THE QUADRANGLE

A Newsletter for Alumni and Friends

College of Engineering

University of Hawaii at Manoa

Winter 1993

# New year's greetings from the Dean

On behalf of the faculty, staff and students at the College of Engineering, it is my pleasure to extend to each and everyone of you our warmest new year's greetings. Before we move ahead with 1994, however, I would like to take a moment and share with you some of the College's highlights during the past year.

Despite budget restrictions, 1993 has been a year of many accomplishments for the College. Our undergraduate enrollment remained level; while the graduate enrollment increased slightly. We recruited many excellent new faculty members who brought with them a wide range of areas of expertise.

Overall, we were able to maintain the same level of services. We continued our programs without eliminating any courses or denying any student the opportunity to complete degree programs. Approximately 170 of our students received their degrees during this past year.

Much of what we have accomplished would not have been possible without the continued support from alumni and friends. We saw increases in both the number of donors and the amount of contributions. In addition, we have had strong support from the industry as well. Our Industrial Associates Program has grown with continued funding from Boeing, TRW Inc. and Motorola.

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# College builds partnership with TRW

The TRW Space and Electronics Group has recently established a mutually beneficial alliance with the College of Engineering.

TRW has found the College to be an excellent source of talent and hopes to promote research in areas of mutual interest by providing annual research grant support to the College. For 1993-1994, TRW contributed $65,000 in research awards to three members of the College's faculty. Award recipients and their project titles are:

- Dr. Lloyd Hihara - *Aluminum/Silicon Composite Corrosion Studies*
- Dr. Eun Sok Kim - *Lateral Field Excitation Semiconductor Bulk Acoustic Resonator*
- Dr. Joy Laskar - *Study of Transport in Heterostructure Devices and Applications*

In addition to the research grants, TRW contributed $10,000 to provide continuing support to the College's

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**Located in Redondo Beach, Calif., the TRW Space & Electronics Group currently employs close to 100 UH engineering alumni.**

**On behalf of the College, Interim Dean Reginald Young receives the TRW research grant from Dr. Paul Sasaki, TRW senior management representative. From left to right: Dr. Lloyd Hihara, Dr. Sasaki, Dr. Eun Sok Kim, Dr. Joy Laskar and Dean Young.**

# ME courses promote hands-on learning

There is no better way to learn than through hands-on activities.

Many students at the College will not hesitate to attest to this fact, especially those who took the two sequence mechanical engineering courses, ME 481 *Design Methodology* and ME 482 *Design Project.*

The rigorous curricula of these two courses prepare students for life as mechanical engineers in the real world. Students enrolled in these courses learn first-hand how to design and build a variety of mechanical devices for practical uses. They go through steps such as market research, design concepts, prototyping/modeling, cost estimation, shop drawings, component manufacturing, client evaluation, and design modifications, before coming up with the final working product.

Each semester, these ME students' hard work culminates in a special Francis Rhodes Montgomery Design Competition. The competition recognizes and rewards innovative design efforts, design practicality, and the students' ability to present the design in a clear and understandable manner.

This past semester's first-place design award went to *The Tub Transfer Device*, a product designed for wheelchair-bound individuals who have substantially reduced access to ordinary bathtubs. To facilitate the needed access, the device is designed to lift the user's legs over the threshold of the bathtub; this is accomplished by pivoting the entire seat on the device about a point under the seat. Roller bearings inside a C-channel are then used to produce a lateral motion of the seat.

Other entries in the design competition included a *PVC Wheelchair for the Pacific Islanders (PWPI)*, a *Clam 2 Reacher* and a *Greeting Card Folder.*

Designed especially for the environmental conditions and the isolated location of the Pacific Islands, the *PWPI* is built from inexpensive, corrosion resistant , readily available materials like plastic, canvas and plywood. The wheelchair is also designed as a kit so that local manufacturers can accept orders, and do both the assembly and the maintenance.

