



A Newsletter
for Alumni
and Friends

College of
Engineering

University
of Hawaii
at Manoa

Spring 1994

UH receives multimillion dollar software

The College of Engineering recently received a multimillion-dollar donation from Mentor Graphics Corporation, a world leader in electronic design automation systems.

Valued at \$6.5 million, the gift from Mentor consists of a variety of software systems. They will support advanced research and course work at the College, in the areas of analog circuit design, digital circuit design and electronic high-speed packaging.

"Mentor's software donation allows electrical engineering students to become trained to perform as professionals. It is a practical way to use software as a tool to learn about sophisticated design," said Dr. James

Holm-Kennedy, who played a key role in securing the donation for the College.

Holm-Kennedy added that the software systems will also support research efforts in other departments at the university, including astronomy and geophysics.

The systems have been made available as resources to professors and students at the College. However, due to their complexity, it will take some time to integrate the systems into the EE curriculum.

In order to familiarize the professors with the systems, software

Please see Mentor software, page 2

College hosts 1994 ASCE conference



University of Hawaii's concrete canoe "Po'okela" receives marks from judges at the 1994 ASCE Pacific Southwest Regional Conference.

The 1994 ASCE Pacific Southwest Regional Conference included the following events: concrete canoe, steel bridge, impromptu, matchstick bridge, quiz meet, technical design paper, and volleyball tournament.

For the first time in history, the College of Engineering hosted the annual ASCE Pacific Southwest Regional Conference.

Instead of sending a handful of students to the mainland to participate in this event, the College welcomed more than 300 students and faculty advisors from 17 schools in Arizona, Nevada and Southern California.

Months of hard work by a group of dedicated CE students came to fruition during a four-day period from March 30 to April 2.

The College is proud of all the students who made the conference a reality.

*Complete coverage on the conference will appear in the Summer 1994 issue of *Quadrangle*.

Mentor software

continued from front page

engineers from Mentor conducted a training session earlier in the year.

According to Dr. Joy Laskar, professors who attended the session responded positively to the systems and their potentials in research and education. The EE department is looking into setting up similar learning courses for students.

"I think the software donation complements what has been going on in the EE department," said Laskar, referring to the fact that several professors already include the use of industry standard tools in their course work.

"Students can start working with these tools, seeing how they are used and exercising the power of these types of tools, which help them prepare for the type of work they would do after they get their bachelor's degree," he said.

In addition to training students in the use of industry standard design tools, Laskar hopes that the software systems will support research and entrepreneurship.

"We are exploring opportunities with the High Technology Development Corporation to use the software to stimulate commercial activities in building actual instrumentation to support sensor circuit design and integrated circuit design," he said.

Established in 1981, Mentor Graphics Corporation designs, manufactures, markets and distributes electronic design automation software. Some of its customers include Motorola and Hewlett-Packard. The company employs more than 2,000 people world-wide and is headquartered in Wilsonville, Oregon.

According to Sue Drouin, marketing representative for Mentor's Higher Education Program, Mentor donated the software to the College because of our long-term commitment towards growth in the field of design automation, strong management capabilities and extensive range of computer hardware that can utilize Mentor's software.



Engineering students visit the various company displays showcased during Career Week's poster session.

Looking for a job in engineering?

With the tight job market today, finding that first job after graduation has become a major challenge for most college students.

In an effort to help engineering students increase their momentum towards a successful engineering career, the College of Engineering and the Engineers' Council of the University of Hawaii (ECUH) presented the "1994 Career Week."

According to ECUH Chairperson Karen Ikeda, Career Week provided engineering students with an excellent opportunity to gather information about companies and get answers for their questions, without spending a lot of time on their own. Indeed, the event drew positive responses from those who attended.

"It's good that you get to talk to people in the engineering field," said EE sophomore Donn Murakami.

Over a period of three days, Career Week featured panel sessions with engineering alumni as well as company representatives who hold upper management positions. Also showcased was a poster session where students visited company displays and asked questions one-on-one.

