UC efforts help create a new university in quake-torn Armenia

On December 7, 1988, an earthquake measuring 6.9 on the Richter scale, followed by a 5.8 aftershock, struck the Soviet Republic of Armenia, killing more than 25,000 people, leaving 500,000 homeless, and dealing a staggering blow to Armenia's economy. However, the seed of an idea from the rubble of that quake has grown into a new institution that may help the republic rebound from its calamity.

The University of California will assist in developing the American University of Armenia (AUA), a private, U.S.-based university of technology and business located near the Armenian capital. The UC Board of Regents approved the plan at its July meeting, after more than two years of work by advocates in the U.S. academic and Armenian-American communities.

"This university would be the most important way to help Armenia's economy as it is trying to rebuild from the earthquake devastation, which was enormous," said Armen Der Kiureghian, professor of civil engineering at Berkeley and one of the proponents of the proposal to UC. He added that the university will be a regional institution offering advanced education to people throughout the Caucasus, the region between the Black and Caspian Seas in the USSR, and in neighboring nations.

"We hope this proposal will lead not only to a new university to serve the people of Armenia and the Soviet Union, but also to an ongoing student and academic exchange and cooperation program between UC and the new institution," said William R. Frazer, UC senior vice president for academic affairs and the head of a UC task force that traveled to Armenia and studied the proposal. "These programs would enhance the learning, research, and teaching at both universities."

UC involvement in the new university will include training Armenians as faculty through UC's normal graduate education process; developing a curriculum and an administrative plan; designing the campus; and developing a program of cooperation between UC and the new university. UC will be compensated for all services provided.

The new university will be funded by the Republic of Armenia and the Armenian General Benevolent Union (AGBU), a philanthropic organization based in the U.S.

The idea for the new school was born when Berkeley's Der Kiureghian traveled to Armenia soon after the 1988 earthquake. He and several of his academic colleagues, along with many fellow Armenian-Americans, nurtured the idea's growth.

As a member of a National Academy of Sciences team, Der Kiureghian visited Armenia right after the quake, and he returned in February 1989 as part of an international delegation invited by the Soviet government to discuss reconstruction efforts. During that second visit, the delegates surveyed the ruins of the technical college in Leninakan. Later in the visit, the director of the polytechnic college brought up the possibility of starting an American technical university in Armenia. Searching for a way to help, Der Kiureghian embraced the idea.

Working with fellow delegate Mihran Agbabian, chair of the civil engineering department at the University of Southern California and, in 1951, recipient of Berkeley's first Ph.D. in structural engineering, Der Kiureghian turned the idea into a proposal. He sent the plan to congressional representatives, government officials, and Armenian-American organizations, including the AGBU.

Der Kiureghian also discussed the idea with Karl S. Pister, then Dean of Berkeley's College of Engineering. Pister suggested exploring the proposal with UC President David P. Gardner. With the assistance of Stepan Karamardian, former dean of the Graduate School of Management at UC Riverside, the plan was presented to Gardner. The president responded by appointing the task force, headed by Frazer and including Pister and Der Kiureghian, to examine the possibility of providing educational and administrative support. The committee traveled to Armenia in July 1990.

Task force members were impressed with the country's rich human and cultural resources. Primary and secondary education for Armenia's 3.5 million people today is "quite good," Der Kiureghian says, and the country has had a system of higher education since the fifth or sixth century.

Civil engineering professor Armen Der Kiureghian will be dean of engineering at the new university in Armenia.

In addition, Armenia has abundant natural resources including copper, zinc, aluminum, marble, and granite, all of which have contributed to the growth of mining and manufacturing. While Armenia does possess some computer and laser technology, it lags behind the western world in advanced manufacturing and trade. Der Kiureghian said Armenia is a "laboratory" that could provide a multitude of opportunities for research in these areas.

With the Regents' approval of UC involvement, Agbabian has been appointed as the first president of the new university. In addition, Der Kiureghian will serve as dean of engineering (in residence in Armenia during the summers only), and Riverside's Karamardian will be dean of business management at AUA.