The *Clam 2 Reacher* is a device that extends the reach of disabled individuals to retrieve objects off the ground or from high places, without assistance from others. It incorporates features such as one-handed operation, a ratcheting and locking mechanism for the actuator lever, and a versatile and lightweight pivoting end-effector.

The *Greeting Card Folder* was developed to help disabled individuals fold paper using only one hand. This low cost and low tech device incorporates two aluminum plates fastened to an acrylic base plate. Spacers between the two plates allow for easy paper insertion, while acting as alignment guides and paper stops.

Dr. Mehrdad Ghasemi Nejhad, who taught the ME 482 course during the past semester, said that he is proud of what his students have accomplished. In his opinion, all four student designs are winners.

"This particular group of students were very enthusiastic, hardworking and had perseverance," he said. "They never gave up. If some problem came up, they solved it as much as they could. They didn't leave anything unresolved."

**The Francis Rhodes Montgomery Design Competition was established in 1987 in memory of Montgomery to further the field of mechanical engineering. Montgomery was one of the founders of the Hawaii Section of the American Society of Mechanical Engineers (ASME).**


**The winning student design group poses for a victory photo with the *Tub Transfer Device.* From left to right: Stacy Ann Luke, Jeff Paresa, Sheldon Fukamizu and Edward Castanares Jr.**

# Dean's message

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Thanks to generous funding from the General Contractors Association of Hawaii, our civil engineering department will soon hire a new instructor in construction engineering and management.

Construction for the long-awaited Pacific Ocean Science and Technology building has begun. One completed, the building will help ease some of the squeeze on space by housing part of the College's program.

Although our budget projections for 1994 are still limiting, we promise to do our best to serve the students and the community. We are looking forward to a year with continued advancement in all areas.

Again, thank you for your continued support and new year's greetings to all.

Reginald Young
Interim Dean

# Researchers map the Pacific Ocean

Approximately one-half of the United States' 3.4 million square-mile Exclusive Economic Zone (EEZ) surrounds the Hawaiian Islands and other U.S. flag areas of the Pacific. However, most of the zone's resources have not yet been developed, since only five percent of the zone has been adequately mapped.

In cooperation with several other components of the University of Hawaii, the civil engineering department established the Pacific Mapping Program (PMP) in 1990 to facilitate the exploration and development of the zone's resources. The program serves as a local repository for data on the Pacific EEZ.

Funded by the National Oceanic & Atmospheric Administration (NOAA), the U.S. Geological Survey (USGS), the Pacific International Center for High Technology Research and the College of Engineering, the PMP began its work on deep ocean mapping in 1991, with Dr. Narendra Saxena as the principal investigator.

"Our main job was to integrate different types of data," said Saxena. "Basically, what we did was to combine the sonar maps from the USGS with the data from NOAA, which was the depth of the ocean."

By gathering and integrating data from different sources, the program's researchers develop computer-generated electronic maps of the ocean floor. They work with state-of-the-art equipment including a Vax 3200 Workstation, a Grinnell Image Processor, Sun Sparc II, a 386 IBM-compatible personal computer capable of high-resolution graphics display, and a laser printer.

Although much of the deep ocean floor in the Pacific Basin still needs to be mapped, in 1993 the PMP switched its research focus from the deep ocean to shallow coastal waters. Saxena said the program switched its focus in order to meet the more immediate human needs for improved fisheries and better forecasting of marine-related hazards.

"Now we are looking at coastal waters up to 200 meters deep," Saxena said.

Basically, the research is now geared toward finding out the temperature and the level of phytoplankton in coastal waters. The researchers are also in the process of designing and developing a laser system that will allow them to determine the ocean bottom morphology and sediment type, based on the backscatter of the laser beams.

There are many scientific and commercial benefits to be gained from PMP's research activities. Maps of ocean bottom morphology and sediment type will contribute to improved fisheries management by identifying areas of upwelled water. Improved mapping of the Pacific and the study of marine slope stability will also help forecast and assess the frequency and hazards associated with tsunami run-ups and the surge effects of powerful storms like Iniki.