The alumni panel included seven recent graduates of the College, who now work in a

variety of engineering sectors. The panelists shared their own job-hunting experiences and offered practical advice to students on how to land that first entry-level job.

"You have to be humble. You have to stress to [the employers] that you are willing to learn and work," said Peter Len (ME 91), a mechanical engineer at Thermal Engineering.

The panelists pointed out that given the tight job market at present, students should consider investing their time in graduate studies, until jobs open up.

"Be open, be flexible, take whatever you can and be patient," said Hayley Miyagi (EE 92), who currently works for the Navy Public Works Center.

Consisting of representatives from different sectors, the company panel offered students an inside look on what the employers are looking for and what types of engineering careers are out there.

"I look for someone skilled in the fundamentals," said Kenneth Sakai, Vice President of R.M. Towill Corporation.

"You need to have the right attitude and good communication skills," said Sam Callejo, Deputy Managing Director of the Executive Branch of the City and County of Honolulu.

Please see Career Week, page 4

Focus on engineering students

Undergraduate students recognized for excellence in research

It is no secret that many faculty members and graduate students at the College of Engineering engage themselves in cutting-edge research. However, some people may not be aware of the fact that more and more undergraduate students at the College are also conducting research projects of their own, and receiving important recognition.

Last fall, three engineering students from the College received Space Grant College Fellowships. Awarded by NASA, the fellowships provide tuition, a \$1,000 stipend, and a \$500 grant for travel or research supplies to undergraduate students involved in space-related research. Currently, ME students Kala Crow and Jeffrey Yee are working with McDonnell Douglas engineers on various aspects of the Delta Clipper aerospace plane, a single-stage and self-powered spacecraft capable of taking off and landing in one piece. Crow is researching and developing designs for the craft; Yee is improving the efficiency of the tri-propellant engine system.

Another ME student, Die Ren Li, is studying the infrared radiative properties of thermoplastics for space applications. In addition, EE student Steven Valin, a renewal Space Grant College Fellow, is completing a project on the noninvasive determination of regional body fluid dynamics.

The fellowships provide students with valuable opportunities to apply their engineering knowledge to research and to interact with the space industry. Recipients of the fellowships speak highly of their research experiences.

"I love the work I'm doing now," said Yee. "I've always wanted to be in the aerospace industry. This [research] experience reassured my goals and expectations for the field that I've chosen."

CE senior named 1994 Student Engineer of the Year

Each year, one outstanding student from the College of Engineering is named "Student Engineer of the Year" by the Hawaii Society of Professional Engineers. Ryan S.W. Yamauchi is the 1994 recipient of this prestigious award.

Yamauchi is no stranger to scholastic honors and awards. Last year, he was named "Outstanding Junior for the College of Engineering." Some of the scholarships that he has received include the University of Hawaii Presidential Scholarship, the Korean University Scholarship and the Sam Hirota Scholarship. He is also a member of Chi Epsilon, a national honor society for civil engineers.

Currently a senior in civil engineering, Yamauchi plans to graduate this May and go on to obtain a master's degree. He hopes to pursue his graduate studies at Stanford University or the University of California - Berkeley. Yamauchi says that he is considering a future career in environmental engineering but intends to keep his options open for now.

"Nothing is set right now," he said. "I don't want to limit myself."

EE student receives Boeing Scholarship

The Boeing Corporate Scholarship and Aid-To-Education Committee has recently awarded \$2,000 to EE student Eric Nakamura, 1993-1994 winner of the Boeing Company Scholarship.

Nakamura was chosen for the scholarship because of his outstanding scholastic merit and potential, as well as excellent leadership and communication skills. He currently holds an overall GPA of 3.78.

A Summa Cum Laude graduate from Waipahu High School, Nakamura has received numerous honors and awards throughout his academic career. In both 1993 and 1992, he was winner of the National Collegiate Engineering Awards. He is a member of the Golden Key National Society. His high school science project, entitled "Data Acquisition for Personal Computers," won a Navy Science Award as well as an award from the Consulting Engineers Council of Hawaii.