The university will open its doors to its first students this fall at a temporary site in Yerevan, the Armenian capital, in a building made available by the government of the republic. Permanent facilities will be completed in three or four years in nearby Abovian.

The most pressing task for the new administration will be recruiting faculty, Der Kiureghian says. He hopes to attract professors from UC campuses to be visiting faculty in Armenia, especially in the fields of earthquake engineering, industrial engineering, and business, the first emphases of the new curriculum.

Der Kiureghian says that the initial senior faculty will be primarily Americans, but the junior faculty will consist of 12 Armenian graduate students, currently enrolled in doctoral programs at Berkeley and USC in such areas as seismology, geology, environmental engineering, computer science, electrical engineering, business, and industrial engineering.

Der Kiureghian stressed that the university will be American-based, with an American board of trustees and with all instruction in English. He pointed to the American University of Beirut as the model being following for a private, U.S.-run, regional institution. "The American University of Beirut has played a tremendous role in helping the people of the Middle East. We hope we can play a similar role for the people of the Soviet Union and the whole Caucasus region," he said.

Karl Pister, now Interim Chancellor at UC Santa Cruz, said his personal view is that the University of California "ought to be out helping countries all over the world with their educational problems . . . We're helping to raise the standard of living around the world when we export our know-how and education."

Pister is also currently involved in starting the Hong Kong University of Science and Technology. He and Berkeley EECS professor Ernest Kuh serve on the engineering advisory board for the school, also set to open this fall. Although its origins differ from those of Armenia's new school, the new institutions are similar in having reached out to the University of California for educational assistance and advice.

With the support of American educators in building curriculum and setting educational goals, the American University of Armenia will gather the resources it needs to prepare "a cadre of well-trained managers and engineers" to revitalize Armenia and strengthen the entire region, Der Kiureghian said. Undaunted by recent political developments in Armenia and throughout the Soviet Union, Der Kiureghian added, "Volatile times like these are also times of opportunity to make lasting changes."

—Beverly Lesch

Former Dean leads UC Santa Cruz

Karl S. Pister, former Dean of Berkeley's College of Engineering, assumed the post of Interim Chancellor of the University of California campus at Santa Cruz on August 1.

His nomination was approved by the UC Board of Regents at their May meeting.

The former Dean will serve a two-year term, until a permanent Chancellor is named for the campus. He is charged with continuing to implement many changes in the operation of the innovative Santa Cruz campus, which opened in 1965.

The campus was originally organized as a cluster of residential "colleges," with a focus on undergraduate education. For many years, Santa Cruz students were given written evaluations but no grades.

Much of this basic structure of the campus has been reviewed in recent years, and revisions are expected. For example, while 90 percent of the campus's 10,000 students are enrolled in bachelor's degree programs, the number of graduate programs is on the rise.

In another change, Santa Cruz is expected to offer an engineering curriculum in the future.

Pister joined the civil engineering faculty at Berkeley in 1952 and served as Dean of engineering from 1980-90. At Santa Cruz, he replaces Robert B. Stevens, who retired after four years as Chancellor to join a London law firm.

Billie L. Greene, who was Assistant to the Dean during Pister's term at Berkeley, also joins the UC Santa Cruz administration this summer as special assistant to the new Chancellor.

Shank

Continued from page 3

security and prosperity.

The alumni society citation recognizes Shank for his "pioneering research in optical pulses and lasers and his leadership in administering vital research laboratories."

At the EAS dinner, the award was presented EECS professor emeritus John Whinnery, who was one of Shank's professors at Cal. "It is no secret that we professors learn as much from our students as they do from us," he said, "and that is certainly true in Chuck's case."

Shank responded that he was pleased to win the award and honored to receive it from Whinnery.

Composer gives Kennedy Lecture

Berkeley's Center for New Music and Audio Technologies, in cooperation with the Interdisciplinary Studies Program in the College of Engineering, brought French composer Jean-Claude Risset to campus this spring for a lecture and concert.

Risset's talk, "Trends toward Integration in Computer Music," and his concert the following day were presented as part of the College's Kennedy Lecture Series. Supported by the Helen Weber Kennedy and Gerald Driscoll Kennedy Endowment Fund, the series was established at Berkeley to explore and strengthen the connection between engineering and the arts.