The significance of PMP's research activities has already generated much international interest for cooperative research. The Japanese researchers would like to work jointly on mapping for natural hazards and the Chinese researchers have expressed interests in a joint South Yellow Sea mapping for resource development.

Also, as a result of the PMP's efforts, the College is planning to offer a graduate certificate program in marine mapping, charting and geodesy. Presently, there is no academic program in ocean mapping in the United States.

In the long run, PMP's research activities will greatly support the increasing extension of human activities from the deep ocean to shallow waters, by providing first-hand integrated data to governmental agencies and other private interests capable of undertaking EEZ resource exploration and development.

# TRW

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Industrial Associates Program. The program focuses on maintaining and improving the quality of educational programs, as well as supporting related research and development projects for both faculty and students. Since 1984, TRW has contributed more than $94,000 to the program. The TRW Foundation also made numerous employee matching gift contributions.

To commemorate the new research affiliation with the College, TRW hosted a research awards dinner at the Halekulani Hotel on October 10. Attending the event were representatives from TRW senior management and from the College. Also present were Dr. Kenneth Mortimer, Dr. Paul Yuen and Jennifer Goto from Senator Daniel K. Inouye's office.

The next day, TRW and the College presented the "TRW DAY," which took place at the Campus Center. Three TRW representatives delivered lectures on the following topics:

- *Future Trends at TRW* - by Dr. Paul Sasaki, Vice President & General Manager of the Electronics Systems Division
- *Dual Usage of Gallium Arsenide Technology at TRW* - by Aaron Oki (EE 83), Section Head of the HBT Product Area, Product Engineering Department
- *Advanced Engineering Systems at TRW* - by Dana Matsunaga (EE 83), Advanced Systems Manager of the Electronics Systems Division.

Close to a hundred engineering students attended the lectures to find out more about TRW. The lectures were followed by an informal discussion, as well as an orientation meeting for students interested in signing up for interviews with the TRW recruiters.

For the next four days, the TRW recruiting team interviewed close to 50 students from the College. According to Mitchell Otera,

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**Since 1977, TRW has made annual recruiting trips to the College. According to Dr. Paul Sasaki, TRW is hiring again and looks forward to recruiting more engineering talent from the College.**

# Researchers develop underwater robotic vehicles

It's a spherical object weighing about 100 pounds. Its brass colored body is squat and ovular.

Most people may pass it off as a giant Easter egg connected with tubes, but it commanded the attention of a team of ME researchers who fussed over and babied it.

Designed and programmed by a research team under the leadership of Dr. Junku Yuh, the Omni-Directional Intelligent Navigator (ODIN) is a replica of a larger underwater robotic vehicle (URV) intended for use in deep sea research. URVs perform a variety of work assignments such as pipeline inspection, data collection, drill support, hydrography mapping, and equipment maintenance and repair.

Yuh's research on URVs began in 1987, shortly after he joined the faculty at the College. Hawaii's unique ocean environment provides an excellent location for his research. In 1991, the National Science Foundation granted Yuh a prestigious Presidential Young Investigator Award for his research on URVs.

Yuh said his long-term objective is to design a fully autonomous underwater vehicle (AUV), which will replace the need to use human divers in the hazardous underwater environment.

**At the Duke Kahanamoku Pool, the ODIN gets a water test by the URV research team. From left to right: Gregg Takashige, Satwinderpal Makkad, Song Choi, Byung Sun Choi and Dr. Junku Yuh. in the water: Erimitsu Suzuki.**

However, achieving a high degree of autonomy for the URVs presents a major challenge, due to engineering problems associated with the high density, nonuniform and unpredictable underwater environment, as well as the non-linear response of the vehicles.

In addition, high technology developed for on-land vehicle systems cannot be adapted directly to URVs, since the vehicles have different dynamic characteristics and operating environment.

"There is a lot to explore, it's different from terrestrial robots," Yuh said.