Nakamura hopes to work as a summer intern for Boeing. He is interested in various fields including electronic flight controls, electronic packaging, instrumentation and data acquisition, and wind tunnel engineering instrumentation.



EE student Eric Nakamura receives a check from Edward Clifford, Director of Human Resources at Boeing. Right: Interim Dean Reginald Young.

TRW donates laboratory equipment

Shortly after making a recent strategic alliance with the College of Engineering by supporting faculty research efforts in areas of mutual interest, TRW has again strengthened its ties with the College by granting approximately \$200,000 worth of research equipment to the department of electrical engineering.

According to Dr. Joy Laskar, who worked closely with TRW on acquiring the grant, the donated equipment allows the department to advance the current research infrastructure and to enhance some of the existing experiments.

"We are using a lot of the equipment to help augment some of our on-going experiments," he said.

The equipment gift includes precise power supplies, power voltage meters, optical microscopes and microwave frequency sources, all of which are now housed in the Microwave & Millimeterwave Research Laboratory. In addition, the

Physical Electronics Laboratory received a helium leak detector, a significant piece of equipment that enables researchers to detect leaks in vacuum systems.

Laskar explained that TRW periodically restructures its research facilities and that such restructuring generates certain extra equipment, which TRW donates to selected university research laboratories.

"We are very lucky to be on TRW's list of universities," he said, adding that the list consists of only a handful of schools mostly in California.

TRW recently contributed \$65,000 in research awards to three members of the College's faculty: Laskar, Dr. Lloyd Hihara and Dr. Eun Sok Kim. In addition to the research awards, TRW also contributed \$10,000 to provide continuing support to the College's Industrial Associates Program. Located in Redondo Beach, Calif., TRW has made annual recruiting trips to the College since 1977.

Career Week

continued from page 2

"When you do have an interview, do your homework before the interview," said Adam Lloyd of the Boeing Company.

The panelists also advised students to develop good interpersonal skills and to be willing to work with others as a team.

"Your people skills become so important as you progress through your career," said Robert Iwai, Director of Security at the Central Intelligence Agency. "I'm glad that the university is sponsoring more team-type activities, because that what real life is about."

Engineering students who attended the Career Week thought the event was informative and educational.

"The most important thing I've learned would be that you need to be serious about choosing your career, and that you need to put the effort into researching what you want to do," said Greg Chung, a senior in civil engineering.

Some students, however, wished the Career Week had offered them more than just sound advice on how to land that first engineering job.

"Career Week has been great," CE senior Willie Gacutan said. "I only wish there were more jobs out there."

CE alumnus builds on endowment

Bob Y.K. Wong (CE 65), President of C.W. Associates Inc., has once again added to his College of Engineering Geolabs-Hawaii Geotechnical Engineering Endowment Fund.

With the latest added contribution of about \$92,000 from Wong in December 1993, the endowment fund currently stands at around \$300,000.

According to civil engineering department Chairman Harold Hamada, income generated from the newly added endowment will be used primarily to support guest lecturers for a permanent seminar series on geotechnical engineering. Currently, the department invites a prominent geotechnical engineer to the campus annually. Wong's added contribution may allow the department to invite more visiting scholars, said Hamada.

In addition to the seminar series, the department is also looking into the possibility of setting up a geotechnical engineering reference room at the College. The reference room will contain rare materials on geotechnical engineering and offer a variety of resources not readily available at other libraries.

"We hope that such a reference room may attract practicing geotechnical engineers to our campus, so that they will become familiar with our program and our faculty," said Hamada.

Wong, Hamada, Assistant Specialist Sheryl Nojima and Drs. Scott Anderson and Peter Nicholson will meet sometime in June to discuss how income generated from the added endowment can be best used to further enhance the geotechnical engineering program at the College.