Risset worked at Bell Laboratories to develop the musical resources of computer sound synthesis, and he is currently research director at the Centre National de la Recherche Scientifique in Marseilles.

Two Cal profs join ranks of National Academy

Two Berkeley civil engineering professors will be inducted this fall into the National Academy of Engineering (NAE), the highest professional honor for an American engineer.

The new Berkeley members are Richard E. Goodman in geotechnical engineering Robert L. Taylor in structural mechanics, both in the Department of Civil Engineering.

Their election brings the total Berkeley faculty membership in the Academy to 61. Among academic institutions, Berkeley has one of the highest representations in the Academy, with about seven percent of the total members being Berkeley faculty or alumni.

Prof. Goodman was recognized for contributions through teaching and research to geological engineering and rock mechanics. He joined the Berkeley faculty in 1964.

In 1984, the U.S. National Committee on Rock Mechanics honored him with its Basic Research Award. In addition, he received the E. B. Burwell Award from the Geological Society of America in 1977, the Rock Mechanics Award from AIME in 1976, and a Guggenheim fellowship in 1972. He has also served as president of the Geological Engineering Foundation.

Prof. Goodman has consulted on the design of many dams, tunnels, and other underground structures in the U.S. and South America. He is the author of four books on geological engineering and rock mechanics and shares two patents for devices

Prof. Richard E. Goodman

that test rock placement and stress.

He is a graduate of Cornell University, where he received his bachelor's and master's degrees in engineering science and civil engineering. He earned his doctorate in the same fields from Berkeley in 1964.

Prof. Taylor, who joined the Berkeley faculty in 1963, was honored for his research and applications of finite element methods in structural mechanics and other areas. He was also cited for educational leadership in this field.

Prof. Taylor specializes in computational mechanics, computer software, and algorithms for solutions of algebraic problems.

He was named an Honorary Fellow of the University of Wales in 1988, and he was a visiting professor at University College in Swansea, Wales, as an Honorary Fellow of London's Royal Society in 1984. Prof. Taylor also served as a Science

Prof. Robert L. Taylor

Research Council Visiting Fellow in Britain in 1976.

He earned his bachelor's, master's, and doctoral degrees from Berkeley, all in civil engineering. He chaired the Department of Civil Engineering from 1985-88.

A total of 77 new members and seven foreign associates were elected to the NAE this year. They will be inducted at a Washington, D.C., ceremony in October.

Cal Engineer hosts convention, reaps awards

The UC student magazine *California Engineer* hosted the 1991 annual Engineering College Magazines Associated (ECMA) Convention in Berkeley in April, and the publication took the lion's share of awards for student magazines.

Nineteen college engineering publications entered the competition conducted by ECMA, a national organization dedicated to improving engineering journalism.

Cal Engineer's attractive covers earned the magazine two first place honors, for both best single cover and best cover in all issues.

The UC magazine won second place awards in categories for all-around magazine, editorials, layout, and art/photography. It also won a second place award for the best non-technical article.

Third place prizes were awarded to *Cal Engineer* for art/photography in a single issue and for an article for readers with a general science background. An honorable mention was awarded for the best technical article.

Cal Engineer is headquartered at Berkeley and published to serve engineering students on UC campuses at Berkeley, Davis, Irvine, Los Angeles, San Diego, and Santa Barbara. Members of Berkeley's Engineering Alumni Society (EAS) receive the publication by mail free of charge.

Thirty delegates from college engineering publications around the country took part in the convention. Participants attended morning workshops led by Berkeley engineering faculty members and then took part in an afternoon forum on successful production methods.

Dean David A. Hodges welcomed the delegates at the start of the convention activities. Guest dinner speaker was former astronaut James van Hoften, senior vice president at Bechtel International and a member of the EAS board.

Partial support for the convention was provided by the College of Engineering and by the Engineers Joint Council.

Three engineers named AAAS Fellows

Three professors in the College of Engineering, along with seven others from Berkeley, have been elected as Fellows of the American Association for the Advancement of Science (AAAS), giving Berkeley the most honorees of any institution this year.