During the past semester, Yuh and his research team have put the ODIN to test several times and have been satisfied with the results. The team is now in the process of developing an advanced vehicle

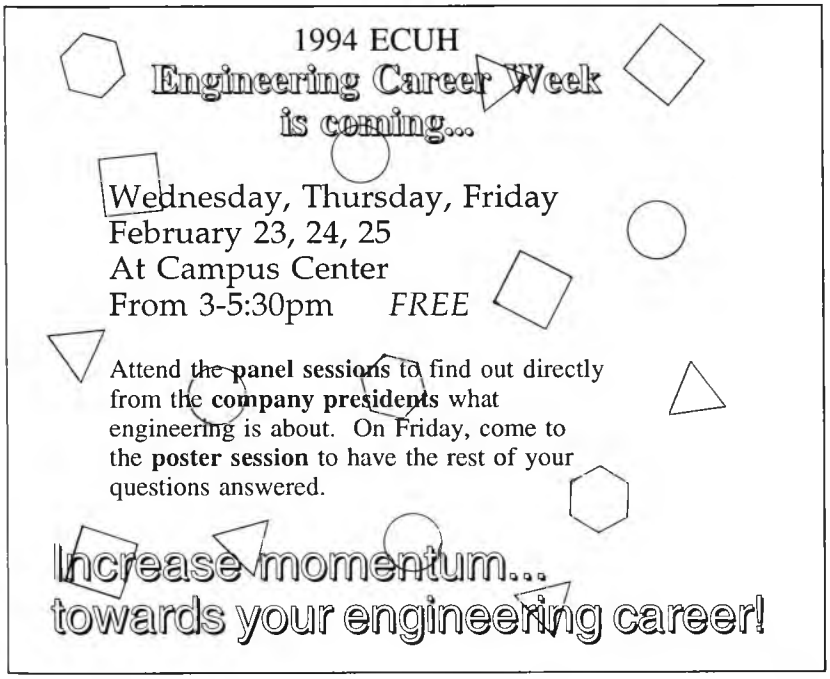
**Please see URV on next page**

# College honors graduates in recognition ceremony

**The College honored about 80 engineering graduates in a recognition ceremony, held at Jefferson Hall on December 18, 1993.**

**The Fall 1993 engineering graduates shared a special recognition ceremony with families, friends and the engineering faculty. Left: Zi Jian Lin (ieft) and Nami Hamaguchi, Engineering Alumni Association (EAA) Treasurer. Above (from left to right): Interim Dean Reginald Young, EAA President Ryo Nakamoto and commencement speaker David Ige from the State House of Representatives, District 34.**

# Get set for the 1994 Career Week




Attention all College of Engineering students: Do you know how to increase your momentum toward a successful engineering career? Come to the 1994 Engineering Career Week and get answers to all your questions.

Sponsored by the Engineers' Council of the University of Hawaii (ECUH), the 1994 Engineering Career Week will take place from February 23-25, 3:00 to 5:30 p.m. daily, at the Campus Center. Traditionally held as Career Night in the past, this educational event is taking on a new format this time for two important reasons. According to ECUH Chairperson Karen Ikeda, the Council has decided to spread out the event over a period of three days, so that students can better digest the vast amount of information. In addition, the ECUH has scheduled the event in the late afternoons to accommodate the schedules of both the students and the working professionals who have volunteered to make presentations.

With the new format, the Career Week promises to be an educational as well as informative event.

"Instead of spending a lot of time on their own to get information about companies, engineering students will have an excellent opportunity to get answers for their questions over a three-day period," said Ikeda.

The first day of the 1994 Career Week will showcase a panel of recent graduates from the College, representing the various sectors of engineering. The panel for the second day will consist of local engineering professionals who hold middle and upper management positions. The last day will be a poster session, where students can check out the displays and demonstrations by various engineering firms and ask questions.

The ECUH is working with the Cooperative Education Program and Career Placement Center to hold workshops for students prior to Career Week. These workshops will help students get the most out the event by showing them how to ask the right questions and how to approach the company representatives.