Bob Y.K. Wong first established the Geolabs-Hawaii Geotechnical Engineering Endowment Fund in December 1991 with a \$100,000 gift. He made a second contribution of \$100,000 in 1992. With the latest contribution made in 1993, the endowment currently stands at around \$300,000.

New grant supports rehab research at the College

Due to geographical isolation and specific cultural preferences, disabled individuals in Hawaii have had difficulties accessing rehabilitation devices, which are mostly manufactured on the mainland.

Realizing the importance of serving the needs of the local community, Dr. Ronald Knapp has made efforts to integrate rehabilitation engineering into the curriculum of several mechanical engineering courses.

Over the past few years, the College's department of mechanical engineering has worked with the local rehabilitation community to produce prototype devices for persons with disabilities. With support from the UH Office of Technology Transfer and Economic Development, the

National Science Foundation and the Rehabilitation Hospital of the Pacific (RHP), students enrolled in rehab engineering courses have developed about 30 prototype rehabilitation devices.

Impressed by the efforts of the ME department to meet the needs of disabled individuals, the local rehabilitation community wants the College to expand its program in rehabilitation engineering and to develop formalized education in this field. For this purpose, RHP has provided the College with a \$50,000 grant for the next two years.

Using this grant, the College plans to expand student projects into CE and EE departments, to initiate graduate research in rehabilitation engineering, and to commercialize at least one

rehabilitation device. In addition, the College is looking into implementing a certificate program in rehabilitation engineering.

Working closely with the local rehabilitation community provides the College with an opportunity to establish its presence in the rehabilitation industry.

In addition, the College is able to shape its curriculum to meet the needs of specific individuals as opposed to designing devices for mass production. As a result, students are motivated to work harder, knowing that their efforts are making a difference in the lives of many individuals in the island community.

A large part of the \$50,000 grant from the Rehabilitation Hospital of the Pacific is currently supporting the work of ME graduate student Paul Sherry. He is developing a "universal transfer device," a cost-effective device that will allow disabled individuals to perform transfers between bed, wheelchair, shower, toilet and vehicle.

ITE establishes student chapter at UH



ITE UH Student Chapter officers (from left to right): Kittu Nalamotu, Luanne Aburamen, Elwyn Watkins, Janell McDowell, Kevin McMorrow, Iris Oda and advisor Dr. Panos Prevedouros.

The Institute of Transportation Engineers (ITE) has recently approved the establishment of a student chapter at the University of Hawaii.

The UH student chapter of ITE aims to promote interest in transportation and traffic engineering and to strengthen the University's program in transportation engineering.

In order to acquaint its members with various transportation issues such as congestion management, intelligent vehicle highway systems, electric vehicles, and airport and harbor operations, the chapter frequently invites guest speakers and plans visits to offices or project locations.

Activities organized by the chapter provide members with

excellent opportunities to enhance their technical and communication skills.

For the Spring 1994 semester, the chapter holds meetings on the first Tuesday of every month at 4:30 p.m. in the civil engineering conference room, located at Holmes Hall 385. The meetings are open to all engineering students and faculty.

For more information, please contact any one of the chapter's officers listed below:

- Luanne Aburamen, President
Tel. 956-8664/Holmes 142BB
- Kittu Nalamotu, Vice President
Tel. 956-6528/Holmes 142BB
- Janell McDowell, Secretary
Tel. 957-1369
- Iris Oda, Treasurer
Tel. 957-1369
- Dr. Panos Prevedouros, Advisor
Tel. 956-9698/Holmes 340

Congratulations Fall 1993 engineering graduates

Master of Science

Civil Engineering

Paul A. Devito
Charles R. Heron
Stacey A. Noda

Electrical Engineering

Ravi K.A.V. Aripirala
Wendy S.W.L. Ching
Anil Kapila
Moe Aung Lwin
Angshuman Saha
Abhijeet D. Sathe
Claude O.H. Van Ham

