino Hall 1005.

Piano Series recital featuring Anne Koscienly. 8 p.m., Music Recital Hall, $5 general, $4 students/seniors, tickets available at the Central Ticket Office, all BASS Ticket Centers or at the door.

Tuesday, March 23

Insurance and Risk Management Career Fair. 9 a.m.-2 p.m., University Union Redwood Room.

Economics Student Career Planning Conference, 11 a.m.-2 p.m., Library 111. Economics alumni from local private and public organizations will address current students with career planning advice and a question and answer session.

Works by Carolyn van Ravenswaay, CSUS graduate student, noon-5 p.m., Raymond Witt Gallery. Exhibit continues to April 2.

Wednesday, March 24

National Nutrition Month event. Popular Diets: Fads and Fallacies," exhibit and information, 11 a.m.-3 p.m., walkway between Hornet Bookstore and Mendocino Hall.


Softball vs. Ohio University (2), 1 p.m., IM Rec Field.

Women’s tennis vs. UC Santa Barbara. 2 p.m., Rio Del Oro Racquet Club (on campus courts).

Self-defense workshop presented by Midge Marino, health and physical education, 6:30 p.m., University Union Valley Suite. A Women’s History Month event.


"Don’t Get Caught in the Web," 7-9 p.m., Library 2024. Call 278-5981 for more information.

CSUS Sun Quarter with guest artists Lauter Tzicker and Richard Cisneros. 8 p.m., Music Recital Hall, $5 general, $4 students/seniors, tickets available at the Central Ticket Office, all BASS Ticket Centers or at the door.

Thursday, March 25

"Don’t Get Caught in the Web," 10 a.m.-noon, Library 2024. Call 278-5981 for more information.


"Dating Issues," presented by Getta Peterson, WEA VE, 6:30 p.m., University Union Valley Suite. A Women’s History Month event.

 weekend. For example, the F-22 fighter has yet to develop chip solutions, often through reverse-engineering, that balance correctly in the old planes.

3 p.m., Executive Committee, SAC 275

4 p.m., Curriculum Subcommittee, SAC 275

3 p.m., Executive Committee, SAC 275

5 p.m., Curriculum Subcommittee, SAC 275

Faculty Senate

Monday, April 4

3 p.m., General Education Policies/Graduation Requirements Committee, SAC 275

Tuesday, April 5

1:30 p.m., Curriculum Policies Committee, SAC 275

3 p.m., Executive Committee, SAC 275

Wednesday, April 6

1 p.m., Faculty Policies Committee, SAC 275

Thursday, April 7

3 p.m., Faculty Senate, University Union Foothill Suite, tentative

Tuesday, April 13

1:30 p.m., Curriculum Subcommittee, SAC 275

3 p.m., Executive Committee, SAC 275

Wednesday, April 14

3 p.m., General Education Course Review Subcommittee, SAC 275

Thursday, April 15

3 p.m., Faculty Senate, University Union Foothill Suite, tentative

Friday, April 16

2 p.m., Academic Policies Committee, SAC 275

Monday, April 19

3 p.m., General Education Policies/Graduation Requirements Committee, SAC 275

My Raines: A Celebration of Dance, Music and Song, the third annual Cultural Arts Extravaganza presented by Raines Grupo Folklorico. A two-hour presentation features more than 50 dancers, musicians and singers.

7 p.m., Sacramento High School Mel Lawson Stage, 2315 54th St. $15 general, $10 children and students with ID. Advance tickets are available by calling 446-5133 or 384-9157.

Also performed Friday, March 26.

Once on this Island, musical set in the Caribbean based on the novel by the same name, music and lyrics by Alan Menken, book by Howard Ashman, choreography by Charles Strouse. Performances continue at 8 p.m., March 26-27, and 2 p.m., March 28.

Friday, March 26

La Lucha Sigui (The Struggle Continues), Cesar Chavez Commemoration and Installation art exhibit of works by Andres "Yuri" Porra, 8 a.m. - 5 p.m., Multi-Cultural Center (Library 1010). exhibit continues to April 9.

Ergonomic awareness training for CSUS faculty and staff, 11 a.m.-noon, and 1-2 p.m., Library 111. Call Valerie Torres at 278-6456 to reserve a seat.

Softball vs. Portland State (2), 1 p.m., IM Rec Field.

Baseball vs. CSUS Northern, 2 p.m., IM Rec Field.


Phi Beta Delta honor society reception for visiting international scholars, 5-7 p.m., University Union Forest Suite. Call 278-6616 to RSVP.