All students from the College, mark your calendars now and don't miss the 1994 Career Week. For more information, contact the event's co-chairs Ikeda or Maiyawat Wanitprapha by leaving a message at 956-7886 or fax 956-2291.

# URV

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control system, which will be installed and tested on the ODIN in early 1994. The success of the control system will play a key role in developing full autonomy for the vehicle.

Yuh's current research topics include a real-time, three-dimensional URV work station; an omni-directional autonomous URV design; and adaptive and neural network control systems.

Yuh hopes that his research will allow him to make contributions to the island community, as AUVs can have many useful applications in a place like Hawaii. Currently, there are no AUVs commercially available.

"This type of research is very useful for ocean science research, marine environmental research and naval research," Yuh said.

*If you are interested in finding out more about Dr. Junku Yuh's research, please contact him at 956-6579.*

# TRW

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TRW recruit manager, TRW has a high opinion of the quality of education and the outstanding graduates provided by the College. Even with schools like UCLA, Cal Tech, Stanford and Berkeley close by, TRW has made annual recruiting trips to Hawaii since 1977.

"TRW is well-positioned for 1994 and beyond. We are back to recruiting and looking forward to having more UH students work at TRW," said Sasaki.

The College is grateful for the opportunity to expand the partnership with TRW and looks forward to more productive joint-research on the cutting edge.

# Faculty Highlights

### Ping Cheng

Mechanical engineering Department Chairman Ping Cheng received a research grant from the U.S. Department of Air Force, in support of his project entitled "Oscillating and Reversing Flow and Heat Transfer in a Tube with Application to Cryocoolers." Dr. Cheng's project will establish and verify the correlation of mathematical flow and heat transfer parameters in reversing oscillatory fluid flow with experimental results. The experimental demonstration of oscillating flow with an apparatus capable of directly measuring heat transfer, flow speeds, pressure drops and other parameters will result in a numerical verification of the analytical theory. The resulting mathematical performance equations will define the underlying capability for the use of oscillatory flow for cryogenic refrigeration systems.

### Mehrdad Ghasemi Nejhad

Assistant Professor of mechanical engineering Mehrdad Ghasemi Nejhad received funding from the Allied-Signal Aerospace Company, in support of his project entitled "Application of Composite and Smart Materials to Space Structures." The objective of Dr. Ghasemi Nejhad's research effort is to develop a predominately composite smart truss structure for use in a space satellite, using a total system design/manufacturing and testing approach. This proposed smart system approach will greatly enhance mission performance by fine-tuning attitude control as well as by eliminating the non-operational period during maneuvering.

### Lloyd Hihara

Mechanical engineering Assistant Professor Lloyd Hihara received funding from the TRW Inc. for his project entitled "Aluminum/Silicon Composite Corrosion Studies." Dr. Hihara is currently investigating a silicon/aluminum metal-matrix composite (MMC). He is studying the effect of silicon on the corrosion behavior of aluminum to determine if and what types of corrosion protection strategies are required for this particular MMC. By setting up a scanning, vibrating electrode to measure localized corrosion currents over corroding microstructures, Hihara will be able to relate the corrosion behavior of MMCs to their microstructures and to predict more accurately the corrosion behavior of MMCs.

### Eun Sok Kim

Dr. Eun Sok Kim, an assistant professor in electrical engineering, received a research grant from the TRW Inc. for his project called "Lateral Field Excitation (LFE) Semiconductor Bulk Acoustic Resonator (SBAR)." Kim's research consists of two phases. In the first phase, he will address current device issues of the SBAR, such as developing quick and easy techniques to determine the quality of piezoelectric films on a wafer, reducing the spurious signal of the SBAR, and improving its temperature stability. In the second phase, he will fabricate and deliver a novel LFE device that gives better performance than previously reported LFE devices, which use two side-by-side electrodes on a top surface.

### Joy Laskar

TRW Inc. recently awarded electrical engineering Assistant Professor Joy Laskar funding for his project entitled "Study of Transport in Heterostructure Devices and Applications."