Mechanical Engineering

Andrew S. Iwane
Wenliang Pu
Carlton J.L. Say
Chandrashekar A.S.
Tamirisa

Bachelor of Science

Civil Engineering

Marie C.U. Andres

Delray W. Cheah
Michael P. Command
Lester B. Fujikami
Bryant R. Gonsalves
Nevien W. Guirguis
Kurt Y. Inaba
John H. Katahira
Jamin D. Kau
Harold M. Mizusawa
Sharon H. Nekoba
Todd S. Nishioka
Scott M. Ojiri
Craig Y. Oshimo
Michelle M. Sakamoto
Patrick A. Taitano
Glenn K. Tamashiro
Michelle G. Tomboc
Tom H. Tsuha
Maelyn T. Uychara
Kyle Y. Yukumoto

Electrical Engineering

Christopher A. Baxa
Thai Vinh Cao

Cyril S.L. Choy
Albert D. Dakujaku
James P. Hofmeister
Loreena C.W. Johnsson
Wayne V. Kiltbau
Ho-Kit R. Lam
Thong Lien
Harvinder S. Maan
Johnnie G.W. Mah
Cy M. Masatsugu
Mikel K. Nakamoto
Mike S. Nakamura
John R. Paz
Ronel R. Pulmano
Ador A. Reodique
Masayuki Saito
Mark T. Segawa
Mark A. Sora
Michael J. Spencer
Stuart J. Taka
Kathie L. Takai
Kai-Sing Tam
Troy K. Tanigawa
Sean Y. Uchima

Sherman Y. Uychara
Uriel S.P. Wong
Colin A. Wright
Glenn P. Yago
Byunghwan Yu
Timothy N. Newsham

Mechanical Engineering

Garrett Y. Abe
Edward V. Castanares
Sheldon H. Fukamizu
Timothy K. Ho
Reynold K.O. Kam
Zi Jian Lin
Stacy Ann L. Luke
Sean T. Nakasone
Thao Ngoc Nguyen
Jeffrey S. Paresa
Carol K. Tengan
Steven Y.L. Wong

For the Fall 1993 semester, the College awarded 14 master of science degrees and 65 bachelor of science degrees. The EE department had the largest number of graduates.

IEEE/HKN present '94 EE Student Design Contest

The Institute of Electrical and Electronics Engineers (IEEE) and Eta Kappa Nu (HKN) are proud to present the 1994 electrical engineering student design contest.

Open to the public, the event will showcase many student design projects. It will take place at Holmes Hall on Saturday, April 30, from 9 a.m. to 12 noon. Refreshments will be served.

No RSVPs are required. For more information and exact location of the event, please contact IEEE President Steven Ikeda or HKN President Conan Liu at 956-3425.

This event is funded by the Electrical Engineering Department.



Three engineering students from the College learn a lesson in teamwork during the Improptu event at the 1994 ASCE conference. *Look for complete conference coverage in the next *Quadrangle*.

Faculty Highlights

RESEARCH HIGHLIGHTS

Edmond Cheng

Arthur Chiu

Civil engineering Professors Edmond Cheng and Arthur Chiu received continued funding from the National Science Foundation in support of their project called "A Study of Extreme Wind Regionalization." The objective of their study is to improve the urgently needed engineering knowledge of extreme wind effects on various structures and the environment.

Peter Nicholson

Civil engineering Associate Professor Peter Nicholson received research funding from the Department of Public Works of the City and County of Honolulu, in support of his project entitled "Study of Engineering Characteristics of Municipal Waste Ash for Geotechnical Applications."

Panos Prevedouros

Civil engineering Assistant Professor Panos Prevedouros attended the 73rd annual meeting of the Transportation Research Board (TRB), held in Washington, D.C. During the meeting, Dr. Prevedouros presided over a panel session on the availability and management of aviation performance data, and also presented two papers. The first paper, entitled "Helicopter Noise in Rural Communities: Assessment of Existing Knowledge," was the result of a research project funded by the Airports Division of the Department of Transportation (DOT). The second paper, "Development of an Interactive Visualization Tool for the Effective Presentation of Traffic Impacts to Non-experts," was co-authored by Prevedouros and two other researchers.