Those honored from the College of Engineering are Van P. Carey of mechanical engineering and Susan L. Graham and Richard Karp, both of computer science.

With more than 132,000 members, AAAS is regarded as the nation's leading scientific organization. A Fellow is one "whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

A total of 280 Fellows were elected this year.

AbuZayyad

Continued from page 3

He went to work at IBM in 1962, rising through the ranks to top positions, including president of its General Products Division, where he was responsible for 15,000 employees, occupying 10.5 million square feet of space, and producing some 50 different products. In 1987, IBM appointed him president of ROLM Corporation. After negotiating the recent sale of ROLM to Siemens, AbuZayyad stayed on as president and CEO.

This past summer he returned to IBM as vice president and president of the Storage Systems Division, headquartered in New York. In the new post he oversees worldwide development and American manufacture of IBM storage products, high-end printers, and related software.

AbuZayyad's professional success is equaled by the positive impact he has had as an advocate for engineering education and research in California. He serves on campus advisory committees at Cal Poly, San Jose State, Santa Clara, Stanford, and in Berkeley's College of Engineering.

In addition, he is a guiding force in the Technology Center of Silicon Valley, which encourages young people to study science and technology and works to improve scientific and technical literacy in the general public. AbuZayyad played a significant role in helping the center raise $5 million, used to initiate a teacher training program last summer and a science and technology learning center opening this fall in San Jose.

Warren Baker, president of Cal Poly at San Luis Obispo, has said, "There are a number of people who bring special engineering insight into U.S. industries; they are hardworking, intellectually honest, innovative, and humble. But few possess all of these qualities *and* have the sincere interest that Ray does in developing our educational institutions."

The EAS award cites AbuZayyad for his "accomplishments in technical management and his dedicated service to the professional engineering community."

Accepting the award, AbuZayyad said the EAS honor is "one of the highlights of my entire career." He added, "There is a recipe for winning this award: First go to a good school, then to a great company. Work with a great team. Get into a growing field and apply what you've learned. Finally, have aggressive friends who will nominate you for such an honor."

He noted that education at all levels is the key to the future technological success of the U.S.

"We talk a lot about competitiveness, and I am convinced that the only way to accomplish it is through education and through alliances with industry, communities, and schools," he said. He said engineers need to reach young people and the public at large to deliver the message that "science and technology are not to be feared but to be taken advantage of."

Gerwick

Continued from page 3

After earning his bachelor's degree in civil engineering from Cal in 1940, he spent five years in the Navy, serving as commanding officer of the *USS Scania* from 1944-45. After the war, he entered construction engineering practice, first with Ben C. Gerwick, Inc., and later as executive vice president of Santa Fe-Pomeroy, a firm engaged in international marine construction. For the past 20 years he has been a remarkably energetic consulting engineer.

When Berkeley enticed him to join the faculty in 1971, he brought with him a practical knowledge of problems and people that textbooks cannot teach. He launched Cal's program in construction engineering and management, now one of the best in the country, and he is a driving force in Berkeley's interdisciplinary program in ocean and arctic engineering.

By presenting his students with real-life engineering problems, he helps them understand the "people side" of engineering and the need for interdisciplinary cooperation and creativity in the profession.

A prolific researcher, he is the author of three books on construction and some 160 technical papers.

For his work, Gerwick was elected to the National Academy of Engineering and to honorary membership in national academies in Norway, Sweden, Germany, France, and Britain. He holds the highest honors from ASCE and the American Concrete Institute, of which he is a past president. On his retirement from the University last year, Gerwick was awarded the Berkeley Citation, the campus' highest honor.

Gerwick was honored by EAS for his "development of creative techniques for concrete construction, particularly for offshore structures, and his contributions as an engineering educator."

Gerwick told the EAS gathering that he is "proud to join the outstanding group of past recipients of this award and proud to be a member of this society." He said EAS activities help integrate industry and academia, for the benefit of both.

"This organization is doing an extremely significant part in helping our society recognize the importance of the engineer," he added.