### Clark Liu

Professor of civil engineering Clark Liu received continued funding from the National Science Foundation for his project entitled "Development and Testing of a Wave-Driven Artificial Upwelling Device." As part of the university's larger research effort to develop the technology for open ocean mariculture, Dr. Liu's project involves the conceptual design and testing of a cost-effective, wave-driven artificial upwelling device capable of drawing the nutrient-rich deep ocean water to the ocean surface as a precursor to commercially-viable, open-ocean mariculture.

### Alex Quilici

Assistant Professor of electrical engineering Alex Quilici received funding from the Advanced Research Project Agency, in support of his project called "A Cooperative Program Understanding Environment for Understanding DOD software." Dr. Quilici proposes to create an intelligent environment that supports programmers who are understanding and extracting designs from large, real-world legacy systems. Such an environment promises to revolutionize program maintenance, which is now typically bogged down with poorly understood, aging code and inadequate conceptualization tools.

### Reginald Young

The Advanced Research Projects Agency, via the Hawaii High Technology Development Corporation, has awarded Interim Dean Reginald Young research funding in support of the "Hawaii Electric Vehicle (EV) Demonstration Project." This project is a collaborative effort between Dr. Young, ME Assistant Professor Mehrdad Ghasemi Nejhad, EE Professors Bertil Granborg and David Yun, EE Assistant Professors Joy Laskar and Vassilis Syrmos, CE Assistant Professor Panos Prevedouros and three staff members from the Hawaii Natural Energy Institute. The project's researchers are looking into using composite materials in the manufacturing of EVs and designing adaptive optimal controllers for minimum energy/time problems for the EVs. Other areas of interest include the use of low-power microwave electronics for vehicular communications, and the assessment of organizational and household needs and acceptance of the EVs.

### David Yun

Electrical engineering Professor David Yun received a research grant from the Advanced Research Projects Agency, in support of his project entitled "Advanced Communication Technology Satellite (ACTS) and Supercomputing in Remote, Cooperative Medical Triage Support and Radiation Treatment Planning." Dr. Yun's project will utilize and integrate the vast potentials of NASA's ACTS with its gigabit speed and steerable antenna capacities, including on-demand coverage of remote sites by the satellite; the supercomputing power particularly essential in 3-dimensional volumetric imaging, modeling and visualization; and the image-based medical triage and timely delivery of services and expertise to remote, deprived regions. Plans are to develop a supercomputing and ACTS communication infrastructure that will lead to innovative means of providing computer communication support to more aspects of medical care, and make medical care delivery possible without transporting patients, doctors or equipment.

### HWPCA will hold 16th Annual Conference in February

**The Hawaii Water Poliution Control Association's 16th Annual Conference is scheduled to take place on February 3-4, 1994, at the Ala Moana Hotel. The 1994 conference theme, "Reclaiming Our Water Environment," focuses on the importance of wastewater reclamation and the beneficial use of biosolids (sludge).**

**Proposed topics for the conference include: the reclamation and reuse of wastewater effluent, the beneficial use of biosolids, the Environmental Protection Agency and the Clinton Administration, new and alternative technologies in wastewater design and operations, wastewater collection and treatment systems, facilities operations, regulation and enforcement, and receiving water quality issues.**

**For further information, please contact conference co-chairs Michael Miyahira or Andrew Amuro at (808) 521-4711, Those interested in presenting papers at the conference, please contact Westley Chun at (808) 943-1133. Interested exhibitors may contact Vijay Kumar at (808) 521-0306.**

# Alumni News

### 1940s

•**Hung Joong Young** (CE 41) is retired. He lives in Honolulu.

### 1950s

•**Albert Hamamoto** (CE 50) is an executive vice president for the Ralph S. Inouye Co. Ltd. •**Mae Nishioka** (CE 50) is retired. •**Harold Furukawa** (CE 58) is also retired. •**Daniel Sato** (CE 59) works for the Federal Aviation Administration as field office manager. Recently, his son Derek graduated from UHM with a bachelor's degree in mechanical engineering.