H. Ronald Riggs

NASA has awarded civil engineering Associate Professor H. Ronald Riggs continued funding for his project entitled "Improved Stress Recovery & Error Estimation in Finite Element Analysis." Dr. Riggs is developing an improved procedure for recovery of finite element stresses as well as an error



Carl Cordes

estimator that can be used in automated, adaptive finite element analysis.

Reginald Young

The Hawaii High Technology Development Corporation has awarded Interim Dean Reginald Young additional funding in support of the "Hawaii Electric Vehicle (EV) Demonstration Project." Researchers involved with this project are testing various composite materials for the manufacturing of EVs and designing adaptive optimal controllers for minimum energy/time problems for the vehicles.

NEW APPOINTMENTS

Carl Cordes

The civil engineering department welcomes Assistant Professor Carl Cordes. A specialist in construc-



Tong-Jyh Lee

tion management, Cordes brings to the College over 39 years of work experience in the construction industry. He had previously worked for Hawaiian Dredging & Construction Company. Cordes holds a bachelor's degree in civil engineering from the University of California at Berkeley. He is also a graduate of the University of Hawaii Advanced Management Program and the Stanford Executive Program. Originally from California, Cordes has been a long time resident of Hawaii. His hobbies include home improvement and computers. Cordes is teaching CE 472 *Construction Management* and CE 602 *Construction Scheduling & Reporting*.

Tong-Jyh Lee

New to the electrical engineering department is Assistant Professor



Jean Kersnick

Tong-Jyh Lee. Dr. Lee holds a doctorate from Cornell University and is an expert in parallel numerical computing and computer architecture. Her doctoral thesis was entitled "Parallel Algorithms for Singular Value Decomposition on Hierarchical Multiprocessor Systems." She was a visiting assistant professor at Northeastern University before joining the faculty at the College. A native of Taiwan, Lee enjoys shopping, jogging and travelling in her spare time. She is teaching EE 661 *Computer Architecture II*.

Jean Kersnick

Joining the mechanical engineering department staff as a Clerk/Stenographer II is Ms. Jean Kersnick. Originally from Pennsylvania, Kersnick resided in California for many years before moving to Hawaii about two and a half years ago. She had previously worked for the State of Hawaii-Department of Health. In her spare time, she enjoys painting portraits. She says she has exhibited many of her paintings and won various awards for her work.

ENGINEERING ALUMNI UPDATE

Name _____

Address _____ Phone Bus () _____

City _____ State _____ Zip Code _____ Res () _____

Employer/Company _____

Job Title/Description _____

Year Graduated (BS) _____ Major (CE, ME, EE?) _____ Graduate degrees _____

News about children, marriages, promotions, hobbies, travel, etc.

If you want to join the Engineering Alumni Association or pay your 1994 dues, please use this form. Annual membership rate is \$10/year. Annual membership rates for the University of Hawaii Alumni Association are: Oahu: New Graduate - \$25, Single - \$35, Couple - \$45. Mainland/Neighbor Islands: Single - \$20, Couple - \$30. Rates for Single and Couple Life Members are \$500 and \$800, respectively. \$10 of whatever category you choose will go to the Engineering Association for dual membership. Make your check payable to Engineering Alumni Association and mail to P.O. Box 12204, Honolulu, HI 96828.

Alumni News

1950s

• **Kazumi (Carl) Okamura** (CE 59) was named "Engineer of the Year" by the selection committee of the Big Island Chapter of Hawaii Society of Professional Engineers. He was honored for excellence in the application and administration of engineering skills and practices. Serving as head of the Operations Division of the Department of Water Supply since 1975, he is in charge of the repair and maintenance of all public water systems throughout the County of Hawaii. His two sons, Van and Dave, are both electrical engineers. In his spare time, Okamura enjoys golfing and watching sports on TV.

1970s

• **Mark Kikuchi** (CE 77) works for the City & County of Honolulu, Department of Transportation Services. He resides in Honolulu. • **Craig Miyachi** (CE 79) works for the Navy Public Works Center, Utilities Department as an environmental engineer. He resides in Aiea.

1980s

• **Chun Hui** (EE 85) works as a technical director for the HQ US-

CINCPAC. He lives in Honolulu.

• **Tim Ng** (ME 89) is an agent at Mass Mutual. He is now a resident of Wahiawa.

1990s

• **Kevin Ishikawa** (ME 90) is a mechanical engineer for Carrier Hawaii. He lives in Ewa Beach. • **Ken Kawahara** (CE 92) recently moved to a small townhouse in Waikale. He currently holds the position of a construction engineer at R.M. Towill Corporation. Kawahara said he spent the last two Thanksgivings in Las Vegas with **Corey Shibata** (CE 92), **Ross Okuda** (ME 92) and **Robert Moriwake** (CE 92). • **Jadine Matsuda** (CE 92) works for Koga Engineering & Construction, Inc. as a project engineer and lives in Waipahu. • **Karl Takayanagi** (ME 93) recently won a nation-

wide student project competition sponsored by the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE). The competition recognizes outstanding student research and design projects. Takayanagi took first place in the four-year university program category of the competition, with a paper entitled "A Design Feasibility Study to Incorporate the Use of a Turbocharger and HFC 134a in an Automobile's Air Conditioning System." He accepted his award at the ASHRAE Winter Meeting, held in New Orleans, La. earlier this year. In addition to the all-expense-paid trip to New Orleans, he received a cash prize of \$1,500.

Attention to all Engineering Alumni Association (EAA) members: the EAA will be sponsoring its annual golf tournament in late summer. Look for tournament flyers in your mailboxes in June. If you do not receive a flyer, please contact Tournament Chairman Keith Matsunaga at 539-3831. Mahalo!

ENGINEERING ALUMNI ASSOCIATION OFFICERS

President Ryo Nakamoto
US Army Engineer Division
Building 230, CEPOD-ED-TE
Fort Shafter, Hawaii 96858-5540
Tel. 438-7047, Fax 438-9590

Vice President Michael Magaoay
American Technologies, Inc.
91-220 Kalaeloa Blvd.
Ewa Beach, Hawaii 96707
Tel. 682-8282, Fax 682-3728

Secretary Derek Mukai
R.M. Towill Corp.
420 Waiakamilo Rd., Suite 411
Honolulu, Hawaii 96817
Tel. 842-1133, Fax 842-1937

Treasurer Nami Hamaguchi
Hawaii Community Dev. Authority
677 Ala Moana Blvd., Suite 1001
Honolulu, Hawaii 96813
Tel. 587-2870, Fax 599-2613

Director Brian Hashiro
County of Maui, Highways Div.
1827 Kaohu St.
Wailuku, Hawaii 96793
Tel. 243-7869, Fax 243-7870

Director Randy Murayama
R. Murayama & Associates
1259 S. Beretania St., Room 29
Honolulu, Hawaii 96814
Tel. 593-9360, Fax 591-9362

Director Glenn Yee
NISE WEST Hawaii
Box 130, Code 04
Pearl Harbor, Hawaii 96860
Tel. 471-8237, Fax 471-4069

Director & UHAA Representative
Neal Fukumoto
Parametrix, Inc.
1164 Bishop St., Suite 1600
Honolulu, Hawaii 96813
Tel. 524-0594, Fax 523-2995

Past President Earl Kanehira
GTE Hawaiian Tel
P.O. Box 2200, Mail Code A-9
Honolulu, Hawaii 96841
Tel. 546-4840, Fax 546-8116



UNIVERSITY OF HAWAII AT MANOA
COLLEGE OF ENGINEERING
2540 Dole Street • Holmes Hall 240
Honolulu, HI 96822

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