### 1960s

•**Kenneth Yonamine** (CE 60) holds the position of land administrator at the Board of Water Supply. •**Jerry Nunogawa** (CE 64) is an environmental engineer for the State of Hawaii Department of Health in Hilo. He recently retired from the U.S. Public Health Service. •**Andres Albano Jr.** (EE 65) is chief executive officer for Albano & Associates, Inc. •**Mervyn W. Lee** (CE 65) is president/attorney at law for Mervyn W. Lee, a Law Corporation. •**Gary Yonamine** (ME 68)is a principal engineer for the Hawaiian Electric Company. •**Richard Abe** (CE 69) works for the U.S. Army Corps of Engineers, Pacific Ocean Division. He is a resident of Honolulu. •**Allan Isobe** (ME 69) works for the Pearl Harbor Naval Shipyard as a supervisory nuclear engineer. He is a Waipahu resident. •**Brian Kim** (ME 69) holds the position of supervisory mechanical engineer at the Naval Facilities Engineering Command, Pacific Division.

### 1970s

•**Wayne Hashiro** (CE 70) is an environmental engineer for the U.S. Army Corps of Engineers, Pacific Ocean Division. •**Galen Kuba** (CE 73) has had a temporary promotion from solid waste division chief to acting engineering division chief at the County of Hawaii, Department of Public Works, Engineering Division. •**Dennis Paxson** (CE 73) is vice president of Lahaina Pier & Pile Co. Inc. He resides in Kaneohe. •**Harlan Nakamura** (EE 74) works at the Pearl Harbor Naval Shipyard as an electronic engineer. •**Dennis Yamamoto** (EE 74) is a senior electrical engineer at GMP Associates, Inc. He lives in Mililani. •**Ronald Fukumoto** (CE 75) is president of Ronald M. Fukumoto Engineering, Inc. •**Harold Nakaoka** (CE 75) works for the Family Housing Branch of the U.S. Army Corps of Engineers. •**Edward Yoshimura** (CE 75) is a civil engineer for the U.S. Army Corps of Engineers. •**Brian Hashiro** (CE 76) is chief of Highways Division, County of Maui. He is a resident of Wailuku. •**Guy Inouye** (CE 76) works for the C&C of Honolulu, Department of Wastewater Management. •**Norman Nagamine** (CE 78) is President/Structural Engineer of Nagamine Engineers Inc. •**Lawton Kaya** (CE 78) and wife **Jill (Tanaka) Kaya** (CE 79) had their third child, Landon, in September, 1992. They both work at the Navy Public Works Center. Lawton is head of civil & structural engineering and Jill is a senior civil engineer. •**Francis Enomoto** (ME 79) and wife **Linda Yanagihara** (ME 79) have an 8-year-old daughter Erika. Francis is an aerospace engineer/CAD group leader at the NASA Ames Research Center. Linda works for Sunsoft as a product release manager. They reside in Sunnyvale, Calif. •**Craig Miyachi** (CE 79) is an environmental engineer for the Navy Public Works Center, Utilities Department. •**Russell Yamada** (CE 79) works for the Pearl Harbor Naval Shipyard as nuclear facilities and equipment manager. He lives in Honolulu. •**Lambert Yamashita** (CE 79) is a project engineer for AMFAC.

### 1980s

•**Neal Fukumoto** (CE 80) is employed by Parametrix, Inc. as a civil engineer. He makes his home in Honolulu. •**Eric Nakagawa** (ME 80) is an associate at Randolph H. Murayama & Associates. He is a resident of Kaneohe. •**Cora Shimabukuro** (CE 81) works for the U.S. Army Directorate of Public Works as a supervisor civil engineer. •**Ayman El-Swaify** (ME 84) is an engineering systems manager at the Navy Public Works Center. •**Nami June Hamaguchi** (CE 84) is a project engineer for the Hawaii Community Development Authority. She resides in Kaneohe. •**Steven Nakagawa** (ME 84) is a project engineer/mechanical engineer consultant for Randolph Murayama & Associates. • **Dawn Shinsato** (CE 84) is a civil engineer for the U.S. Army Corps of Engineers, Japan Engineer District, Okinawa Area Office. •**David Lindsey** (CE 85) works for the U.S. Army Corps of Engineers, Pacific Ocean Division as a project engineer. He lives in Ewa Beach. •**Edward Shikada** (CE 85) manages the Congestion Management Program for the Los

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**ENGINEERING ALUMNI UPDATE**

Name_____

Address _____ Phone Bus (  )_____

City _____State_____ Zip Code_____Res (  )_____

Employer/Company_____

JobTitle/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 Assocation 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

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Angeles County Metropolitan Transportation Authority. •**Warren Hayakawa** (EE 86) is an electrical engineer at Hawaiian Electric Company. He lives in Honolulu. •**Wes Sakamoto** (EE 86) is a realtor-associate at Realty Executives. He has been in real estate for two and a half years. •**Walter Billingsley** (CE 87) works for Belt Collins Hawaii as a civil/sanitary engineer. He has two sons, both of whom attend Hokulani School and play league basketball and baseball. Last year, he and his wife purchased their first home in Kalama Valley. Billingsley said that home maintenance has become a new hobby of his. •**Glenn Oshiro** (CE 87) is a project engineer for the U.S. Army Corps of Engineers, Pacific Ocean Division. •**Gregory Maesaka** (CE 88) is a structural engineer at Tanimura and Associates, Inc. He lives in Kailua. •**Glenn Oeda** (CE 88) is an engineer at the Pearl Harbor Naval Shipyard. •**Darin Okuda** (CE 88) works as an engineer for Shigemura, Lau, Sakanashi, Higudri & Associates. •**Glenn Ushijima** (EE 88) is an engineer scientist specialist at the McDonnell Douglas Corporation. He resides in Foothill Ranch, Calif. •**Kerstan Wong** (EE 88) is a project manager for the Hawaiian Electric Co. •**Teresa Arakaki** (EE 89) works for the University of Hawaii Computing Center as a computer specialist. She resides in Hawaii Kai. •**Daniel Chinen** (EE 89) works for the Fairchild Data Corporation as a satellite modems senior electrical engineer. Last May, he received a master's degree in electrical engineering communication theory from Arizona State University. •**Derek Mukai** (ME 89) is an associate engineer at R.M. Towill Corporation. He is a resident of Waipahu.

## 1990s

•**Steven Hironaka** (ME 90) works as a mechanical engineer for the U.S. Department of Navy, Pacific Missile Range Facility. •**Sonny Perez** (ME 90) is a mechanical project engineer for the Guam Power Authority. He lives in Agana, Guam. •**Reid Shizumura** (EE 90) is employed by the Orincon Corporation as a software engineer. He resides in Kaneohe. •**Peter Len** (ME 91) works for the Thermal Engineering Corporation as a mechanical engineer. •**Teri Moritomo** (ME 91) works as an estimator for the Hawaiian Dredging Construction Company. •**Kely (Ramos) Ota** (CE 91) works for the Board of Water Supply as civil engineer II. She married Darren Ota in September, 1993. •**Christine Taira** (EE 91) recently obtained a master's degree from the University of California - Los Angeles. She is currently employed by IBM Microelectronics as an associate engineer. •**Stephen Ueda** (ME 91) recently graduated with a master's degree in mechanical engineering from MIT. He is working for Ford Motor Co. as a product engineer. •**Deborah Arakaki** (EE 92) works at Hawaiian Electric Company as Designer I. •**Reid Higashihara** (ME 92) is a project engineer at Siu's Electric Corporation. •**Tyler Fujiyama** (ME 92) is a mechanical engineer for Benjamin S. Notkin/Hawaii. He lives in Pearl City. •**Mark Yonamine** (CE 92) works for Wilson Okamoto & Associates Inc. as a civil engineer.



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